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SUPREME COURT LIMITS ESA

NATIONAL HOME BUILDERS V. DEFENDERS OF WILDLIFE

by Richard M. Glick and Lindsay Eyler, Davis Wright Tremaine LLP (Portland, OR)

In a 5-4 decision rendered June 25, 2007, the US Supreme Court (Court) held that the Endangered Species Act (ESA) does not necessarily take precedence over other congressional mandates. In *National Assn. of Home Builders v. Defenders of Wildlife*, 551 U. S. ___ (2007), Slip Opinion, (*Home Builders*) the Court addressed a confrontation between two powerful federal laws. The question before the Court was whether delegation of the Clean Water Act (CWA) permit program from the US Environmental Protection Agency (EPA) to the State of Arizona — which is mandatory under the CWA if nine statutory criteria are met — triggers the equally mandatory provisions of the ESA that federal action agencies "insure" the well being of listed species through consultation with federal fish and wildlife agencies. The Court refused to add ESA consultation as a "tenth criterion" for delegation to states under the CWA. It found reasonable a joint agency rule of the National Marine Fisheries Service (NMFS) and US Fish and Wildlife Service (FWS) that exempts certain federal actions from the consultation requirement. The case has major implications throughout the West, particularly for the Northwest where this ruling could directly impact ongoing litigation related to the Federal Columbia River Power System. (See Stermitz, TWR #40)

It seems inevitable that the patchwork of legislation and multitude of agencies with overlapping jurisdiction that comprise our environmental legal structure will sometimes clash. Yet the CWA and ESA have survived almost 30 years of peaceful, if uneasy, coexistence. The two laws seek similar objectives by different means. The CWA seeks to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters" (CWA § 10(a), 33 U.S.C. § 1251(a)). It does so primarily through technology-based effluent limitations in discharge permits designed to meet water quality standards. The ESA's goal is to "provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, [and] to provide a program for the conservation of such endangered species and threatened species..." (ESA § 2(b), 16 U.S.C. § 1531(b)). One of the central ESA implementation strategies is consultation among federal agencies.

BACKGROUND

ESA § 7(a)(2), codified at 16 U.S.C. § 1536(a)(2), requires federal action agencies to consult with either or both NMFS and FWS in order to "insure that any action authorized, funded, or carried out by such agency...is not likely to jeopardize the continued existence of any endangered species or threatened species." NMFS is a unit within the Department of Commerce with ESA authority over anadromous fish and marine wildlife. FWS is within the Department of the Interior with responsibility for resident fish and terrestrial and avian wildlife. Previously, ESA § 7(a)(2) has been broadly construed to extend consultation requirements upon virtually any federal action that could affect listed species, including EPA action under the CWA.

CWA § 402 established a National Pollution Discharge Elimination System (NPDES) permit program initially administered by EPA. So long as EPA retains authority to administer the NPDES with respect to permits issued in a given state, each permit granted by EPA is subject to § 7(a)(2) of the ESA by virtue of being the action of a federal

ESA Consultation

Mandatory Approval

State Control

FWS Concern

Indirect Impact

Congressional Action

9th Circuit

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Editors: David Light
David Moon

Phone: 541/ 343-8504
Cellular: 541/ 517-5608
Fax: 541/ 683-8279
email:
thewaterreport@hotmail.com
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agency. However, in CWA § 402(b) Congress provided a means by which the states may apply to EPA for delegation of the NPDES program if nine criteria are met (33 U.S.C. § 1342(b)). The criteria relate to the state having the regulatory infrastructure needed for implementation. If the criteria are met, then § 402(b) provides that EPA "*shall* approve each submitted program" (emphasis added) for transfer to the state.

Once the state assumes control of the NPDES system, permits may be issued without ESA § 7 consultation. As the Court noted, "By its terms, §7(a)(2)'s consultation requirement applies only to 'actions authorized, funded, or carried out' by 'Federal agenc[ies].'" 551 U.S. ___, 5 n.4 (2007). In the past, before approving a state's request to oversee its own NPDES program, EPA consulted with FWS to determine whether the transfer would adversely impact any listed endangered species; in fact, EPA stated repeatedly that § 7 mandated EPA to consult with FWS before approving the transfer. Brief for Respondents Defenders of Wildlife at 10, *Home Builders*, 551 U.S. ___ (2007) [hereinafter Brief for Respondents].

Delegation to Arizona

In 2002 Arizona became the 44th state to submit its NPDES program to EPA for authorization (551 U.S. at 5). Consistent with a decade's worth of past practices, EPA consulted with FWS about the transfer. The FWS regional office "concluded that the transfer of authority would not cause any direct impact on water quality that would adversely affect listed species." *Id.*

HOWEVER, THE FWS OFFICE EXPRESSED CONCERN THAT THE TRANSFER:

> could have an indirect adverse effect on the habitat of certain upland species...Specifically, the FWS feared that, because §7(a)(2)'s consultation requirement does not apply to permitting decisions by state authorities, the transfer of authority would empower Arizona officials to issue individual permits without considering and mitigating their indirect impact on these upland species. The FWS regional office therefore urged that, in considering the proposed transfer of permitting authority, those involved in the consultation process should take these potential indirect impacts into account. *Id.* at 5-6.

In its final Biological Opinion, the national offices of FWS concluded that "the loss of section 7-related conservation benefits...is not an indirect effect of the authorization action" because it "is not caused by EPA's decision to approve the State of Arizona's program. Rather, the absence of the section 7 process... reflects Congress' decision to grant States the right to administer these programs under state law provided the State's program meets the requirements of [§]402(b) of the Clean Water Act." *Id.* at 6-7. Thus, FWS found that it was the actions of Congress, and not the actions of EPA, that had the potential to jeopardize listed species. In response, respondents Defenders of Wildlife et al. filed a petition in the US Court of Appeals for the Ninth Circuit seeking review of the transfer. *Id.* at 7. The National Association of Home Builders intervened in the ensuing case in support of EPA. (see Light, TWR #25)

The Ninth Circuit held that EPA's approval of the transfer was arbitrary and capricious because "the two propositions that...(1) [EPA] must, under the [ESA], consult concerning transfers of CWA permitting authority, but (2) it is not permitted, as a matter of law, to take into account the impact on listed species in making the transfer decision" were legally contradictory. *Defenders of Wildlife v. EPA*, 420 F.3d 946 (9th Cir. 2005). Further, the Ninth Circuit found that EPA was required to consult and to take into consideration the effects on listed species of the proposed transfer, in addition to the nine CWA criteria. The Court granted certiorari to resolve a conflict between that ruling and other constructions of § 7(a)(2) put forth by the Fifth and DC Circuits.

SUPREME COURT'S RULING

In their brief before the Court, petitioners (EPA and National Association of Home Builders) argued that EPA lacked discretion under the CWA to deny a state application for transfer provided the state met the required nine criteria. Brief of the Petitioner EPA at 17, *Home Builders*, 551 U.S. ___ (2007) [hereinafter Brief for EPA] and Brief of Petitioner National Association of Home Builders at 23, *Home Builders*, 551 U.S. ___ (2007) [hereinafter Brief for Home Builders]. Citing *Department of Transportation v. Public Citizen*, 541 U.S. 752 (2004), petitioners argued that EPA was not a cause of the adverse effects, because, given the Congressional mandate to transfer authority over the NPDES program to states that met the requirements, EPA lacked the statutory authority to prevent those effects (Brief for EPA at 25 and Brief for Home Builders at 24). Petitioners further argued that EPA was not required to comply with § 7 because legislative history suggested that the ESA need only be applied to the extent the agency possessed the statutory authority to do so — which, given the requirements of the CWA, it did not in the present case (Brief for EPA at 29). Similarly, petitioners cited 50 CFR 402.03, jointly adopted by FWS and NMFS, which indicates that § 7 will only "apply to all actions in which there is discretionary Federal involvement or control." Brief for EPA at 34 and Brief for Home Builders at 23. EPA's decision to grant Arizona its NPDES transfer was not discretionary because CWA mandates a transfer when the nine criteria are met — therefore, petitioners asserted, EPA did not need to consult pursuant to § 7 of the ESA.

Respondents (Defenders of Wildlife et al.) disputed EPA's contention that its decision to transfer permitting authority to Arizona was non-discretionary. Respondents identified aspects of the CWA criteria that required EPA to exercise its judgment and noted the need to bear in mind "wildlife-related concerns that are manifested throughout the CWA." Brief for Respondents at 8. Respondents further disputed the 50

ESA Consultation

TVA Principle

CFR 402.03 exception for non-discretionary agency action, citing *TVA v. Hill*, 437 U.S. 153, 194 and 173 (1978) (*TVA*): Congress intended to "afford endangered species the highest of priorities" and the "language [of section 7] admits of no exception." *Id.* at 31 and 1. Congress adopted the principle articulated in *TVA*, respondents argued, that the ESA flatly prohibited federal agency action that jeopardizes the status of endangered species, by creating mechanisms to deal with "unavoidable 'conflicts' between the 'primary missions' of federal agencies and the prohibition of section 7 on agency actions that jeopardize species and destroy critical habitat." For example, the Endangered Species Committee is granted sole power to grant exemptions to the ESA requirements. *Id.* at 4 and 6.

"Tenth Criterion"

The Court agreed with EPA that the nine criteria in CWA § 402(b) are mandatory and that EPA lacked discretion to add what Justice Samuel Alito, writing for the Court, deemed a "tenth criterion." The Court was critical of the Ninth Circuit for not giving EPA opportunity on remand to clarify its change of view on the need to consult before delegating NPDES authority. The fact that EPA changed its mind is not arbitrary and capricious, according to the Court. The Court reviewed the final agency action, which in fact included previous consultation with FWS. *Slip Op.* at 11. The Court recognized the problem of clashing mandates under the CWA and ESA, but stated that adding a "tenth criterion" to EPA's review under CWA § 402(b) was problematic.

Mandatory List

The Court stated such a course:

> would effectively repeal the mandatory and exclusive list of criteria set forth in § 402(b), and replace it with a new, expanded list that includes § 7(a)(2)'s no-jeopardy requirement...While a later enacted statute (such as the ESA) can sometimes operate to amend or even repeal an earlier statutory provision (such as the CWA), "repeals by implication are not favored" and will not be presumed unless the intention of the legislature to repeal [is] clear and manifest" (citation omitted). *Id.* at 15.

Overbroad Reach

Moreover, giving § 7(a)(2) too broad a reach could implicitly repeal other statuatory mandates:

> Reading the provision broadly would thus partially override every federal statute mandating agency action by subjecting such action to the further condition that it pose no jeopardy to endangered species. *Id.* at 17.

It is noteworthy that "reading the provision broadly" is exactly what previous courts have seen as appropriate. See *TVA*, discussed below.

Discretionary Control

To address these problems, the Court turned to the Code of Federal Regulations (CFR). Specifically, they cited 50 CFR § 402.03, which interprets ESA § 7(a)(2) to apply only to agency actions "in which there is discretionary Federal involvement and control." The Court concluded, "This interpretation harmonizes the statutes by giving effect to the ESA's no-jeopardy mandate whenever an agency has discretion to do so, but not when the agency is forbidden from considering such extra statutory factors." *Id.* at 18. This interpretation is entitled to *Chevron* deference due to the "fundamental ambiguity" caused by the competing mandates in the ESA and CWA that cannot be resolved by the statute alone. *Id.* at 19. See *Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837 (1984).

TVA Distinguished

In reaching this conclusion, the Court distinguished its earlier holding in *TVA*, 437 U.S. 153 (1978). In that case, the Court held that ESA § 7 allowed of no exemptions and reflected congressional intent to give endangered species primacy over the primary missions of other federal agencies. However, Justice Alito noted that *TVA* was decided before the FWS regulation exempting non-discretionary acts was adopted, and that the facts in *TVA* were different.

Concerning *TVA*, Justice Alito noted:

> Central to the Court's decision was the conclusion that Congress did not *mandate* that the TVA put the dam into operation; there was no statutory command to that effect; and there was therefore no basis for contending that applying the ESA's no-jeopardy requirement would implicitly repeal another affirmative congressional directive...*TVA v. Hill* thus supports the position, expressed in § 402.03, that the ESA's no-jeopardy mandate applies to every discretionary agency action - regardless of the expense or burden its application might impose (emphasis original) *Id.* at 23-24.

As discussed below, this distinction will be key to the continuing litigation in *National Wildlife Federation v. NMFS*.

DISSENTING OPINION

ESA Priority

Justice John Paul Stevens, joined by Justice David Souter, Justice Ruth Bader Ginsburg, and Justice Stephen Breyer, dissented in the opinion and argued for a remand to EPA. Justice Stevens acknowledged the competing statutory mandates contained in the ESA and CWA. However, citing previous opinions of the Court (*TVA* and *Babbit v. Sweet Home Chapter, Communities for Great Ore.*, 515 U.S. 687 (1995)) and congressional discussion of the proposed ESA, his dissent also noted that Congress intended the ESA to apply as a first priority and without exception, and purposefully omitted all phrases that would have qualified § 7's force. The majority's decision, Justice Stevens contends, fails in its duty to give full effect to both the ESA and the CWA, where possible, by observing in the ESA an exemption for mandatory agency action that Congress neither included nor contemplated. The dissent challenged the majority's acquiescence to EPA's opinion that § 7 of the ESA does not apply to non-discretionary agency actions on

Agency Deference

ESA Consultation

Discretion During Transfer

MOA Term

Environmental "Baseline"

Broad Considerations

Aggregation of Impacts

the grounds that EPA is not charged with administering the ESA and is therefore not owed such deference.

Further, Justice Stevens explored alternative possibilities for harmonizing the requirements of the two acts, suggesting that EPA has more discretion in carrying out the requirements of the CWA than the majority admitted. First he considered the § 7 mandate that EPA consult with agencies designated by the Departments of the Interior and Commerce to determine the proposed action's potential harms to endangered species. He reasoned that this mandate could steer EPA through the process of transferring oversight of the NPDES to states by looking for "reasonable and prudent alternatives" to any aspects of the state's system that might jeopardize endangered species while still implementing the transfer. Second, even once administrative authority over the NPDES process has been transferred to the state, EPA retains oversight over the state's system. EPA requires each state to enter into a Memorandum of Agreement (MOA) before the transfer of authority takes place. That MOA could include requirements that the state abide by the ESA or sufficiently protect endangered species in order to maintain its NPDES authority.

IMPLICATIONS FOR FCRPS LITIGATION

As noted, this decision has particularly important implications for the Pacific Northwest. Just this past April the Ninth Circuit Court of Appeals affirmed Judge James Redden's striking down of the 2004 Biological Opinion (BiOp) for operating the Federal Columbia River Power System (FCRPS) in *National Wildlife Federation v. NMFS*, 481 F.3d 1224 (9th Cir. 2007). The central argument advanced by NMFS in that case was that since the Lower Snake River dams were authorized and funded by Congress, the agency lacked discretion to consider their presence as an element of the BiOp. In other words, the dams were deemed part of the environmental "baseline," and NMFS could lawfully consider only the incremental operational changes in its BiOp. The Ninth Circuit rejected this argument in its entirety.

The massive FCRPS presents much more complexity than the issues surrounding transference of NPDES authority to Arizona. In addition, 50 CFR 402.02 provides definitions that are problematic concerning the determination of the appropriate baseline for ESA purposes.

Concerning ESA baseline determination, 50 CFR 402.02 requires consideration of:

> direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action, that will be added to the environmental baseline. The environmental baseline includes the past and present impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation, and the impact of State or private actions which are contemporaneous with the consultation in process. Indirect effects are those that are caused by the proposed action and are later in time, but still are reasonably certain to occur.

Thus, while not addressed within the mandate/discretionary action focus of 50 CFR *402.03* as cited in the Court's ruling, 50 CFR *402.02* appears to contemplate the effects of earlier authorized federal activities. As further noted by the Ninth Circuit in *National Wildlife Federation*:

> ...an agency may not take action that will tip a species from a state of precarious survival into a state of likely extinction. Likewise, even where baseline conditions already jeopardize a species, an agency may not take action that deepens the jeopardy by causing additional harm. *Id.* at 1236.

In *Home Builders*, the question of previous action and aggregation of impacts was not presented to the Court. As noted, the Court in *Home Builders* relied on 50 CFR 402.03 as a convenient vehicle for resolving the conflict between CWA § 402 and ESA § 7 and deferred to agency interpretation. However, even without 402.03, the Court clearly supports the concept of limiting § 7 to discretionary acts and so reliance on the rule may not be absolutely necessary.

In any event, NMFS's argument in the FCRPS case has been given new life by the Court's decision in *Home Builders*. The Ninth Circuit has recently extended the time in which to file petitions for rehearing and rehearing en banc until July 23, 2007. Rehearing is likely in light of the Court's decision.

NMFS may be expected to argue that *Home Builders* requires re-examination of NMFS' argument that it lacked discretion to consider the existence of the federal dams in its biological opinion. Opponents may seize upon the distinction drawn by Justice Alito between the situation in *TVA* and in *Home Builders*. That is, Congressional authorization of the Lower Snake dams may not be so specific as to constitute a mandate in conflict with ESA. Opponents may also seize upon Justice Stevens' effort to find a middle ground if the FCRPS legislation is not as specific as CWA § 402(b).

In the meantime, Judge Redden maintains ongoing jurisdiction in the National Wildlife Federation case. On May 21, 2007, the federal action agencies filed their 600-page, draft revised proposed action to the District Court. When adopted, that document will form the basis of the next NMFS BiOp for the FCRPS. The draft proposed action does not anticipate the Supreme Court's decision in *Home Builders*, but the effect of the case on FCRPS operations will need to be taken into account. It is reasonable to assume that the full import of ESA on FCRPS will be the subject of intense dispute for some time to come.

For Additional Information: Richard M. Glick, 503/ 778-5210 or email: rickglick@DWT.com

Richard M. Glick is a partner in the Portland office of Davis Wright Tremaine LLC, where he is chair of the firm's Natural Resources practice group. His practice emphasizes water, environmental and energy law. **Lindsay Eyler** is a student at Yale Law School and a Summer Associate at Davis Wright Tremaine.

Easements

Right to Use

"Servient Estate"

No Writing

WATER DELIVERY CANALS, DITCHES, AND PIPELINES

THE LAW OF EASEMENTS IN IDAHO, OREGON, AND WASHINGTON

by David E. Filippi (Portland, OR); Michael O'Connell (Seattle, WA);
& Kevin Beaton (Boise, ID) (Stoel Rives LLP)

INTRODUCTION

Delivery of water for irrigation in Idaho, Oregon, and Washington depends on complex systems developed over many years. The canals, laterals, ditches, and pipes that make up these systems often cross land owned by many persons other than those providing or receiving water. To build, operate, and maintain their water delivery systems, water users must secure and maintain the right to use the property of affected landowners. Without the necessary easements and rights-of-way, water suppliers cannot fulfill their function of delivering water to their end users.

Water delivery systems are currently threatened from within and without. The external threats include encroachments by new development and restrictive environmental regulations. There are also internal threats arising from water users' own failure to adequately understand and maintain the legal rights provided by their easements. This article provides an outline of the potential issues facing water suppliers' easements for irrigation in Idaho, Oregon, and Washington.

OVERVIEW OF CANAL, DITCH, AND PIPELINE RIGHTS

To protect the right to use canals, ditches, and pipelines to deliver water for irrigation purposes, it is important to understand what an easement or right-of-way is, and what it is not. Landowners have a possessory interest in land; they are entitled to exclude others from it. In contrast, most easements only authorize the use of property for specific purposes. The underlying land, and any related right not conveyed in the easement, belongs to someone else.

Easements and Rights-of-Way

An easement is a nonpossessory interest in the land of another that entitles the owner of the easement to limited use of another's land without interference. The land crossed by the easement is referred to as the "servient estate" because it is burdened by the easement. The land that benefits from the easement, such as land irrigated from a ditch easement, is know as the "dominant estate." Because an easement is an interest in land, to be binding it must generally be in writing. *See* IC 9-503; ORS 93.020; RCW 64.04.010. Frequently, however, irrigation ditch easements are not memorialized by a written agreement (see discussion below).

A right-of-way is a specific type of easement that allows the holder of the right-of-way to pass over, through, or across another's land. Most easements for canals, ditches, and pipelines are rights-of-way. In some cases, the easement authorizes such broad use of the land that all other uses are excluded. In these situations, the holder of the easement may actually be the owner of the land itself and maintain the right to exclude others completely. Early irrigation developers sometimes acquired full "fee simple" title (i.e. title to the land) rather than an easement (i.e. rights-to-use only) for major canals. When there is any doubt, however, ditch and canal rights are interpreted to be mere easements, not fee estates. *See Hall v. Meyer*, 270 Or 335, 527 P2d 722 (1974); *Little-Wetzel Co. v. Lincoln*, 101 Wash 435, 172 P 746 (1918).

Ditches were not always developed by any formal written agreement between the parties. Sometimes either an oral agreement or an informal letter authorizing a neighbor to use another's land for his or her personal purposes were employed. For example, in *Shaw v. Proffitt*, 57 Or 192, 109 P 584 (1910), Shaw wrote a letter to Failing asking for an irrigation right-of-way across Failing's land. Failing wrote back, saying, "go ahead, the more ditches you build the better it will suit me." 57 Or at 197. In a subsequent suit by the buyer of Failing's property, the court held that Failing's letter had granted Shaw a legal right-of-way.

Generally, a license acquired by one individual to transport water across another's property is personal to the individual who received it and is not transferable. However, over time, ditches created by oral agreement or license have sometimes become part of a broader, regional delivery system. In Oregon and Idaho these licenses may become irrevocable and transferable if a substantial amount of money and labor is spent to improve them. *See McReynolds v. Harrigfeld*, 26 Idaho 26, 140 P 1096 (1914) (court refused to quiet title [i.e. settle scope-of-rights] to an irrigation ditch built pursuant to landowner's permission when the ditch builder failed to show any investment dependent upon landowner's permission); *Shaw*, 57 Or 192. Under these conditions, the licenses are essentially treated as easements.

Authors' Note: Parts of this article are based on materials included in a workbook entitled "*Easements for Water and Land Use*" (October 2005), prepared by David Filippi and Stoel Rives LLP, and are included here with permission by the Oregon Water Resources Congress, for which the workbook was prepared. Portions of this article were previously published in the Oregon *Insider* (December 2006 and January 2007), which are incorporated here with the permission of the *Insider*. The authors also wish to recognize the efforts of Eric Martin, a 2007 summer law clerk in Stoel Rives LLP's Portland office, in the preparation of this article.

Easements

License Revocable

In Washington, however, a parol (i.e. oral, unwritten) license does not become irrevocable even if the licensee invests a substantial amount of money on improvements. *Rhoades v. Barnes*, 54 Wash 145, 102 P 884 (1909). In this case, Barnes had received permission to lay 300 feet of pipe across Hornibrook's property in order to tap a preexisting pipeline. Hornibrook later sold his property to Rhoades, and when water supplies were insufficient, Rhoades stopped the flow of water to Barnes. Barnes then sued for injunctive relief, but the court rejected his claim, holding that a parol license "may be revoked by the licensor at any time, irrespective of the performance of acts under the license, or the expenditure of money in reliance thereon." 54 Wash at 147-48.

Easements: Appurtenant and In Gross

Conveyance

An appurtenant easement is one that benefits a specific parcel of land. In such cases, the easement is inseparable from the land to which it appurtains. Typical examples of appurtenant easements are easements for driveways and utilities, and for conveying water to a specific place of use such as a house or farm. The right to use the appurtenant easement is conveyed when the benefited property itself is conveyed. Appurtenant easements benefit all the landowners in an irrigation district, for example, and the right to the use of the system is conveyed when the land itself is conveyed. Easements in gross, on the other hand, are easements unrelated to possession or ownership of any particular parcel of property. Irrigation easements are typically appurtenant, but those granted directly to an irrigation district may be in gross. *See, e.g.*, *Abbott v. Nampa School District No. 131*, 119 Idaho 544, 808 P2d 1289 (1991).

Intent Controls

The characterization of an easement as appurtenant or in gross is important because easements in gross often cannot be assigned. The courts generally construe easements as appurtenant, but ultimately the intent of the parties controls the interpretation of the type of easement created. *Nelson v. Johnson*, 106 Idaho 385, 679 P2d 662 (1984) (easement appurtenant in nature because the parties clearly intended for the easement to benefit cattle ranch); *Tone v. Tillamook City*, 58 Or 382, 114 P 938 (1911) (pipeline right-of-way was appurtenant easement); *Pioneer Sand & Gravel Co. v. Seattle Constr. & Dry Dock Co.*, 102 Wash 608, 618, 173 P 508, 511 (1918) ("It is well settled in law that easements in gross are not favored; and a very strong presumption exists in favor of construing easements as appurtenant.").

Appurtenant Presumption

Hall, 270 Or 335, provides an example of a situation in which the use of an irrigation easement turned on whether it was appurtenant or in gross. In that case, Peterson sold the west portion of his property to Meyer, but reserved for himself an easement for a pipeline to convey water from a spring on the west parcel to the east parcel. Peterson later sold the east parcel and the easement to Markham. Markham kept the land but sold the easement to Gibson, who owned a parcel directly to the south. Hall bought Gibson's land and the easement, and extended the pipeline to bring water to the south parcel. Meyer then cut the pipeline. Hall sued and lost. The Oregon Supreme Court held that the easement language was not specific enough to create an "easement in gross" that could be transferred from the east parcel to Gibson's land to the south, which Hall had purchased. 270 Or at 339. Instead, it was an "easement appurtenant" to the east parcel owned by Markham and could be used only to convey water to that parcel. *Id.*

Specific Language

Creating Easements

Numerous federal and state laws allow easements to be granted by the federal government, state governments, and private parties. Easements granted under different laws often differ in the scope of the rights they convey. This section reviews the laws authorizing the major classes of easements and describes the scope of rights for each class.

Federal Law

Underlying Statutes

Most of the easement rights held by irrigation districts derive from federal grants. The variety of federal statutes authorizing easements and rights-of-way can be divided into those relating to public land law and those relating to reclamation law.

Public Land Law

Reserved Rights-of-Way

In the second half of the 19th century, the United States recognized that much of the land west of the 100th meridian would not be valuable without irrigation and that developing irrigation systems required rights-of-way for water delivery systems. For this reason, most deeds from the United States (called "patents") reserved rights-of-way for irrigation. The reserved rights-of-way were held by the United States until otherwise conveyed. The conveyance of the irrigation easement to water users was often made automatically by statute to any person whose rights to use the water had been legally established (i.e. "vested").

RS 2339 Rights-of-Way

1866 Act

During early western settlement, persons desiring to appropriate water from the public domain and to construct ditches for its conveyance simply did so. Although the US Supreme Court relatively quickly recognized the property rights of these early water users, it was not until 1866 that Congress enacted a law formally granting the right to water conveyance easements across the public domain.

Easements

Vested Rights

THE 1886 STATUTE, AS AMENDED, PROVIDES:

"Whenever, by priority of possession, rights to the use of water for mining, agricultural, manufacturing, or other purposes, have vested and accrued, and the same are recognized and acknowledged by the local customs, laws, and the decisions of courts, the possessors and owners of such vested rights shall be maintained and protected in the same; and the right of way for the construction of ditches and canals for the purposes herein specified is acknowledged and confirmed; but whenever any person, in the construction of any ditch or canal, injures or damages the possession of any settler on the public domain, the party committing such injury or damage shall be liable to the party injured for such injury or damage. All patents granted, or preemption or homesteads allowed, shall be subject to any vested and accrued water rights, or rights to ditches and reservoirs used in connection with such water rights, as may have been acquired under or recognized by this section." 43 USC § 661.

Patent Reservation

The effect of this statute was to grant an easement across federal land to the holder of any vested water right. The public domain remained open for this use until the United States conveyed or otherwise reserved federal lands. Any patent of the land was made subject to these ditch and canal easements, which are now referred to as RS 2339 rights-of-way. The language of reservation in the patent typically reads, "Subject to any vested and accrued water rights, for mining, agriculture, manufacturing, or other purposes, and rights to ditches and reservoirs used in connection with such water rights, as may be recognized and acknowledged by the local customs, laws, and decisions of courts." *See, e.g.*, *Uhrig v. Crane Creek Irr. Dist*., 44 Idaho 779, 260 P 428 (1927). Once the land was patented, no new ditches and canals were authorized, but all existing ones were effectively "grandfathered."

General Right of Way Act of 1891

1891 Act

A quarter-century after RS 2339, Congress enacted a slightly more detailed law regarding easements across the public domain. The General Right of Way Act of 1891 (1891 Act) gave broader and better-defined rights, and required reporting to the government.

THE 1891 ACT'S KEY PROVISION READS AS FOLLOWS:

Rights Granted

"The right of way through the public lands and reservations of the United States is hereby granted to any canal ditch company, irrigation or drainage district formed for the purpose of irrigation or drainage, and duly organized under the laws of any State or Territory, and which shall have filed, or may hereafter file, with the Secretary of the Interior a copy of its articles of incorporation or, if not a private corporation, a copy of the law under which the same is formed and due proof of its organization under the same, to the extent of the ground occupied by the water of any reservoir and of any canals and laterals, and fifty feet on each side of the marginal limits thereof, and, upon presentation of satisfactory showing by the applicant, such additional right-of-way as the Secretary of the Interior may deem necessary for the proper operation and maintenance of said reservoirs, canals, and laterals; also the right to take from the public lands adjacent to the line of the canal or ditch, material, earth, and stone necessary for the construction of such canal or ditch: Provided, That no such right-of-way shall be so located as to interfere with the proper occupation by the Government of any such reservation, and all maps of location shall be subject to the approval of the department of the Government having jurisdiction of such reservation; and the privilege herein granted shall not be construed to interfere with the control of water for irrigation and other purposes under authority of the respective States or Territories." 43 USC § 946.

Purposes

The effect of this provision was to grant to duly organized ditch and canal companies rights-of-way across public lands and reservations. The sole authorized purpose of such rights-of-way was at first irrigation, but the 1891 Act was subsequently amended to include a number of "subsidiary" purposes, such as domestic uses, transportation, and water power.

THE 1891 ACT ALSO REQUIRED THE MAPPING OF EASEMENTS:

Mapping Requirement

"Any canal or ditch company desiring to secure the benefits of sections 946 to 949 of this title shall, within twelve months after the location of ten miles of its canal, if the same be upon surveyed lands, and if upon unsurveyed lands, within twelve months after the survey thereof by the United States, file with the officer, as the Secretary of the Interior may designate, of the land office for the district where such land is located a map of its canal or ditch and reservoir; and upon the approval thereof by the Secretary of the Interior the same shall be noted upon the plats in said office, and thereafter all such lands over which such rights-of-way shall pass shall be disposed of subject to such right-of-way. Whenever any person or corporation, in the construction of any canal, ditch, or reservoir, injures or damages the possession of any settler on the public domain, the party committing such injury or damage shall be liable to the party injured for such injury or damage." 43 USC § 947.

BLM Plats

Because of this requirement, even today the master title plats maintained by the Bureau of Land Management (BLM) have clearer information on easements under the 1891 Act than on those created under RS 2339. It is important to remember, however, that failure to comply with this filing requirement does not

Easements

Construction

necessarily invalidate the easement. *Roth v. United States*, 326 F Supp 2d 1163, 1174 (D Mont 2003) held that the 1891 Act easement across unsurveyed land vests upon construction.

FLPMA Permits (1976)

Federal Land Policy and Management Act

With the exception of the reclamation laws, which are discussed below, no statute departed from the basic framework of RS 2339 and the 1891 Act until Congress passed the Federal Land Policy and Management Act (FLPMA) in 1976. The fundamental difference between FLPMA and the earlier acts is that the earlier acts were direct grants from the federal government to those using the public domain, whereas FLPMA only authorizes the Executive Department to make such grants if, in its discretion, it determines that is the appropriate course of action. With FLPMA, Congress repealed RS 2339 and the 1891 Act and transitioned to a permit-based system.

As it relates to water delivery, FLPMA provides:

> "The Secretary [of the Interior], with respect to the public lands, and the Secretary of Agriculture, with respect to lands within the National Forest System (except in each case land designated as wilderness), are authorized to grant, issue, or renew rights-of-way over, upon, under, or through such lands for: (1) reservoirs, canals, ditches, flumes, laterals, pipes, pipelines, tunnels, and other facilities and systems for the impoundment, storage, transportation, or distribution of water." 43 USC § 1761(a).

New Easements

The US Department of the Interior has issued regulations implementing this provision. *See* 43 CFR § 2800. Today, anyone wishing to acquire an easement across federal lands must complete environmental and other reviews before the government will grant the easement.

Federal Projects

Reclamation Law

The policy embodied in RS 2339 and the other public land statutes discussed above was one of granting easements over unimproved federal land to encourage *private* development of the land. The policy underlying the reclamation laws contemplates a different scenario, in which the *federal government* builds large, capital-intensive projects to attract whole groups of settlers and thereby develop entire areas of the arid west. Because of this basic policy difference, the easements based on the reclamation laws involve a higher degree of federal control than those based on the public land laws.

Unlike public land laws, the reclamation laws do not make outright easement grants. Instead, they authorize the US Bureau of Reclamation (Reclamation), in its discretion, to reserve to the United States easement rights across public land needed for reclamation projects (43 USC § 417), and to acquire such rights from private land owners (43 USC § 421). Reclamation project works such as water distribution canals, were often constructed by private or quasi-municipal parties, such as irrigation districts, acting under federal contracts rather than directly by the United States. Through such partnerships, easements reserved under 43 USC § 417 eventually accrue to the benefit of irrigation districts and their member landowners.

Federal Reserved Rights

The reclamation laws also apply to land patented out of the public domain after August 30, 1890. The act of that date reserves rights-of-way for reclamation project water conveyance systems across lands patented to private parties under the public land laws: "In all patents for lands taken up after August 30, 1890, under any of the land laws of the United States or on entries or claims validated by this act west of the one hundredth meridian, it shall be expressed that there is reserved from the lands in said patent described, a right-of-way thereon for ditches or canals constructed by the authority of the United States." 43 USC § 945. Interestingly, this provision was enacted 12 years before the Reclamation Act first authorized the construction of ditches and canals for federal projects.

Finally, Reclamation is authorized to grant discretionary rights-of-way for purposes not directly related to a particular project.

Discretionary Grants

These discretionary rights are described as follows:

> "The Secretary, in his discretion, may…(b) grant leases and licenses for periods not to exceed fifty years, and easements or rights-of-way with or without limitation as to period of time affecting lands or interest in lands withdrawn or acquired and being administered under the Federal reclamation laws in connection with the construction or operation and maintenance of any project: Provided, That, if a water users' organization is under contract obligation for repayment on account of the project or division involved, easements or rights-of-way for periods in excess of twenty-five years shall be granted only upon prior written approval of the governing board of such organization. Such permits or grants shall be made only when, in the judgment of the Secretary, their exercise will not be incompatible with the purposes for which the lands or interests in lands are being administered, and shall be on such terms and conditions as in his judgment will adequately protect the interests of the United States and the project for which said lands or interests in lands are being administered." 43 USC § 387. This provision is implemented by regulations that set out a detailed application, approval, and payment process to obtain these easements. *See* 43 CFR part 429.

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State Laws

State Law

Following the federal government's example, Idaho, Oregon, and Washington all enacted laws granting rights-of-way over state lands for ditches and canals to encourage the construction of irrigation systems. *See, e.g.*, IC 42-1104, 58-601; ORS 273.761, 541.030; RCW 79.36.540. For the most part, these state laws track federal law. For example, Washington's law provides: "A right of way through, over and across any state lands is hereby granted to any irrigation district, or irrigation company duly organized under the laws of this state, and to any association, individual, or the United States of America, constructing or proposing to construct an irrigation ditch or pipe line for irrigation…" (RCW 79.36.540).

Requirements

Like the 1891 Act, all three states require the filing of a map or field notes of a survey, or both, of the proposed easement. *See, e.g.*, IC 58-601; ORS 273.761(4); RCW 79.36.550. Washington also requires payment of the "full market value" of the easement, RCW 79.36.560, while Idaho may require reasonable compensation. IC 58-601.

By Conveyance

The most common way to create an easement is by express grant or reservation. Typically, a landowner grants an easement to an irrigation district, for example, in a written easement agreement that is then recorded with the county clerk.

Written Agreements

An easement can create or convey full ownership or only a nonpossessory right of use. Conveyance of a strip of land that does not limit the use in any way may convey full fee title. This type of conveyance would be unusual for irrigation easements, but such easements undoubtedly do exist, especially for main canals. When there is uncertainty about whether the strip of land is held only as an easement or in full fee title, courts tend to find that it is an easement to avoid separating ownership of isolated strips of land.

Unambiguous Terms

The extent of the rights granted or reserved by an easement should be carefully described in the easement agreement. If the terms used in the easement are unambiguous, the words of the easement control the uses that can be made. *See, e.g.*, *Fox v. Miller*, 150 F 320 (9th Cir 1906) (because Idaho easement was for "logging purposes," the easement holder was not restricted to transporting logs by road, flume, or tram and could float logs down a stream located within easement). Oral testimony contrary to the unambiguous terms of the easement will not be allowed. *See Minto v. Salem Water, Light & Power Co.*, 120 Or 202, 250 P 722 (1926). Because easements are perpetual and may one day be held by parties not alive today, an oral agreement on the main points of the easement is insufficient and could lead to litigation in the future.

"Parol Evidence"

In *Minto*, 120 Or 202, 250 P 722, the water company acquired an easement from Minto authorizing it to lay city water supply pipes across his property and to build certain filtration cribs and other devices. As the city's water needs grew, the water company expanded its operations on Minto's land, building a storage pond above the filtration cribs and constructing certain aboveground facilities. Minto sued in trespass. The water company acknowledged that the easement document itself did not expressly grant the right to these expanded operations, but argued that the circumstances surrounding the signing of the easement and the intentions of the parties at the time showed that the purpose of the easement was to allow the company to do whatever was necessary to provide clean water to the city. The court held that none of this "parol evidence" (i.e. oral, unwritten) could be considered. Focusing on the text of the easement, the court concluded that the expansion was not allowed and that the water company was liable for trespass.

Washington Deed Required

Washington state law requires easements to be conveyed by deed. RCW 64.04.010. In *Kesinger v. Logan*, 113 Wash 2d 320, 779 P2d 263 (1989), Kesinger, the owner of the servient estate, brought an action to quiet title to a 20-foot-wide strip of land that an irrigation district claimed was part of its canal easement across one side of Kesinger's property. The district relied on the terms of the easement contract, which stated that the easement included the disputed area, and to Kesinger's chain of title, which referenced the same contract. The court, however, held that Kesinger could not be estopped from asserting ownership of the disputed 20-foot-wide area when the easement had not been conveyed by deed pursuant to RCW 64.04.010. Since the property's legal description encompassed the disputed area, the court quieted title in favor of Kesinger. Courts have, on occasion, quieted title to easements that were not conveyed by deed (*see Kirk v. Tomulty*, 66 Wash App 231, 831 P2d 792 (1992) where quiet title was obtained to a road easement not conveyed by deed, because there had been partial performance by one side and acceptance of benefit by other). However, water suppliers in Washington should ensure that easements are conveyed by deed.

Constructive Notice

Because an easement is an interest in land, the document creating the easement may be recorded in the county deed records if the document satisfies the state's statutory recording requirements. *See* IC 55-801 through 55-818; ORS 93.600-.808; RCW 65.08.030-.180. Recording is crucial because it gives constructive notice of the easement to third parties (other parties who are not part of the agreement). After recording, anyone who deals with the servient estate will be legally held to know that the easement exists, even if the easement itself is undeveloped.

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Irrigation District Power

Private Parties

Irrigation districts in all three states have broad powers to acquire easements and other rights from private parties by lease, purchase, and eminent domain. *See* IC 43-304; ORS 545.239; RCW 87.03.010. Idaho, for example, gives irrigation districts "the right to acquire, either by purchase, condemnation, or other legal means all lands and water rights, and other property necessary for the construction, use and supply, maintenance, repair and improvement of said canal or canals and works." IC 43-304.

By Eminent Domain

If negotiations with private landowners prove unsuccessful, some special districts, such as irrigation districts, are authorized to acquire easements and other interest through the power of eminent domain. IC 43-304; ORS 545.239; RCW 87.03.140. Oregon's statute provides an example of these three states' nearly identical provisions.

THE OREGON STATUTE PROVIDES:

Condemnation Power

"The board of directors and its agents and employees have the right to enter upon any land in the manner provided by ORS 35.220 to make surveys, and may locate the necessary irrigation or drainage works and the line for any canals and the necessary branches for the works or canals on any lands that may be considered best for such location. The board also has the right to acquire, by lease, purchase, condemnation or other legal means, all lands, water, water rights, rights of way, easements and other property, including canals and works and the whole of irrigation systems or projects constructed or being constructed by private owners, necessary for the construction, use, supply, maintenance, repair and improvement of any canals and works proposed to be constructed by the board. The board also has the right to so acquire lands, and all necessary appurtenances, for reservoirs, and the right to store water in constructed reservoirs, for the storage of needful waters, or for any other purposes reasonably necessary for the purposes of the district." ORS 545.239(1).

Reservoir Storage

Individual's Condemnation

All three states have also granted the right of condemnation to individuals in order to secure easements for irrigation ditches. IC 42-1106; ORS 772.305; RCW 90.03.040. Idaho, for example, provides that "[i]n case of the refusal of the owners or claimants of any lands, through which any ditch, canal or conduit is proposed to be made or constructed, to allow passage thereof, the person or persons desiring the right of way may proceed as in the law of eminent domain." IC 42-1106.

Use of Another's Ditch

Irrigation districts and landowners in these states may also condemn and then use another's canal. IC 42-1102; ORS 772.310; RCW 90.03.040. To secure an easement on another's canal by eminent domain in Idaho and Washington, the use of the canal must be necessary. *Canyon View Irrigation Co. v. Twin Falls Canal Co.*, 101 Idaho 604, 619 P2d 122 (1980); *State ex rel. Ballard v. Superior Court, Kittitas County*, 114 Wash 663, 195 P 1051 (1921). In *Ballard*, Richards irrigated his land with water from the Richards' ditch, which started at a common point with the Lund ditch, both of which crossed Ballard's property. To irrigate another part of his property, Richards sought an easement to carry 50 inches of water through the Lund ditch and extend the Lund ditch nearly 400 feet. Ballard argued that Richards could irrigate the other part of his property using the existing Richards' ditch simply by constructing a 2,000-foot-long flume elevated 10-to-20 feet above the ground. The court held that because the flume "would hardly be feasible or practicable," a reasonable necessity existed for the easement to be condemned. 114 Wash at 664.

Condemnation suits are instituted in local courts having jurisdiction over the land being condemned. IC 7-706; ORS 35.245; RCW 8.20.010. The primary issue, assuming the irrigation district's condemnation authority is not contested, is the determination of "just compensation" for the needed easement.

By Prescription

Prescription Requirements

It is possible to create easements by prescription. The requirements are similar to those for adverse possession. If the prescriptive actions (*i.e.*, use of the property for water delivery) are open, notorious, and adverse to the rights of the underlying landowner, and continuous and uninterrupted for the statutory period, the owner of the delivery system may acquire an easement. The statutory period in these three states differs: Oregon and Washington require 10 years, but Idaho now mandates 20 years. *See* IC 5-203; ORS 105.620; RCW 4.16.020.

By Implication

Prior Use

Necessity

Dedication

Easements can also be created by implication either through prior use or by necessity. Prior use applies to situations in which a landowner conveys a portion of a tract of land without addressing the buyer's right to continue to use easements across the portion retained by the seller. When a parcel of land could not otherwise be physically accessed from a public right-of-way, ways of necessity can be created through a statutory procedure in Oregon and Washington. ORS 376.150-.200; RCW 8.24.010-.050. Idaho common law similarly allows for the creation of easements by necessity. *Cordwell v. Smith*, 105 Idaho 71, 665 P2d 1081 (Idaho App 1983). Easements may also be implied through the platting of property on which roads and utility easements are dedicated to the public.

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RIGHTS AND DUTIES UNDER EASEMENTS AND RIGHTS-OF-WAY

Exclusivity of Use

"Servient" Rights

Unless the instrument creating an easement expressly creates an exclusive easement, the rights of the easement holder are nonexclusive. *See Hayward v. Mason*, 54 Wash 649, 652, 104 P 139, 140 (1909) (ditch easement was nonexclusive because there was no language in the deed indicating "that the right of way granted was an exclusive one"). The owner of the underlying land (the "servient owner") may make any use of the land that is consistent with and does not unreasonably interfere with the rights of the easement owner. *Reynolds Irr. Dist. v. Sproat*, 69 Idaho 315, 206 P2d 774 (1949). In that case, an irrigation district sought to enjoin the Sproats from using the district's Pyke & Roscoe ditch, which crossed the Sproats' property. The court affirmed the trial court's decision that the district owned the irrigation ditch. On rehearing the case, however, the court held that this did not prevent the Sproats from using the ditch. Although the Sproats had not expressly reserved the right to use the ditch in the easement document, they had the right to use it so long as their use did not "interfere with the dominant estate." 69 Idaho at 333.

Contemplated Uses

The rights of the easement holder and the servient owner are relative to each other, not absolute. If the use by the servient landowner was or should have been contemplated by both parties when the easement was created, it is considered a type of use that is reasonable and should be allowed. The courts look to the express words used in the easement to determine what uses were contemplated.

Monitor Actions

In *Chevron Pipe Line Co. v. De Roest*, 122 Or App 440, 858 P2d 164 (1993), *modified* 126 Or App 113 (1994), Chevron owned an easement for an interstate petroleum products pipeline. The pipeline was buried at depths varying from 1.5 to 3.5 feet. De Roest acquired the servient estate and gradually placed fill on it until the pipeline was 10.5 to 22.5 feet below ground. De Roest also parked heavy equipment on the easement. The court noted that a rider to the easement recognized that the servient estate was used for a sawmill and that lumber was stored on the easement. In light of this fact, the court refused to enjoin De Roest's actions even though it increased Chevron's "costs, access time, safety risks and liability exposure." 122 Or App at 446. De Roest's use did not interfere with Chevron's use in any way that was not contemplated when the easement was granted. One factor that influenced the court's decision was that De Roest's infilling of the pipeline took place over a long period of time, during which Chevron did not complain. Thus one lesson from this case is that easement holders should monitor potential encroachments and not "sleep on their rights."

Historic Maintenance

The lesson that past inaction may inhibit future use of the easement is reinforced by *Nampa & Meridian Irr. Dist. v. Washington Federal Sav.*, 135 Idaho 518, 20 P3d 702 (2001). In that case, the irrigation district's historic maintenance practices resulted in the servient owner's expanded use of the district's easement. The easement document granted the district an easement for a lateral ditch crossing the servient estate and a 40-foot easement for maintenance purposes. As part of Washington Federal's attempt to subdivide the servient estate, it began constructing a sidewalk and fence along the north side of the lateral. The district sued to stop construction, arguing that it would interfere with its ability to repair and maintain the lateral using heavy equipment. The court held that since the district had used only a pickup truck to maintain the lateral for the past 20 years and could maintain the lateral from the lateral's south side, the sidewalk and fence would not unreasonably interfere with the district's easement rights.

Duration

Perpetual Term

Unless expressly limited in time, an easement continues until terminated by abandonment or one of the other termination methods discussed below. Water conveyors should make sure when they acquire a new easement that the written agreement specifically states that the term is perpetual and that it states, as clearly as possible, the types of conditions that would constitute abandonment.

Location of Easement and Changes

Historic Location

When the location of an easement is not specified in the document creating it, the location may be determined by how the parties have used the land since the easement was created. For example, in *White Bros. & Crum Co. v. Watson*, 64 Wash 666, 117 P 497 (1911), the White Brothers' predecessor had appropriated the waters of a creek on federal property and carried the water by a ditch and flume to his property. Watson then acquired his land subject to the White Brothers' RS 2339 right-of-way. Five years later, a flood destroyed the ditch and flume and made it impossible to divert water from the creek at the original location. The White Brothers then sought to construct a cement dam and lay a pipeline 76 feet above the original location. The court refused to permit the White Brothers to proceed, holding that "[t]he manner of diversion, the length and location of the right of way, the means of conveyance of the water over the right of way — in short, the easement — became fixed and determined by the facts as they existed when [Watson's] homestead entry was allowed." 64 Wash at 669-70.

"Floating" Easement

A "blanket," "floating," or "roving" easement is produced when the instrument creating the easement simply describes the land that it affects with no attempt to specifically locate the easement. Reserved

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easements in federal patents, such as in *White Bros.*, were always blanket easements. The guiding principle is that an ambiguous instrument will be interpreted in light of the practical construction given to it by the parties. Unless the owner of the servient estate locates the easement, the owner of the easement may do so in a manner that will accomplish the intended purpose with reasonable, minimum levels of damage or interference to the servient estate. *McCue v. Bellingham Bay Water Co.*, 5 Wash 156, 31 P 461 (1892).

Reasonable Actions

This principle guided the court in *Quinn v. Stone*, 75 Idaho 243, 270 P2d 825 (1954). Quinn obtained an easement from Stone's predecessor in interest to construct two ditches from a pump. Originally, one ditch was to run in a northerly direction and one was to run in a northwesterly direction. Quinn quickly built a ditch running to the north, but it was unsatisfactory and was quickly discarded. Quinn then built a second ditch running to the northeast. Use of this ditch over the years caused sink holes to develop, rendering it ineffective, so Quinn began building a third ditch running to the northwest, to which Stone objected, as it would interfere with his farming operations. The court held that a ditch running to the north and then the west would be feasible and would not unreasonably interfere with Stone's use of the property.

Broad Language

In *Spear v. Cook*, 8 Or 380 (1880), Spear sold to Cook all the water in Spear Creek, along with an easement to convey the water across Spear's land. The easement deed gave Cook the right to build, maintain, and operate "all claims, ditches, pipes, aqueducts, or flumes necessary and proper for the conveyance of said water to the premises of [Cook]." *Id*. at 380. Cook initially built a six-inch wood flume on small trestles across Spear's property that could carry only a portion of the waters of Spear Creek. Spear had no problem with this. Three years later, however, Cook built a much larger flume with a walkway wide enough for people to walk along, nailed in places to Spear's trees. Cook began floating wood down the new flume. The wood often jammed in the flume, causing water to spill over and damage Spear's property. Spear sued and lost. On appeal, the Oregon Supreme Court affirmed. The main reason for the court's decision was the very broad easement language, which contained no limits on the location, type, or use of the water conveyance. The court held that Spear had to live with the new flume and was entitled to an award only for actual damage caused to his trees and property.

Idaho's Right to Change

Idaho gives servient owners the right to change the location of irrigation channels, provided the change does not "impede the flow of the water therein, or...otherwise injure" the dominant estate. IC 42-1207. In *Simonson v. Moon*, 72 Idaho 39, 237 P2d 93 (1951), the servient owner cut off one lateral ditch and extended another ditch to the point at which the prior ditch had entered the dominant estate. Because the newly lengthened ditch lacked the capacity to simultaneously serve both landowners, the court held that this change impeded the flow of water to the dominant estate and violated the statute authorizing the servient owner to change the lateral's location.

Width Issues

Another common issue associated with locating easements is determining the width of the easement. If the width of the easement is not specified, it is constrained by "the line of reasonable enjoyment," which is what is "reasonably necessary and convenient for the purpose for which it was created." *Everett Water Co. v. Powers*, 37 Wash 143, 152, 79 P 617, 621 (1905). The original width of the easement can be expanded "if the express terms of the easement manifest a clear intention by the original parties to modify the initial scope based on future demands." *Sunnyside Valley Irr. Dist. v. Dickie*, 149 Wash 2d 873, 884, 73 P3d 369, 374 (2003) (relying on *Patterson v. Chambers' Power Co.*, 81 Or 328, 340-41, 159 P 568, 572 (1916)).

Access, Maintenance, and Other Secondary Rights

Secondary Easements

Irrigation ditch owners typically need to enter the property across which the ditch flows to inspect and, if necessary, repair the ditch. Such rights are often referred to as "secondary easements" and their nature and scope are generally matters of common law. *See* Clesson S. Kinney, *A Treatise on the Law of Irrigation and Water Rights* § 990 at 1750 (2d ed 1912). In Idaho, the common law precept of secondary easements for irrigation systems has been codified. *See* IC 42-1204.

Repair

The right and duty to maintain and repair an easement generally rests on the party receiving the benefit from the easement. Unless expressly forbidden, easements are presumed to include the right to enter the servient landowner's property for purposes of inspection, maintenance, and repair of the easement. *Gorrie v. Wiser Irr. Dist.*, 28 Idaho 248, 143 P 561 (1915); *Carson v. Gentner*, 33 Or 512, 52 P 506 (1898); *Baskin v. Livers*, 181 Wash 370, 43 P2d 42 (1935). For example in *Carson*, Carson had taken control of a ditch across state-owned lands and used it to divert water for mining purposes in 1876. Seven years later, Gentner settled on the property and subsequently obtained a homestead patent from the state. The patent did not contain an express reservation of water or ditch rights. In 1892, Gentner refused to let Carson on Gentner's property to repair the ditch. Carson sued to enjoin Gentner from interfering with Carson's ditch rights and won. On appeal, the court held that Carson had a vested ditch right under an Oregon statute similar to RS 2339, and held that the right to clean and repair was not dependent on any express reservation in a deed to the patentee.

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Liability Issues

The easement holder's failure to maintain and repair an easement violates the rights of the servient owner and could be a liability should the servient owner's property be harmed. In *Coulsen v. Aberdeen-Springfield Canal Co.*, 47 Idaho 619, 277 P 542 (1929), the servient owner's pure-bred bull died after falling into "a gulch of considerable dimensions" created by the canal company's failure to maintain a waste ditch. 47 Idaho at 623. The canal company argued that the 1891 Act gave it the right to exclusive possession of the right-of-way, which meant that the bull had trespassed. The court rejected this argument, holding that the company "was under the duty of maintaining its waste ditch in substantially its original condition…The failure of [the company] to repair or guard amounts to actionable negligence." *Id.* at 631.

Contribution to Maintenance

Oregon and Idaho have different approaches regarding contribution from the servient owner and easement holder for the costs of repairing and maintaining an easement used by both parties. In Oregon, such costs can be apportioned equitably based on use of the easement by the servient and dominant estates. *Van Natta v. Nys*, 203 Or 204, 234, 278 P2d 163, 177 (1954). In Idaho, however, the easement holder has the duty of maintaining the easement even if the servient owner uses it, but this "does not mean that the easement owner is required to maintain and repair the easement for the benefit of the servient estate." *Walker v. Boozer*, 140 Idaho 451, 456, 95 P3d 69, 74 (2004). Contribution for maintenance costs incurred by the servient owner is available if the easement owner's level of maintenance creates "an additional burden on the…servient estate." *Id.* Courts in Washington have yet to directly address this issue.

Limitations of Right to Use

Permitted Uses and Modification of Use

An easement does not convey the unlimited right to use the covered property. The rights of the easement owner are measured by the purpose and character of the easement. The use of the easement is limited to the use that is reasonably necessary and convenient for the intended purpose of the easement. As noted above, in *Fox v. Miller*, 150 F 320 (9th Cir 1906), the easement language broadly described the use of the Idaho right-of-way as "logging purposes." The court therefore held that the right-of-way holder was not restricted to transporting logs by road, flume, or tram and could float logs down a stream located within the easement. Of course, the intended purpose is not always clear from the easement language itself.

Intent Evidence

Interpreting an express easement often requires an investigation of the intentions and circumstances of the parties at the time of the original grant or reservation. These interpretive issues are particularly problematic for irrigation easements, because many of them are very old and the character of the areas where they exist has likely changed dramatically over the years.

In *Jewell v. Kroo*, 268 Or 103, 517 P2d 657 (1973), the Jewells owned property for which a spring supplied irrigation water. A prior owner granted a neighbor the right to use 500 gallons per day from the spring. The spring was located in a ravine; its water was retained by a three-foot-high rock and earthen dam. The Kroos bought the neighboring property and wanted to use the spring under the terms of the earlier agreement. To do so, they removed the rock dam and replaced it with a much taller concrete dam, all without the Jewells' permission. The court found that a larger reservoir was required to enable full use of the 500 gallons per day, and that the changes made on the Jewells' land were consistent with and necessary for the Kroos' use.

Future Adjustments

Generally, unless the easement contains an express statement to the contrary, use of an easement may be adjusted to conform to newly arising needs that the parties reasonably should have expected to develop in the natural use of the land under the easement. *See, e.g.*, *Boydstun Beach Assoc. v. Allen*, 111 Idaho 370, 723 P2d 914 (Idaho App 1986); *Logan v. Brodrick*, 29 Wash App 796, 631 P2d 429 (1981). This principle is limited, however, by the rule that an easement owner may not materially increase the burden or impose new burdens on the underlying landowner. Balancing these concerns is not always easy.

The use of prescriptive easements may also be adjusted. Just as with express easements, adjustments to use of prescriptive easements cannot place an unreasonable burden on the servient estate. *See Firebaugh v. Boring*, 288 Or 607, 607 P2d 155 (1980); *Gibbens v. Weisshaupt*, 98 Idaho 633, 570 P2d 870 (1977).

Right to Upgrade

Improvements

In general, an easement owner has the right to improve an easement, but only to the extent that the improvement does not increase the burden on the servient owner. *Guillet v. Livernois*, 297 Mass 337, 8 NE2d 921 (1937). "It is well settled that the owner of an easement cannot change its character, or materially increase the burden upon the servient estate, or injuriously affect the rights of other persons, but within the limits named he may make repairs, improvements, or changes that do not affect its substance." *Wright v. Austin*, 143 Cal 236, 239, 76 P 1023 (1904). State courts across the country are split on whether an easement holder acts within the scope of its easement when it upgrades its irrigation ditches. For example, in *Papa v. Flake*, 18 Ariz App 496, 503 P2d 972 (1972), the court held that lining an existing ditch with concrete was within the scope of the easement. A California court, however, has held that lining a ditch with Gunite (to limit leakage) was outside the scope of the easement. *Krieger v. Pacific Gas & Elec. Co*., 119 Cal App 3d 137, 173 Cal Rptr 751 (1981).

Easements

Idaho Improvements

Of the three states examined herein, easement holders in Idaho have the clearest right to improve the water delivery systems located on easements. An easement holder (and the servient owner) has "the right to place [a ditch, canal, lateral, or drain] in a buried conduit within the easement or right-of-way on the property of another…so long as the pipe and the construction is accomplished in a manner that the surface of the owner's property and the owner's use thereof is not disrupted and is restored to the condition of adjacent property as expeditiously as possible, but no longer than thirty (30) days after the completion of construction." IC 42-1207.

In addition, Idaho courts have held that other improvements can fall within the scope of secondary easements. In *Abbott*, 119 Idaho 544, a school district sought to bury an irrigation ditch running across its property in order to construct a new elementary school. The easement owner approved the burial of the ditch, provided that a concrete inlet structure and safety/trash screen were constructed within the easement but on the adjacent property owner's land. Abbott, the adjacent property owner, sued after construction began, alleging that the new features would increase the burden on his property. The Idaho Supreme Court affirmed the trial court's conclusion that the improvements "were within the scope of the easement and did not enlarge the use of the easement or constitute an unreasonable increase in the burden of the easement on the servient estate." 199 Idaho at 550. *See also Reynolds Irr. Dist.*, 69 Idaho at 334, 206 P2d at 786 (suggesting that easement holder could improve its ditch if improvement is done to increase effective use of water or to prevent waste).

Burden v. Efficiency

Method of Use

Although irrigation districts in Oregon lack the statutory authority to bury preexisting ditches and canals, a federal District Court in Oregon recently issued an unpublished decision holding that a canal easement secured under the 1891 Act can be converted to a buried pipeline. In *Swalley Irrigation Dist. v. Alvis*, No. Civ. 04-1721-AA, 2006 WL 508312 (D Or Mar. 1, 2006) (unpublished), the irrigation district sought declaratory relief when landowners objected to its plans to replace five miles of a canal with a pipeline buried within the original easement. The irrigation district stressed that in replacing the canal with a pipeline the easement is still used for irrigation, and it promotes water conservation, clean water supplies, and the efficient delivery of irrigation water. Focusing on the language of the 1891 Act, the court noted that even though it only referred to canals and ditches, the right-of-way granted was expressly for irrigation purposes. Relying on Oregon common law, the court held that the irrigation district's method of use was not limited to open canals and ditches. A pipeline would be used for the same purpose as the existing ditch and would not increase the burden on the servient estates. Although this decision is unpublished and nonbinding as precedent, it may be indicative of the judiciary's current perspective.

Needed Repairs

Other Oregon cases pertaining to easement uses also suggest that improvement is allowed. In *Baumbach v. Poole*, 266 Or 154, 511 P2d 1219 (1973), the Oregon Supreme Court indicated that Oregon courts had adopted the general rule that the grant of an easement includes the right to do whatever is necessary for repairs. In that case, easement owner (Poole) wanted to subdivide his property, but needed a "better road" to meet local ordinances. 266 Or at 156. He constructed an improved road over a 50-foot easement he had purchased from the plaintiff. The court held that the road expansion had damaged the plaintiff's property, but only because Poole inadvertently pushed dirt outside his 50-foot right-of-way and had removed several small trees. However, the construction of an improved road over what was likely a dirt or gravel 50-foot easement was not deemed to be outside the scope of the easement owner's rights. *See also Hotchkiss v. Young*, 42 Or 446, 451, 71 P 324, 326 (1903), which held that the easement holder had right to "level, gravel, plow, pave, and even grade [right-of-way], and for the latter purpose dig up and use soil so as to adapt it to the use accorded, and to the nature of the way granted or reserved."

Improved Methods

In *Bernards v. Link & Haynes*, 199 Or 579, 248 P2d 341 (1952), the plaintiff landowners attempted to extinguish an easement across their land that had been granted to a railway company for the purpose of transporting logs by rail. Over time, the easement owner had begun transporting logs along the easement by logging trucks instead of railways. The plaintiffs argued that the use had changed because the means of transportation had changed. The court disagreed. Citing a long line of English and American cases, the court held that "[e]asements, which are one of the numerous instrumentalities by which the day's work is done, would thwart progress instead of facilitating it unless those who have easements can avail themselves of the newer and improved methods in the use of the easements." 199 Or at 592. The court relied heavily on the historical shift from horse-drawn conveyances to the automobile. Case law resoundingly supports the proposition that an easement originally intended for transportation of person or property is not extinguished merely because the mode of transportation changes due to technological advancement. By analogy, piping or lining of ditches could be considered a technologically advanced way of transporting water and may not represent a substantially different use of the easement.

Washington Questions

The situation is murkier in Washington, if for no other reason than the dearth of relevant case law. The closest case is *Logan v. Brodrick*, 29 Wash App 796, 631 P2d 429 (1981), in which the scope of

Easements

Changes & Improvements

an express easement was at issue. In 1965, the Brodricks granted the Logans, who operated a lakeside resort, a perpetual easement for a road across their property. The Logans gradually expanded the resort, resulting in increased traffic on the road, until the Brodricks placed posts in the road to reduce access. This action resulted in an initial court decision limiting increases in the volume of traffic using the easement to "increases in population and use" in the surrounding area. 29 Wash App at 798. After several years of increasing traffic, the Brodricks partially blocked the road with a fence, causing the Logans to sue. In affirming the trial court's decision that the increased volume did not overburden the servient estate, the appellate court held that "[n]ormal changes in the manner of use and resulting needs will not, without adequate showing, constitute an unreasonable deviation from the original grant of the easement" and relied on the assumption that "[c]hanges in surrounding conditions and modernization of recreational vehicles are to be reasonably contemplated." *Id.* at 800. By analogy, Washington courts could assume that changes and improvements to water delivery systems should be reasonably contemplated by the parties unless the easement contains limiting language.

Prescriptive Easement Change

A case about prescriptive easements also sheds some light on how a Washington court might interpret the scope of an express irrigation easement. In *Benis v. Shoreridge Water Cooperative Co.*, No. 41153-0-1, 1998 WL 466665 (Wash App 1998) (unpublished), Benis purchased a lot on which Shoreridge's 500-gallon water tank had been located for 45 years. When Shoreridge replaced the tank with a larger tank, Benis sued to determine the extent of Shoreridge's rights. The trial court held that Shoreridge had a prescriptive easement, the size of which was limited to the original tank's physical encroachment on Benis's lot. In affirming the trial court's decision, the appellate court noted that "there is no Washington authority quite on point but that American law generally recognizes that prescriptive easements are capable of 'future change and growth in the same way as an easement created by general language in an instrument would be.' The scope of express easements created with general language can change gradually to keep pace with the normal changes in the activities covered by the easement." *Id.* at *6 (citations omitted).

Site Specific

The foregoing cases are intended to demonstrate the types of cases courts in these three states might look to in evaluating the issue of improvements to irrigation ditches. In sum, all the circumstances surrounding the creation of an easement will be examined before a variation will be permitted. Technological and economic changes may well provide a basis for improving permitted uses, but easement holders should carefully analyze each situation before taking any action.

Tort Liability

Duty of Care Varies

Easement holders have certain duties toward third parties that enter lands covered by the easement. The scope of these duties depends on whether the third party has been invited for some business purpose of the easement holder (*e.g.*, a party constructing a new diversion structure) or is merely allowed or not prohibited from crossing the land (*e.g.*, when a commonly used path follows an irrigation ditch). Generally speaking, an easement holder's only duty of care toward licensees is not to willfully injure them; on the other hand, for invitees, the easement holder must take precautions to avoid any reasonably foreseeable injury. *Martin v. Houser*, 299 F2d 338 (9th Cir 1962).

"Invitees"

In *Martin*, Houser owned an easement across Martin's farm and had constructed an irrigation ditch on it. Martin's son was chasing a stray cow on a path along the bank of the ditch, when he tripped and fell into the diversion structure, injuring himself. Relying on Washington law, the court held that Martin and his son were not "invitees" of the easement holder; rather, at most, the easement holder simply did not forbid them to travel in the easement on the path above the ditch. Martin and his son were thus mere "licensees," and as such, Houser owed them only a duty not to willfully injure them. As that had not occurred, Houser was not liable. Easement holders in Washington and Oregon are advised to be aware of any third parties that use the land subject to the easement, to determine whether these parties are invitees or not, and to take appropriate steps if there are any potentially dangerous features of the irrigation ditch or other facilities.

"Licensees"

Ordinary Care

In Idaho, on the other hand, easement holders are held to the standard of reasonable care. In *Rehwalt v. American Falls Reservoir Dist. No. 2*, 97 Idaho 634, 550 P2d 137 (1976), the servient owner sued when the maintenance road along the side of a canal running through his property gave way causing his truck and 480 bushels of wheat to topple into the canal. The Idaho Supreme Court expressly declined to use "the licensee-invitee-trespasser categories" and instead held that the easement owner "is to be held to the general standard to use ordinary care in the management of the easement property." 97 Idaho at 636.

Effect of Subsequently Enacted Law

"Takings" Clauses

Easements on private lands are governed by state law and subject to state regulation. An irrigation district's use of such easements, for example, may be regulated in the same way that its use of any of the rest of its property is regulated. The main limits to such regulation are the "takings" clauses of the US and state constitutions and the limits on unreasonable agency action found in state and federal administrative procedures acts.

Easements

Federal Regulation

A somewhat more complex problem arises when federal agencies attempt to regulate use of rights-of-way granted by the federal government. In such cases, easement holders may argue that they have vested or "grandfathered" rights to continue to operate their easements exactly as they did at the time the easements vested. Unfortunately, this overstates the case. Courts that have considered the matter have held that federal right-of-way holders are subject to "reasonable regulation" by federal agencies, regardless of when the right-of-way was acquired. *See, e.g.*, *Adams v. United States*, 3 F3d 1254, 1260 (9th Cir 1993) ("Forest Service still has the authority to reasonably regulate" a vested RS 2339 water easement); *Grindstone Butte Project v. Kleppe*, 638 F2d 100 (9th Cir 1981) (in exercising discretion to impose terms and conditions on pre-FLPMA rights-of-way, the Secretary of the Interior must comply with the National Environmental Policy Act).

Limit on Regulation

In *Elko County Bd. of Sup'rs. v. Glickman*, 909 F Supp 759 (D Nev 1995), the court added that regulations that prohibit the use of an easement, or are so stringent as to amount to prohibition, are not "reasonable." *Id.* at 764 (citing *United States v. Doremus*, 888 F2d 630, 632 (9th Cir 1989)). In *Elko,* a group of landowners and ranchers in Elko County, Nevada sued the US Forest Service (Forest Service), seeking to enjoin its interference with the landowners' use of RS 2339 ditch rights across national forest land. The landowners had attempted to maintain and improve century-old diversion facilities at springs located in the Humboldt National Forest. The government brought misdemeanor charges against some landowners and allegedly threatened others with criminal prosecution. The US District Court for Nevada denied the irrigators' requested injunction and held that, even assuming the ranchers had valid RS 2339 rights-of-way, they were still required to obtain a special use permit from the Forest Service before performing any ditch maintenance or improvement in the national forest. The court did note, however, that the Forest Service was not at liberty to prohibit the ranchers from exercising their vested rights or to regulate them so strictly that a de facto prohibition was imposed.

Endangered Species Act

ESA Consultation

The Endangered Species Act (ESA), 16 USC § 1531, *et seq.*, can affect ditch, canal, and pipeline easements involving the federal government. ESA Section 7(a) requires federal agencies to consult with the Secretary of the Interior or Commerce Secretary if any agency action "could jeopardize any endangered or threatened species, or destroy or adversely modify habitat of such species." 16 USC § 1536(a)(2). This section, however, does not apply to easements created pursuant to RS 2339 or the 1891 Act unless the easement holder wants to take an action that "requires a substantial deviation from the [original] grant." 43 CFR 2807.11(b). In *Western Watersheds Project v. Matejko*, 468 F 3d 1099 (9th Cir 2006), a conservation group alleged that the BLM had violated section (7)(a) by acquiescing to diversions of water for irrigation purposes using six easements created pursuant to RS 2339 and the 1891 Act. The Ninth Circuit disagreed, holding that this did not qualify as an "agency action," as the BLM could only regulate pre-FLPMA "diversions if there is a 'substantial deviation in use or location.'" *Id.* at 1110 (citations omitted).

"Substantial Deviation"

Pre-FLPMA Diversions

"Take" of Species

Note, however, that section 9 of the ESA, which prohibits any person from "taking" listed species, applies to the use of *all* easements. 16 USC § 1538. Water providers should be cognizant that the creation, maintenance, and use of private easements could result in the "take" of listed species, and take actions to minimize liability exposure.

Transfer of Easement Rights

Notice of Burden

A transfer of servient property to a third party does not free the property of the burden of the easement unless the grantee is a bona fide purchaser without knowledge, or actual or constructive notice of the servitude. Recording is a crucial step in protecting easement rights and avoiding disputes. A purchaser of servient property or any other third party automatically has constructive notice of easements properly recorded in county deed records. IC 55-811; ORS 93.710; RCW 65.08.070. A purchaser will also be considered on notice of any existing servitudes apparent from a physical inspection of the property. *See* IC 42-1102; *Silvernale v. Logan*, 252 Or 200, 207, 448 P2d 530, 533 (1968) (parties are charged with constructive knowledge of easement if they should have known, "by using reasonable observation and intelligence," that property was subject to easement); and *Peterson v. Weist*, 48 Wash 339, 93 P 519 (1908). Thus, a purchaser would likely take title subject to unrecorded easements for such things as pipelines or ditches when the existence of such easements might be inferred from inspecting the property.

Property Inspection

An easement appurtenant to land is automatically transferred by a transfer of the estate, or portion thereof, to which it appurtains. Such easements cannot be transferred independently of the dominant estate.

Appurtenances

When a dominant estate is subdivided, each grantee is given a right to all appurtenances. Therefore an easement appurtenant to the entire property will continue to be appurtenant to each of the subdivided parcels. An increased burden on the servient estate that might unreasonably interfere with the servient owner's rights, however, would not create easements identical to the underlying easement. Unless specifically provided otherwise, the underlying easement is apportioned between the grantees in proportion

Easements

Subdivided Land

to the conveyance to each. *See Ruhnke v. Aubert*, 58 Or 6, 113 P 38 (1911) (water right passes in same proportion as land sold bears to entire tract); *Hoffman v. Skewis*, 35 Wash App 673, 668 P2d 1311 (1983) (subdivided parcels entitled to use easement for ingress and egress); and *Russell v. Irish*, 20 Idaho 194, 118 P 501 (1911) (appurtenant water right passes to subdivided land in same proportion as land was divided).

Termination of Easements and Rights-of-Way

Written and Oral Release

An easement can be extinguished by a conveyance, similar in form to a conveyance granting an easement, in which the easement holder releases its interest in the servient estate. Because an interest in land is being conveyed, the release should be written and should comply with the formalities of the statute of frauds (requirements under contract law). If, however, an easement holder orally releases the servient estate and the owner of the servient estate, in reasonable reliance, substantially changes its position to its detriment, then the oral release will be binding on the easement holder. The easement holder in that event is equitably estopped from denying the release. *See, e.g.*, *Heg v. Alldredge*, 157 Wash 2d 154, 137 P3d 9 (2006); and *Pfaendler v. Bruce*, 195 Or App 561, 98 P3d 1146 (2004).

Extinguish Easement

An easement is also extinguished when its stated duration has expired or when the specific purpose for which it was granted can no longer be served by its continued existence. Also, certain easements may be canceled by the landowner if the easement holder has breached a material term of the easement document.

Forfeiture and Abandonment

Intent to Abandon

An easement ceases to exist when it is abandoned. This does not mean, however, that an easement holder must make continuous use of an easement once the interest is created. Abandonment requires proof that the easement owner *intended* to permanently abandon the easement. A variation in the use made of the easement does not necessarily indicate that intent. Nonuse alone is also insufficient evidence of intent to abandon. *See, e.g.*, *Heg*, 157 Wash 2d 154; *Powers v. Coos Bay Lumber Co.*, 200 Or 329, 263 P2d 913 (1953); and *Ada County Farmers' Irr. Co. v. Farmers' Canal Co.*, 5 Idaho 793, 51 P 990 (1898).

Nonuse

If the need to use an easement has not yet arisen, the easement will not be deemed abandoned by the mere passage of time. *See, e.g.*, *Quinn*, 75 Idaho 243 (failure to construct irrigation ditch does not show intent to abandon easement). However, nonuse is relevant evidence of intent to abandon, unless the nonuse is due to forces beyond the easement owner's control. Jon W. Bruce & James W. Ely, Jr., *The Law of Easements and Licenses in Land* ¶ 905[2] at 9-32 (1988). Nonuse for a substantial duration may give rise to the inference of intent to abandon. A greater degree of evidence will probably be required to establish abandonment when such a finding would result in forfeiture of a valuable right.

Prescription

Loss of Easement

Rights to easement use are subject to hostile takeover. An easement may be lost by "prescription" if the use by the owner of the servient estate satisfies all the elements required for the creation of an easement by prescription (see above). The only difference between the prescription necessary for termination and that necessary for creation is that adversity may be more difficult to establish when proving termination of an easement. Because the owner of the servient estate is entitled to use the servient land as owner of the land, the prescriptive period will not begin unless the use by the owner of the servient estate is clearly inconsistent with the use of the easement. Damming ditches and locking headgates may constitute such inconsistent use. Irrigation easement holders subject to such behavior can avoid losing their easements either by formally permitting the behavior and thus rendering it not adverse, or by challenging it in court.

PROTECTION OF EASEMENTS AND RIGHTS-OF-WAY

Dispute Resolution

The following section briefly reviews common forms of legal actions that water conveyors might use to resolve disputes and provides a basic understanding of the potential legal means of protecting their rights. Parties involved in litigation should always consult with counsel at the earliest possible stage.

Quiet Title

Federal Lawsuit

In Idaho, Oregon, and Washington, a suit to quiet title is a statutory civil action in which the court determines the ownership of and right to possess a parcel of real property. *See* IC 6-401; ORS 105.605; RCW 7.28.010. When the landowner is an agency of the United States, an easement owner may bring suit under the Quiet Title Act (28 USC § 2409a). This statute provides a limited waiver of federal sovereign immunity by allowing a private plaintiff to name a federal agency as a defendant in an action to "adjudicate a disputed title to real property in which the United States claims an interest." *Id.*; *see Adams v. United States*, 3 F3d 1254 (9th Cir 1993) (quiet title suit brought by holder of public highway easement crossing US Forest Service land). Potential plaintiffs should be aware of the 12-year statute of limitations under this act. The period runs from the first time the plaintiff possesses a reasonable awareness that the government claims some interest adverse to the plaintiff. *See Overland Ditch & Reservoir Co. v. United States*, No. Civ. A. 96 N 797, 1996 WL 33484927 (D Colo Dec. 16, 1996) (citing *Knapp v. United States*, 636 F2d 279 (10th Cir 1980)).

Easements

Declaratory or Injunctive Relief

Due to the statutory requirements of a quiet title action, irrigation districts and other easement holders often seek to resolve disputes through suits for declaratory or injunctive relief. *See, e.g.*, *Nampa & Meridian Irr. Dist. v. Mussell*, 139 Idaho 28, 72 P3d 868 (2003); *Ericsson v. Braukman*, 111 Or App 57, 824 P2d 1174 (1992); and *Sunnyside Valley Irr. Dist.*, 149 Wash 2d 873. A declaratory judgment is an enforceable statement of the rights and duties between the parties to the suit. An injunction is an enforceable prohibition of certain action. These forms of relief are appropriate for an easement holder seeking, for example, a determination that a particular easement is valid, and an injunction prohibiting the landowner from interfering with the use of the easement.

No Damage Required

This type of action is brought as a suit in equity and does not require the plaintiff to allege that any actual damage has yet occurred — only that there is a substantial threat that it will occur. For instance, such a suit may be appropriate when residential development is gradually encroaching on an irrigation canal or when a landowner has sent the easement holder a letter stating that the owner plans to lock its gates and not permit the easement holder access to maintain or repair its canal.

Trespass

Exclusive Rights (Third Parties)

Trespass is an action that affords the plaintiff damages and injunctive relief for a defendant's unauthorized entry onto real property in which the plaintiff has exclusive rights. An easement holder generally does not have an exclusive interest in the land covered by an easement. *See Coulsen*, 47 Idaho 619. A trespass action generally does not lie against the landowner; instead, quiet title, declaratory, or injunctive relief is appropriate. But trespass actions may be brought against third parties with no claim to the land. *Bileu v. Paisley*, 18 Or 47, 21 P 934 (1889) (owner of sheep that fouled mining water ditch liable in trespass to ditch owners).

Private Nuisance

Damages Claim

Nuisances are either "private" or "public." In either case, the touchstone of liability is whether the defendant has "unreasonably interfered" with the plaintiff's enjoyment of a public or private property right. Any person whose property or personal enjoyment of his or her property is affected by a private nuisance may maintain a claim for damages. IC 52-111; ORS 105.505; RCW 7.48.020.

As is the case for trespass, nuisance actions are generally not the most direct or appropriate means of resolving disputes with landowners, but they can be effective when third-party actions interfere with an easement holder's rights under an easement. For instance, a nuisance action may be appropriate when third parties not subject to the terms of the easement are polluting an irrigation ditch, interfering with access to the ditch, or endangering the lateral support for the ditch.

Challenge to Agency Action

Agency Interference

As discussed above, government agencies will sometimes attempt to regulate an easement holder's use of its easement rights in a way that substantially interferes with the water conveyance goals. If such matters cannot be resolved by informal negotiation with the agency, litigation may be pursued under the state or federal administrative procedures acts. The easement holder's claim is typically that the agency's regulatory decision or action is unreasonable (*i.e.*, "arbitrary and capricious") or unauthorized by statute.

For Additional Information:
David E. Filippi, Stoel Rives LLP (Portland, OR), 503/294-9529 or email: defilippi@stoel.com;
Michael P. O'Connell, Stoel Rives LLP, (Seattlle, WA) 206/ 386-3792 or email: moconnell@stoel.com
Kevin J. Beaton, Stoel Rives LLP, (Boise, ID) 208/ 387-4214 or email: kjbeaton@stoel.com.

David Filippi practices in the areas of natural resources, environmental and land use law, and concentrates his practice on water rights and water quality, fish and wildlife law, hydropower relicensing and project facility siting and permitting. David has been closely involved in the development and implementation of numerous ESA compliance strategies on behalf of both public and private clients. His experience includes ESA section 7 consultations on behalf of local governments and development interests seeking permits or contract approvals from federal agencies, including the US Army Corps of Engineers, the US Bureau of Reclamation and the Federal Energy Regulatory Commission. David attended the Northwestern School of Law at Lewis and Clark College.

Michael O'Connell's practice focuses on natural resources, environmental, energy and Indian law. Michael has assisted industrial, manufacturing, commercial, forestry and other clients with stormwater, endangered species, wetlands, water quality certification, coastal zone management, essential fish habitat, wild and scenic rivers, cultural resources, fossils, and historic properties protection and water rights matters, including related due diligence, compliance, permitting, transactions and litigation. In energy matters, Michael has assisted clients in the acquisition and siting of facilities, licensing hydroelectric facilities under the Federal Power Act and exploration and development projects. Michael draws on twenty seven plus years experience in Indian law to assist a broad array of clients involved in federal Indian and tribal law matters, including natural resources and environmental permitting for projects on and outside Indian reservations. Michael received his J.D. from the University of Denver College of Law.

Kevin Beaton practices in the areas of environmental, administrative, and natural resources law with an emphasis on water quality and hazardous waste regulation and permitting. Kevin has represented a number of energy generation companies in obtaining siting, state environmental permits and conditional use permits in Idaho. He has worked on NEPA related issues, federal rights of way, FERC relicensing proceedings and FERC appeals while at the AG's office and during private practice. Kevin graduated from Washington University National Law Center.

Texas Groundwater Marketing

Regional Planning

Supply v. Demand

Capitalization

Groundwater Transactions

Economic Threat

GROUNDWATER IN TEXAS MARKETABILITY AND MARKET VALUE

by Bruce K. Darling, Ph.D., (Austin, Texas)

Introduction

In an article in the April 2007 edition of *The Water Report* (*Texas Groundwater – Rule of Capture and Groundwater Management in Texas*—TWR #38), your author provided an overview to the complicated history of the Rule of Capture in Texas and recent efforts by the State Legislature to develop a statewide system of management. The Legislature is attempting to impose requirements for regional planning and conservation in order to ensure sustainability of aquifers and availability of groundwater over a period of 50 years, while honoring the Rule of Capture as the State's preferred groundwater doctrine. This article examines a number of factors influencing groundwater transactions and marketing in Texas.

An Interesting Letter

The following letter was published on April 20, 2007 in *The Austin American-Statesman* (Austin, TX):

> As an old Texan, it occurred to me 20 years ago that with the population growth in Texas we may have a hard time finding a drink of water some day. To the scientists and young biologists who tell us that Texas is going to be parched, my answer is: So, what's new? Having grown up on a farm in Central Texas, I did what my father did. We watched the weather. We read the Farmers' Almanac before we read the morning paper. We have had 10-year droughts and three-year droughts, floods and tornados for at least 80 years...Seems we have a problem: too damn many people. — Henry Streety

Mr. Streety is a wise man. He probably hasn't read any of the water-planning reports prepared for the 16 regional water-planning groups designated by the Texas Water Development Board (see TWR #38), but his short letter cuts to the core of many of Texas' current and future water-supply problems: an imbalance of supply and demand. Mr. Streety's letter also has modest implications for understanding many of the perceptions Texans have about the value of groundwater.

Groundwater Transactions in Texas

As of 2006, groundwater accounted for 59 percent of the 18 million acre-ft of water used in the State of Texas. Groundwater is especially important in the westernmost areas of Texas, where there are insufficient sources of surface water to support most of that semi-arid/arid region's population and industries. With the growing expectation that cities and industries will require more water than current sources can provide, many entrepreneurs have become interested in capitalizing on the sale of groundwater or the acquisition or sale of rights to groundwater.

An article in the June 16, 2007 edition of *The Austin American-Statesman* entitled "*Water Merchants Brace for Future Droughts*" underscores the growing interest in groundwater transactions in Texas (see www.statesman.com/business/content/business/stories/other/06/16/16water.html). The article notes that oilman T. Boone Pickens and about 15 other water marketers in the State "are working on projects that would allow them to pump rural groundwater and ship it to urban areas." The article further notes: "No large cities currently go to marketers to get groundwater…but the marketers are gearing up by getting pumping permits in order and buying water rights." In the same article, Gabriel Eckstein (faculty, Texas Tech University's School of Law), sums up the expectations of marketers and many landowners who are hoping to see an active system of groundwater transactions develop in the State: "There's a lot of water marketers out there, but (Texas Municipalities) are going to be paying a heck of a lot to get that water."

In contrast to the optimism of Boone Pickens, other water entrepreneurs, and Professor Eckstein, the prospect of marketing groundwater has been a source of concern for many landowners who fear that the sale of water or water rights is a threat to the economies of rural counties. (See House Research Organization Focus Report – *Groundwater Management Issues in Texas*, p.5: website: www.hro.house.state.tx.us/focus/groundwater79-14.pdf.)

The logic is as follows: by allowing water traditionally used to support agriculture to be transferred to other ("higher valued") uses, the State risks undermining the economies of counties which have relied not only on irrigation, but also on enterprises which are linked either directly or indirectly to a healthy agricultural sector. The transfer of water from agriculture to municipal or other industrial uses might enrich landowners but harm agricultural supply companies and mills, possibly leading to bankruptcies.

Texas Groundwater Marketing

Transaction Types

Rule of Capture

Severed Rights

Water-Only Sales

Valuation

Types of Groundwater Transactions

Transactions involving the sale of groundwater or groundwater rights are not new in Texas, as cities and landowners in rural counties have engaged in such transactions over many decades. All groundwater transactions in Texas are based on one of three types: 1) land is purchased, which also conveys the right to pump groundwater (Rule of Capture); 2) water rights are severed from the land and sold to buyers; 3) landowners sell water to users, while keeping their land and water rights.

1) Rule of capture: Under the Rule of Capture, the right to groundwater follows ownership of land. Groundwater is considered to be part of the surface estate. Acquisition of land also entails the right to use all water beneath the surface of that land. Consistent with this perspective, land appraisers in Texas have not considered the value of groundwater apart from its association with the surface (e.g., ranching, irrigation, wildlife maintenance). As one result, models of "highest and best use" have not factored in any value related to potential transfers of water (e.g., the sale of water to cities and industries). Some landowners, entrepreneurs and attorneys have argued that this approach to property appraisal leads to undervaluation of groundwater, especially in cases involving condemnation of property for the purpose of gaining access to groundwater. (See Jim Matthews, *Recent Cases Involving Water Law and Related Issues*, The University of Texas School of Law, Texas Water Law Institute, Nov. 4-5, 2004, at www.utcle.org/eLibrary/preview.php?asset_file_id=344.) Barring issues specifically related to condemnation, the reluctance of land appraisers to consider uses of water unrelated to traditional uses of land might be regarded as highly speculative and not in keeping with accepted standards of property appraisal.

2) Water rights severed from the land: In areas such as the Texas Panhandle and nearly all other counties of west and southwest Texas, water rights are often severed from surface rights and sold to cities, to Groundwater Conservation Districts (GCDs), or to entrepreneurs seeking to enter what many hope will become a lucrative market for groundwater (see sidebar, next page). In such cases, sellers retain ownership of the surface estate, along with the right to use water for domestic purposes.

3) Landowner sales of water: In many areas of Texas, landowners sell water to cities or industries, without relinquishing their rights to groundwater. Contracts between sellers and buyers often include "take-or-pay provisions" which require buyers to pay an amount to the landowner equivalent to a set minimum water volume whether or not that volume is actually pumped.

In areas where land and groundwater are not severed, the *in situ* value of groundwater can be based on differences in the assessed values of irrigated land and dry land. This yields a value for groundwater on a *per acre* basis, which is independent of the volume of recoverable groundwater in storage beneath a property. If a specified volume of recoverable groundwater is estimated to be in storage beneath a property, then the value of groundwater is often calculated on an *acre-foot* (AF) basis. (An AF is equivalent to the volume of water required to fill an area of one acre to a depth of one foot, or ~325,850 gallons.)

What's My Water Worth?

One of the first questions which many potential sellers of groundwater ask is: "What's my water worth?" On the buyers' side, the question is: "What's it going to cost me to purchase that water or that landowner's water right?" It remains very difficult to answer either of these questions.

There is no organized statewide marketing system in Texas which puts sellers and buyers in touch with each other. Information that participants need to make reasonable assessments of the market value of groundwater is not supplied in any organized manner. In practice, each side brings its expectations to the bargaining table, hoping to negotiate the best possible deal. Mr. Streety's letter above underscores one of the operative perceptions which seem to form the opinions of many landowners and water entrepreneurs in Texas today: *Too many people and not enough water.* As evidenced by the comments of Professor Eckstein noted above, one might conclude that people with water or water rights to sell might expect substantial economic gains should a market or markets evolve.

Beginning with the *not enough water* assessment and applying economists' standard linear supply-demand curves to the problem, one might conclude that selling groundwater in Texas is a sure-fire way to get rich. For some, that might be the case now, and for others, the prospects might be better over the long run. However, it's not necessarily a sure bet for everyone. Mr. Pickens' company appears to be betting on the long-run.

Texas Groundwater Marketing

Before jumping to conclusions about the market value of groundwater in any area of Texas, buyers and sellers should take heed of the lack of any defined market value for groundwater in Texas. There are, instead, many potential market values based on the many various factors that influence marketability. Landowners and water entrepreneurs often don't consider these facts when first entertaining the thought of selling water or buying/selling water rights.

Factors Influencing Marketability and Market Value in Texas

Regional Factors

One overarching factor affecting the market value of water in Texas is the breadth of regional differences. Any attempt to assign a market value to groundwater in one region of Texas based on prices paid in other regions of the State is problematic. Accomplishing this task requires an understanding of the differing market structures, market conditions, geology/hydrology, and the relative bargaining power of parties within the different regions. Texas is very large and the population of the State is highly concentrated in major urban areas. Hydrologic conditions are often so different from one region to another that it is advisable to break the whole up into smaller parts. All these steps are essential to developing a reasonable understanding of the factors which drive differences in market value both between and within regions.

Historic Value

For many years, groundwater in Texas had minimal established value, apart from its association with the overlying land. A standard practice of cities and industries was to acquire enough property for a well field, then to pump whatever water was needed to meet their respective requirements. This was possible under a strict interpretation and application of The Rule of Capture Doctrine. Typically, the cost of groundwater was associated with the cost of the land, the well, the pump, the pipeline, and the electricity or the gas or diesel needed to run the pump. On the basis of my evaluation of groundwater transactions in Texas, I have identified at least eight factors which, today, seem to be significant determinants of marketability and of the market value of groundwater in Texas. These factors are listed below, not necessarily in order of importance.

Marketing Severed Water Rights: The T. Boone Perkins Example

T. Boone Pickens (Mesa Petroleum and Mesa Water Group) has acquired water rights beneath thousands of acres of land in Robert County, Texas. His objective is to sell water to Texas cities located many hundreds of miles from Mesa's future Panhandle well fields (See Water for Sale: Mesa Group Has Water – Will Deliver, in Southwest Hydrology, V. 3, no. 2, p. 22-22 (2004), website: www.swhydro.arizona.edu/archive/V3_N2/featurette6.pdf).

In the June 16 article referenced earlier, Mr. Pickens clearly lays out his reasons for wanting to sell water to users 500 miles or more from Roberts County:

"Four years ago (2000), my neighbors and I joined together to find a buyer for groundwater underlying our property in Roberts County, Texas. This water can best be described as "surplus," since the Region A (Amarillo) Planning Group — the northernmost 21 counties in the Panhandle — didn't factor it into their 50-year plan presented to the Texas Water Development Board in 2001. This water also isn't needed by the Canadian River Municipal Water Authority (CRMWA), nor by the City of Amarillo, which are the only two major markets in the Panhandle. We offered to sell them our water, and both turned us down."

"CRMWA and Amarillo bought water rights from several landowners, which we have no quarrel with, but those left out did not have the same opportunity. Also, we recognized that when CRMWA went into production in December 2001, it would place our water in jeopardy of being drained. That is what triggered our forming the Mesa Water Group.

"Our water also can be considered 'stranded' because it can't be used for irrigation due to the topography of the land — mostly rolling hills, canyons and mesas. In fact, out of the approximately 2.5 million acres in the four northeastern-most counties, only about 100,000 acres are under irrigation — about four percent. So using our water for farming is not an option."

"After nearly two-and-a-half years and considerable legal and engineering expense, permits were finally issued (by the CRMWA) in July 2002. That gave us everything we need to complete a project to deliver 150,000 acre-feet of water per year to the Dallas-Fort Worth metroplex, San Antonio, or El Paso — all in time to avert serious shortages."

"And we didn't turn to Washington to ask for legislation, or money, or help with regulations. We worked within existing laws and regulations and spent about $30 million of private funds to create a viable plan to supply new competitively priced water in Texas."

"Another group of about 150 Roberts County landowners representing an additional 190,000 acres have filed for permits to export water beneath their land. They want the same rights from the Panhandle Groundwater Conservation District that CRMWA, Amarillo, and the Mesa Group already have. They are entitled to those permits and they should get them. What my neighbors and I propose to do is nothing unusual. CRMWA is doing it today and Amarillo plans to do it in the future. We find ourselves with vast quantities of water that can't be used for irrigation or sold to the major markets in the area. It is only reasonable that we would seek to sell it elsewhere in the state."

Mr. Pickens makes an interesting case for the marketing of groundwater in Texas. Who knows? One day such entrepreneurship could provide the drink of water Mr. Streety writes about in his letter.

Texas Groundwater Marketing

Competition

Aquifer Assets

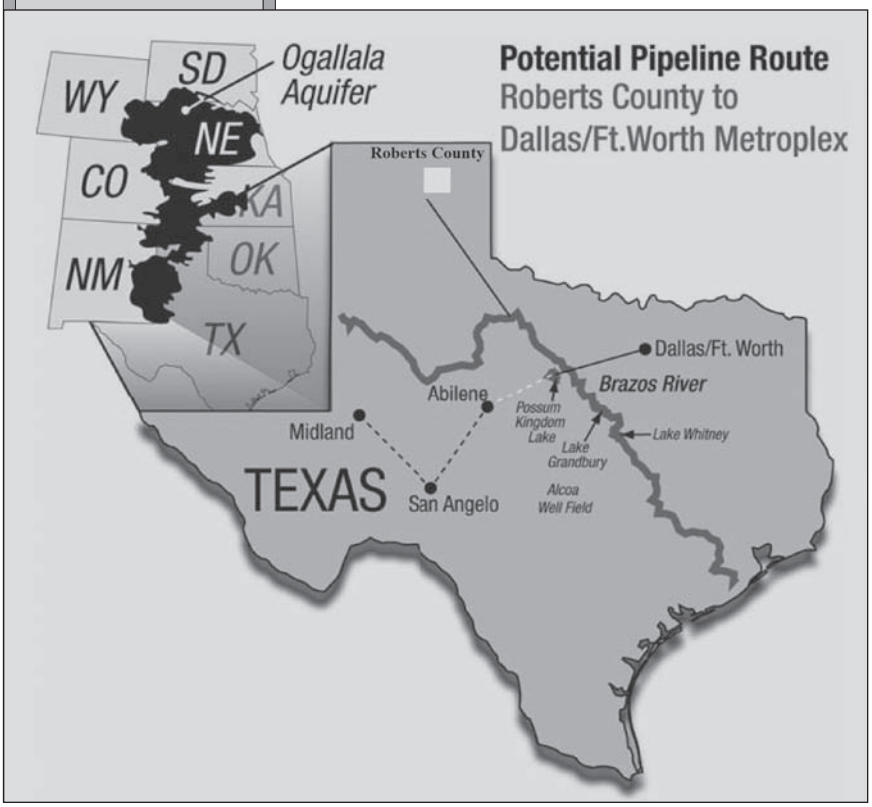
Water Quality

Regulations

Agricultural Production

Major marketability factors include:

- Number of Competitors for the Resource: Competition for groundwater should drive up the price of the resource. Alternatively, if there are few major users of groundwater in a region, then negotiated prices could be much lower than expected by landowners.
- Number of Known Sources of Groundwater and Sellers of Land, Water Rights or Water: Competition among sellers, all other things being equal and assuming one major buyer or minimal competition among buyers, should act to lower price. Alternatively, if sellers are able to organize a groundwater cartel, then their bargaining position should be stronger and prices negotiated for water or water rights could be higher than under purely competitive conditions among suppliers.
- Volume of Recoverable Water and Estimated Life of the Resource: Land with a large volume of water in storage *might* command a higher price than land with a small volume of recoverable groundwater. In addition, property overlying an aquifer which is recharged quickly *might* command a higher price than a property which lies above a "mined" aquifer. [A "mined" aquifer is one where the rate of withdrawal exceeds the rate of recovery, so that the volume available is decreasing]
- Proximity of the Resource to the Purchaser: Transporting water long distances can be very expensive, especially if the consuming end is at much higher elevations that a potential well field.
- Expected Costs of Installing Wells and Other Production and Treatment Facilities
- Estimated Production Costs and the Q*uality* of Groundwater: The investment required to develop a resource and to maintain, transport, and treat groundwater *might* be sufficient to justify a lower offer price, in the absence of other competitors, where the quality of the groundwater is an issue for the end user.
- Regulations Limiting Volume of Water: If there are any regulations which limit the volume of water available that can be pumped from an aquifer or which impose spacing requirements for wells, they must be taken into account. This has the effect of essentially amending the Rule of Capture.
- Value of Agricultural Production Attributable to Irrigation: Many farmers are potentially large suppliers of groundwater. They own land over aquifers which are capable of producing large volumes of water. In such cases, the value of groundwater can be related to the market value of crops if irrigated land is involved. For a landowner, the sale of groundwater or a water right represents an opportunity cost associated with the potential loss of income from irrigation. The sale of groundwater or of a landowner's water right (assuming no duress) should generate enough income to cover, at least, that income or any other income associated with the on-property use of groundwater or sale of groundwater for other uses.



It is not possible to precisely quantify the relative significance of each of the above factors in any given groundwater transaction. Furthermore, one should not expect any particular factor to carry the same weight across Texas' many and disparate regions. While economic models often assume broad knowledge and rational behavior by negotiating parties, few parties to a Texas water negotiation can claim access to all relevant information. Furthermore, there is no guarantee that all parties in a groundwater transaction will behave rationally even if all have access to the same body of information.

General Summary of Groundwater Transactions

Your author reviewed groundwater transactions in Texas over a six-year period, 2001 - 2006, as reported by *Water Strategist* (monthly publication of Stratecon, Inc. providing information on water transactions in Texas and other western states). Most of the groundwater transactions during these years took place in central, south, and west Texas.

Leases outnumbered sales, with lease terms typically ranging from 5-to-10 years. Leases are different from purchases of water rights. With

Texas Groundwater Marketing

Municipal Purchases

Value Fluctuations

Secure Sources

Lease Strategy

a lease, the landowner sells water on a yearly basis for a period of years. At the end of the lease a new contract may be renegotiated. With the purchase of a water right, the landowner (or the water right holder) sells his right to produce groundwater from a piece of property "in perpetuity."

Nearly all groundwater transactions have involved leases of water or the acquisition of water rights to support a broad range of municipal uses. Transfers to industrial or agricultural interests are less common.

Most lease prices for municipal use have ranged from $66 - $77 per AF per year. The Edwards Aquifer Authority Groundwater Trust (Central Texas) has reported a small number of leases up to $100/AF per year. Transactions involving the sale of groundwater rights (with no transfer of the surface estate) range from $270/AF (Canadian River Municipal Water District) to $250/acre (Mesa Water). In Central Texas, water rights associated with land overlying the Edwards aquifer often sell for between $1,000 to $2,000/AF.

Clearly, there is no established market value for groundwater in Texas. It is necessary to consider the mix of factors outlined above before reaching any conclusion about current or future lease prices and permanent transfers of water rights. Such exercises are not trivial, especially where an outright purchase is involved transferring the water right for perpetuity. Nevertheless, many landowners are now looking at groundwater, which has traditionally been used to support ranching and farming operations, as a resource with potentially greater market value than its traditional uses provide.

Conclusion

Is anyone going to get rich selling groundwater? It is reasonable to expect that market values in many areas of Texas will rise over the next decade. This will largely be in response to efforts by cities and regional water authorities to acquire secure sources of water to meet projected long-term needs. Because the water needs of smaller cities are much different from the needs of Dallas, Fort Worth, San Antonio, or El Paso, it is inadvisable to take speculations as to the potential upper end of market values too seriously. As noted above, there are many factors which influence sales prices.

For the foreseeable term, it is highly probable that landowners will prefer leases with terms of 5-to-10 years, rather than longer-term leases or sales. This strategy will likely be an outgrowth of expectations by landowners that market values will continue to rise as the population of the state grows and as major users try to lay claim to secure supplies to avoid shortages and economic problems stemming from supply shortfalls.

Buyers and sellers of groundwater would be well-advised to take stock of existing resources and the number of competitors and potential suppliers of water. Other factors to consider include projections of water demand by the Texas Water Development Board and negotiated lease and sales prices (historic). It is advisable to assess both demand-side and supply-side structures and market conditions.

Assembling the best information, one can enter into negotiations as a well-informed participant bargaining from the strongest position possible.

For Additional Information, Contact:
Bruce K. Darling, 512/560-9131 or email bkdarling@gmail.com.

Bruce K. Darling has worked extensively on problems related to arid lands hydrology, water-resource planning and economics, disposal of low-level radioactive waste, and fate and transport modeling of radionuclides and arsenic in groundwater. He earned a M.S. degree in geology from the University of Louisiana at Lafayette. He is also a graduate of The University of Texas at Austin, having earned his M.A. degree in Energy & Mineral Resources (Mineral Economics) and his Ph.D. in geology, concentrating in hydrogeology and geochemistry. Prior to beginning his doctoral work at Texas, he was a student in the Ph.D. program in mineral economics at Colorado School of Mines, where he focused on econometrics and natural resource economics. A growing volume of his work since 1996 has involved economic analysis of water markets and assistance to clients interested in acquiring or selling groundwater or the rights to groundwater.

Author's Note: For many years, I have subscribed to models of price formation as described by two minerals economists: Marian Radetzki (Luleá University, Stockholm) and Walter Labys (West Virginia University). Although their work specifically addresses matters related to international mineral commodity markets, the basic principles of market analysis developed by Radetzki and Labys are applicable on a smaller scale to a resource such as water. For further information, readers should refer to the following sources: (1) *Market Structure and Bargaining Power: A Study of Three International Mineral Markets*, by M. Radetzki (1978), in Resources Policy, v. 4 (1978), Elsevier Pub., p. 115-125; and (2) *Market Structure, Bargaining Power and Resource Price Formation*, by W. Labys (1980), D.C. Heath Pub., 240 p. Also, For a discussion of problems associated with economic models (and other models of human behavior), refer to Chapter 10 (The Scandal of Prediction) of *The Black Swan – The Impact of the Highly Improbable* by N.N. Taleb (2007), Random House Pub., 366 p.

WATER BRIEFS

GLOBAL WARMING NW

COLUMBIA BASIN IMPACTS

The Independent Scientific Advisory Board (ISAB) released its May 11th report concerning the impacts of global warming on the Columbia Basin. Entitled "Climate Change Impacts on Columbia Basin Fish & Wildlife," the 120+ page report goes into significant detail on the changes to be expected given the warming which the report calls "unequivocal." The Northwest Power and Conservation Council (NWPCC) and NOAA Fisheries established the ISAB in 1996 to provide independent scientific advice and recommendations regarding scientific issues posed by the respective agencies. Columbia River Basin Indian tribes were added as equal partners in the sponsorship of the ISAB in 2002.

Evidence of global warming includes increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global mean sea level. Eleven of the last twelve years (1995 -2006) rank among the 12 warmest years in the instrumental record of global surface temperature (since 1850). The linear warming trend over the last 50 years (0.13 +/- 0.03°C per decade) is nearly twice that for the last 100 years. The total global average temperature increase from 1850 – 1899 to 2001 – 2005 is 0.76 +/- 0.19°C.

Climate records show that the Pacific Northwest has warmed about 1.0 ºC since 1900, or about 50% more than the global average warming over the same period. The warming rate for the Pacific Northwest over the next century is projected to be in the range of 0.1-0.6˚ C/decade. Projected precipitation changes for the region are relatively modest and unlikely to be distinguishable from natural variability until late in the 21st century. Most models project long-term increases in winter precipitation and decreases in summer precipitation. The changes in temperature and precipitation will alter the snow pack, stream flow, and water quality in the Columbia Basin.

The report's Executive Summary noted how the expected changes will impact the Northwest: warmer temperatures will result in more precipitation falling as rain rather than snow; snow pack will diminish, and stream flow timing will be altered; peak river flows will likely increase; and water temperatures will continue to rise. These changes will have a variety of impacts on aquatic and terrestrial habitats in the Columbia Basin.

Salmonid fishes are especially sensitive to the potential changes in aquatic ecosystems. Salmon habitat may be more severely affected, in part because these fishes can only occupy areas below barriers and are thus restricted to lower, hence warmer, elevations within the region. Salmon habitat loss would be most severe in Oregon and Idaho with potential losses exceeding 40% by 2090. Loss of salmon habitat in Washington would be less severe, with the worst case about 22% loss by 2090. One of these analyses suggests that temperature increases alone will render 2% to 7% of current trout habitat in the Pacific Northwest unsuitable by 2030, 5%-20% by 2060, and 8% to 33% by 2090. Bull trout require very cold, headwater streams for spawning. Therefore, a warming climate may disproportionately impact this species. Recent projections of the loss of habitat suitable for bull trout in the Columbia Basin as a result of climate warming range from 22% to 92%. Executive Summary at iv.

The Executive Summary also discusses ways to mitigate climate change effects, while noting limitations. "Any action that can help minimize water temperatures increases or augment stream flow during summer and autumn would contribute to this end. Specifically, protection of cold-water refugia for migrating salmon and restoration of riparian habitats in headwater reaches should have high priority. However, it is unlikely that there are any options to successfully deal with some of the projected changes. For example, there is little that can be done at a local scale to offset projected changes in elevation, accumulation, and melt timing of snowpack."

The existence of the extensive hydropower system in the Basin provides some options for mitigation. "To the extent that hydrosystem operations are flexible, there are opportunities to mitigate for some climate change impacts in the mainstem, estuary and plume, because projected changes in natural runoff, even under the most extreme warming scenarios for the late 21st century, are substantially smaller than the changes caused by the development and operation of the hydrosystem in the late 20th century."

Possible actions that could be taken on the mainstem to address climate change impacts include:

- Flow augmentation from cool/cold water storage reservoirs. If this strategy requires addition storage capacity, careful consideration of the benefits and negative impacts of increasing the number of dams in the basin will be required
- Use of removable surface weirs to reduce the time juvenile salmonids spend in the warm water of the dam forebays
- Reduce water temperatures in the ladders with water drawn from lower, cooler strata in the water column of the dam forebays
- Develop transportation strategies for initiating full transport of juvenile fall Chinook more focused on temperature criteria
- Evaluate the possibility of transporting immigrating adults through the lower Snake River when water temperatures reach near lethal limits in the late summer
- Expand the predator control program to introduced piscivorous species such as smallmouth and largemouth bass, walleye, and channel catfish
- Open backwater, slough, and other off-channel habitats along mainstem reservoirs and the estuary to encourage increased flow through these areas to help reduce water temperature and provide cool-water refugia

For info: ISAB report is posted on NWPCC's website: www.nwcouncil.org/library/isab/isab2007-2.htm

WATER BRIEFS

EPA MUNICIPAL STORMWATER PROGRAMS: GAO REPORT US

In late May, the US Government Accountability Office (GAO) issued its report to congress evaluating the EPA's municipal stormwater programs, entitled: "*CLEAN WATER: Further Implementation and Better Cost Data Needed to Determine Impact of EPA's Storm Water Program on Communities*" (May 2007). As the title suggests, the GAO's analysis mirrored similar conclusions to those of author Misha Vakoc in the June issue of The Water Report (see "*Municipal Stormwater: An Overview of Current Regulation & Management*"-TWR #40).

Implementation of the stormwater program has been slow for both Phase I and II communities. As a result, almost all permitted Phase II and some permitted Phase I communities are still in the early stages of program implementation. Furthermore, some permitted communities may not be complying with their permit requirements.

Edited/Condensed from the GAO Report's "Results in Brief" Section:

[S]everal factors influence the extent to which stormwater program implementation is currently a burden for communities or could become a burden in the future.

For example:

- Considerable flexibility is built into EPA's stormwater regulations, which allow communities to choose the activities and levels of effort most appropriate to manage their stormwater runoff. Therefore, one factor that may reduce the burden communities currently face is the extent to which they take advantage of this flexibility and choose less expensive measures…Other factors that may reduce program burdens for some communities include whether they already had stormwater management activities in place…or whether they are able to obtain federal or state funds...
- Factors, such as whether permitting authorities include more stringent...conditions in stormwater permits, may increase the burden communities currently face. Also, some communities face barriers to funding their activities. For example, in communities in one state, hundreds of permittees have not been able to obtain Clean Water State Revolving Fund loans to help implement stormwater activities because of a misperception regarding the eligibility of these activities for funding.
- Furthermore…although EPA's program regulations are flexible, the agency instructs communities to expand or alter their stormwater management activities, as needed, over successive permit terms to improve water quality. Some Phase I communities that have been implementing the stormwater program for a longer period of time have already been reissued permits with more stringent or specific conditions. As EPA and state permitting authorities reissue permits for other communities, they may include additional requirements…which could increase program burdens. Finally, although some communities have obtained federal funds to help manage stormwater, continued reductions in the amount of federal funds potentially available for stormwater projects — such as the nearly 20 percent reduction in federal loan funds between 2004 and 2005 — could cause communities to carry a greater share of program costs.

Because we could not independently develop an estimate of actual stormwater program costs, we could not conclusively determine whether EPA's 1990 Phase I and 1999 Phase II analyses over- or underestimated these costs. However, we identified a number of methodological concerns that raise questions about the usefulness of EPA's estimates as measures of the burden communities face from implementing the program. For example, EPA's Phase I analysis, which estimated program costs for a small set of hypothetical cities under various scenarios, was not designed to estimate actual program costs for any specific community or provide a national estimate of program costs. Additionally, the Phase II cost analysis was largely based on data from only about 3.5 percent of the 1,600 communities surveyed to identify the types of stormwater activities they were conducting and the costs of these activities. In fact, only 56 officials returned information on activity costs. Moreover, many of the key survey questions were extremely complicated and subject to multiple interpretations, making it unlikely that communities could have responded with accurate information. Because of the small sample of data and concerns over their reliability, we do not believe that the Phase II survey data provide a valid and reliable estimate of program costs nationwide. Furthermore, EPA's Phase I and II analyses did not exclude costs of stormwater activities that communities may have been conducting before the program, which could cause its analyses to overestimate incremental program costs.

Any assessment of program burden will be hampered by limited and inconsistent data. EPA is not collecting complete and consistent data on communities' activities and their costs. While both Phase I and Phase II communities must submit reports on their...activities, only Phase I communities are required to include any information on stormwater activity costs. Furthermore, the data in communities' reports are often limited. Finally, because a number of factors influence the costs of implementing each of the many activities that may be part of a community's stormwater management program, inconsistencies in reporting among different communities hamper a national evaluation of these costs. Consequently, EPA will find it difficult to assess implementation of either phase of the program, particularly to meet its goal to examine Phase II implementation starting in 2012.

So that EPA can evaluate the implementation of the stormwater program nationwide, we are recommending that the Administrator, EPA, issue program guidance and consider regulatory changes to ensure that communities provide consistent data on the scope, costs, and results of their efforts.

[O]n the basis of our recommendation, EPA said that it would investigate ways to gather better cost information through communities' annual reports.

For info: John B. Stephenson, GAO, 202/ 512-3841 or email: stephensonj@gao.gov.

To view the full 64-page Report view GAO website: www.gao.gov/cgi-bin/getrpt?GAO-07-479

WATER BRIEFS

STUDIES FIND PERSISTENT TOXICS IN WATER WA

Toxic chemicals banned decades ago continue to linger in the environment and concentrate in the food chain threatening people and the environment, according to three recent studies by the Washington Department of Ecology (Ecology). The new studies of toxic contaminants in freshwater fish and sediments provide initial screening and long-term monitoring that add support for the State's push to reduce and eliminate the use of toxic substances, according to Ecology.

In one of these studies, "*Washington State Toxics Monitoring Program: Contaminants in Fish Tissue from Freshwater Environments 2004-2005*," Ecology scientists found unacceptable levels of toxic substances in 93 samples of freshwater fish collected from 45 sites. The toxic substances included: **p**oly**c**hlorinated **b**iphenyls (PCBs); dioxins; chlorinated pesticides (**d**ichlorodiphenyl**d**ichloro**e**thylene (DDE— which results from the breakdown of DDT) and dieldrin); and brominated (PBDE) flame retardants. Ecology will be investigating the sources of PCBs in the Wenatchee River, where unhealthy levels of PCBs were found in mountain whitefish. The Washington Department of Health (DOH) is advising the public not to eat mountain whitefish from the Wenatchee River from Leavenworth downstream to where the river joins the Columbia River due to unhealthy levels of PCBs. PCBs are a family of human-made, chlorinated chemical compounds that were once used in a variety of products such as coolants and lubricants in transformers, capacitors, electrical equipment, old fluorescent lighting fixtures, and hydraulic oils. Commercial production of PCBs was stopped in 1977 because of concerns about toxicity and persistence in the environment.

Study results indicated high levels of contaminants in fish collected from Lake Washington and the Spokane River, where fish consumption advisories are already in effect. The study also indicated elevated concentrations of toxic contaminants in fish from the Snake, Columbia and Palouse rivers. DOH will evaluate the need to provide consumption advice for fish from these rivers.

Two other Ecology studies of mercury represent Ecology's first-year efforts of an ongoing initiative to monitor mercury levels in freshwater fish and lakes in Washington. The studies are titled "*Measuring Mercury Trends in Freshwater Fish in Washington State 2005 Sampling Results*" and "*History of Mercury in Selected Washington Lakes Determined from Age-Dated Sediment Cores 2006 Sampling Results*." The purpose of the mercury monitoring studies is to track mercury levels in fish over time and look at depositional patterns in lake sediments, since mercury releases to the air and water eventually end up in fish.

In the past four years, Washington state has reduced mercury use and releases to the environment by more than 10,000 pounds. People are using more mercury-free thermostats mercury and local governments have new programs to increase proper recycling of mercury-containing thermostats and fluorescent lamps. Additionally, Ecology found a 50 percent drop in mercury levels in biosolids from several of the state's wastewater treatment plants from 2003 to 2006. The drop coincides with Washington's mercury reduction efforts as well as the State's work with dentists to collect and properly dispose of mercury-containing dental waste rather than washing it down the drain into wastewater treatment plants.

This year Washington became the first state in the nation to target all forms of PBDE flame retardants for elimination from the many common household products in which they are used. Studies in animals show that the polybrominated diphenyl ethers (PBDEs) can affect the developing brain, altering behavior and learning after birth and into adulthood. Levels of PBDEs are rising in people worldwide, but are highest in North America. Children are at the most risk from these chemicals.

Persistent, Bioaccumulative, and Toxic Chemicals

The following substances are some of the **p**ersistent, **b**ioaccumulative, and **t**oxic chemicals (PBTs) of current concern. PCBs, mentioned above, are a PBT also.

Mercury: Mercury occurs in the earth's crust and is released to the environment from natural events such as volcanoes, weathering, and forest fires, and from human activities, such as fossil fuel combustion, mining, and industrial processes. Methylmercury is the toxic form of mercury which persists in the environment as it accumulates in the food web. Eating fish and shellfish contaminated with methyl-mercury is the primary route for exposure to mercury for most people (ATSDR, 1999; Ecology and DOH, 2003; EPA, 2007).

Dioxins and Furans (PCDD/Fs): Dioxins and furans, or polychlorinated dibenzo-p-dioxins and -furans (PCDD/Fs), are unintentional byproducts of combustion processes. For example, they result from the burning of household trash, forest fires and waste incineration, and from chlorine bleaching in paper production, and chemical and pesticide manufacturing. Agent Orange, used as a defoliant in the Vietnam War, contained dioxins (ATSDR 2006).

Chlorinated Pesticides: Pesticides include insecticides, herbicides, fungicides, and related chemicals used to control pests. Chlorinated pesticides were analyzed for in this study because of their widespread occurrence and persistence in the environment. Many of these pesticides are neurotoxins and are suspected or known carcinogens (EPA, 2000). Some were banned from use in the United States during the 1970s and 1980s as their hazards became evident. These include DDT, chlordane, and dieldrin.

PBDE Flame Retardants: Flame retardants, specifically poly-brominated diphenyl ethers (PBDEs), are compounds added to plastic and foam products such as electronic enclosures, wire insulation, adhesives, textile coatings, foam cushions, and carpet padding. Increasing concentrations of PBDEs in humans and wildlife worldwide continue to raise concerns about their health effects. The highest levels of PBDE in human tissue have been found in the U.S. and Canada (Ecology and DOH, 2006).

For info: Sandy Howard, Ecology, 360/ 407-6408 or Ecology websites: waters and fish species: ww.ecy.wa.gov/biblio/0703024.html; toxics: www.ecy.wa.gov/toxics.html; and mercury: www.ecy.wa.gov/mercury/; DOH website for Fish consumption advisories: www.doh.wa.gov/fish

WATER BRIEFS

WETLANDS POLICY US
CORPS/EPA GUIDANCE

The US Army Corps of Engineers (Corps) and the US Environmental Protection Agency (EPA) on June 5 issued a joint guidance memorandum to clarity requirements for Clean Water Act jurisdictional determinations for wetlands. The guidance document comes one year after a divided US Supreme Court decided *Rapanos v. United States*, 126 S. Ct. 2208 (2006) (consolidated with *Carabell v. United States*). The guidance will be in effect for six months to allow public input on whether formal rulemaking should occur and, ultimately, what the rules should be. The Corps' and EPA's release noted that the agencies will within nine months from the date of issuance either reissue, revise, or suspend the guidance. A memorandum of agreement was also issued by the agencies regarding coordination of their post-*Rapanos* assessments (see "Memorandum for Director of Civil Works and US EPA Regional Administrators" (June 5, 2007)).

The guidance sets out that the agencies will assert jurisdiction over "traditional navigable waters." Jurisdiction will also be asserted over "adjacent" wetlands, defined as "bordering, contiguous or neighboring." Jurisdiction Memo at 5. The agencies will do a case-by-case analysis on other wetlands to determine if a "significant nexus" to traditional navigable waters exists as a basis for jurisdiction over those waters. Under the "Key Questions for Guidance Release" released by the agencies, it is noted that "the jurisdictional status of some waters is dependent on a case-by-case showing of whether or not the particular water meets either the Plurality or Kennedy standards." A plurality of the Court held that wetlands adjacent to non-navigable tributaries are "waters of the United States" under the Clean Water Act only if the tributary to which the wetland is adjacent is a relatively permanent waterbody and the wetland has a continuous surface connection with the tributary. The Kennedy standard is the "significant nexus" test.

Waters that flow only following precipitation events (ephemeral) will need to meet the Kennedy "significant nexus" test to be jurisdictional. Intermittent streams will either need to flow at least seasonally to meet the Scalia [plurality] relatively permanent flow standard, or will have to meet the Kennedy significant nexus standard to be jurisdictional. For the "significant nexus" analysis, the agencies will "assess the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if in combination they significantly affect the chemical, physical and biological integrity of downstream traditional navigable waters…Significant nexus includes consideration of hydrologic and ecologic factors." Key Questions, p. 4.

For info: Copies of the guidance memoranda and related information may be found at EPA's website: www.epa.gov/owow/wetlands/guidance/CWAwaters.html

TRANSBOUNDARY CERCLA US
SUPREME COURT REQUEST

In a pending transboundary pollution case involving a Canadian mining company and the Confederated Tribes of the Colville Reservation, the US Supreme Court on June 4 "invited" the federal government to file a brief to "express the views of the United States." The case concerns Teck Cominco Metals, Ltd.'s (Teck Cominco's) potential liability for the release of lead zinc processing byproducts that were eventually carried by surface water in the Upper Columbia River into the US and deposited in Lake Roosevelt, behind Grand Coulee Dam. A citizen suit was filed in federal district court in Eastern Washington based on the Clean Water Act provisions. See DuBey & Rosenthal, TWR #15; Water Briefs, TWR #37. The case is before the US Supreme Court on appeal by Teck Cominco from a 9th Circuit decision that decided the Canadian company can be held liable under US environmental law.

One issue before the US Supeme Court is whether the 9th Circuit was wrong last year in concluding that provisions of the U.S. Superfund law "can be applied unilaterally to penalize the actions of a foreign company in a foreign country undertaken in accordance with that country's laws." Writ of Certiorari (Teck Cominco). The appeal also includes the issue of "arranger liability" under CERCLA. See *Pakootas v. Teck Cominco Metals*, 452 F.3d 1066 (9th Cir., July 3, 2006). Teck Cominco's Writ of Certiorari had asked the US Supreme Court to "invite the Solicitor General to explain whether the President actually supports such an unprecedented, and potentially deleterious, expansion of American authority…" Despite the court's request for the brief, the US Supreme Court has yet to decide if it will actually take up the case for review, as of the date of publication for this TWR.

For info: Richard DuBey, Short Cressman & Burgess (Seattle), 206/682-3333 or email: rdubey@scblaw.com (Attorney for Confederated Tribes of the Colville Reservation)

REFINERY FINED CA
$1 MILLION PENALTY
SAFE DRINKING VIOLATIONS

A California refinery was sentenced to three years probation and ordered to pay a criminal penalty for violating the Safe Drinking Water Act. The company must apply $500,000 of the $1 million penalty towards the Los Padres National Forest Restoration Project. The company pleaded guilty on April 12 and was sentenced in U.S. District Court, Central District of California on June 13. Investigators from the US Environmental Protection Agency and the Department of Justice determined that Santa Maria Refining Co., located in Santa Maria, and a subsidiary of Greka Energy Corp., disposed of contaminated wastewater into wells that were not permitted for that use, posing a risk to groundwater supplies. The wastewater contained benzene,

which can cause anemia, excessive bleeding and cancer, as well as affect the immune system. The company was also sentenced for making false statements to the EPA. In addition to the penalty and probation, the company must pay EPA $15,500 in restitution, and must implement an independently audited environmental compliance program.

Three individual defendants have also pleaded guilty to making false statements to EPA in connection with this case. They each face statutory maximum sentences of five years in federal prison. Sentencing is pending. Since April 2004, EPA has been investigating allegations that officials at Greka had knowingly and routinely discharged oil refinery waste into underground injection wells that are permitted only for the disposal of brine, which is separated from crude oil during the refining process. In June 2006, EPA fined Greka's Santa Maria facility $127,500 for unauthorized disposal of oil refinery wastewater into the facility's injection wells.

For info: Roxanne Smith, EPA, 202/ 564-4355 or email: smith.roxanne@epa.gov; EPA's criminal enforcement program website: www.epa.gov/compliance/criminal; EPA's groundwater and drinking water website: www.epa.gov/safewater

GROUNDWATER REGS ID

IDWR ORDERS CURTAILMENT

On June 15, Idaho Department of Water Resources (IDWR) Director David Tuthill issued orders curtailing the use of junior water rights of ground water users in the Thousand Springs area of south-central Idaho. The curtailment comes in response to water delivery calls made in 2005 by senior water right holders Blue Lakes Trout Farm and Clear Springs Foods' Snake River Farm. The curtailment will take effect on July 6, unless sufficient mitigation is provided. The delivery calls and subsequent curtailment were issued under the department's Rules for Conjunctive Management of Surface and Ground Water Sources. The curtailment order affects certain ground water users with junior water rights in portions of Blaine, Butte, Gooding, Jerome, Lincoln and Minidoka counties. Water calls and curtailment orders are necessary to satisfy the director's duty under Idaho law to administer water rights in accordance with the Idaho Constitution and statutes in times of shortage. See Fereday, TWR #40.

The curtailment orders affect ground water rights bearing priority dates junior to December 9, 1990 for the Blue Lakes call and junior to February 13, 1977 for the Clear Springs call. This includes approximately 591 ground water rights for approximately 16,638 acres of irrigation, and commercial, industrial, municipal, non-exempt domestic and stockwater and other consumptive uses. Non-consumptive and culinary in-house uses of water will not be subject to curtailment under the orders. Junior water rights holders who have submitted mitigation plans acceptable to the department will not be curtailed. Junior water rights holders who have previously enrolled in the Conservation Reserve Enhancement Program (CREP) are also exempt.

Meanwhile on May 23, IDWR Director Tuthill postponed curtailment of water for American Falls-area ground water users pumping from the Eastern Snake Plain Aquifer. The curtailment orders could have affected certain ground water users with junior water rights in an area of south-central and eastern Idaho covering most of the Eastern Snake Plain Aquifer. The postponement is included in an order that conditionally accepts a plan from the Idaho Ground Water Appropriators (IGWA) for replacing that water. The next steps in the process are to continue monitoring flows in the Snake River as IGWA obtains storage water to provide for shortfalls experienced by members of the Surface Water Coalition. The curtailment order could have affected ground water rights for approximately 46,253 acres bearing priority dates junior to June 28, 1985. That included about 760 parties with ground water rights for irrigation, commercial, industrial, municipal, non-exempt domestic and stockwater, and other consumptive uses.

For info: Bob McLaughlin, IDWR, 208/ 287-4828; Curtailment Information: IDWR website: www.idwr.idaho.gov, click on "Major Issues" and "What's New." Website features maps of the affected areas, copies of the letters issued to water rights holders, legal documents, and related links.

CITY/EPA SETTLEMENT ID

CWA VIOLATIONS

The City of Marsing, Idaho (City), has reached a $3,500 settlement with the US Environmental Protection Agency (EPA) for alleged Clean Water Act violations. The City owns and operates a permitted wastewater treatment facility that discharges treated wastewater into the Snake River. Between May 2002 and June 2006, the facility had numerous effluent limit violations. NPDES permit violations occurred when the discharge from the City's facility exceeded limits set for fecal coliform bacteria, biochemical oxygen demand (BOD), total suspended solids (TSS), E. coli and total residual chlorine.

For info: David Domingo, EPA, 206/ 553-0531 or email: domingo.david@epa.gov; information about EPA's NPDES discharge program is available on EPA's website: http://cfpub.epa.gov/npdes/index.cfm

WATER PURCHASE CO

STORAGE POOL

The Colorado Division of Wildlife (DOW) and the Colorado Division of Parks and Outdoor Recreation (DPOR) have joined forces to purchase water shares from the City of Colorado Springs to add to the permanent water storage pool at John Martin Reservoir. A total of 2,000 acre feet (AF) of water was purchased by the two agencies with delivery scheduled for completion by June 6. The purchase was intended to ensure the long-term storage needs for

fishing and recreation at the reservoir. Earlier this year the state added to the storage at John Martin when water was acquired from the City of Pueblo. The state sought water from the cities because the amount of water the state could legally store in John Martin Reservoir reached dangerously low levels in recent years.

When full, John Martin can hold 618,000 AF of water , giving it the potential to be the largest reservoir in the state. This year it holds approximately 73,000 AF, but last year the DOW thought it might lose all of the fish when the reservoir dwindled to less than one percent of its capacity. Fortunately, the reservoir stabilized at the end of the summer when the DOW leased water from a local irrigation company and many of the sport fish survived.

For info: Colorado DOW website: http://wildlife.state.co.us/

NEW DAM STUDY WA

OFF-CHANNEL STORAGE

The Washington Department of Ecology (Ecology) and the US Bureau of Reclamation (Reclamation) recently released the "Appraisal Evaluation of Columbia River Mainstem Off-Channel Storage Options Report." The appraisal study evaluated whether any of the sites appear capable of safely providing a minimum of 1,000,000 acre-feet of active storage. It also included a preliminary assessment of the potential impacts of reservoir development on the built and natural environment, including impacts to cultural resources.

The appraisal study eventually was narrowed down to three sites: Crab Creek, Hawk Creek and Sand Hollow. The study determined that the Crab Creek site represents a potentially viable reservoir location. This site appears to be preferable to either the Sand Hollow or Hawk Creek sites based on both cost and technical feasibility criteria. However, construction of a facility at the lower Crab Creek site would have potentially significant environmental, socioeconomic, and cultural impacts that would need to be thoroughly evaluated in an EIS. Ecology, Reclamation, and the Columbia Basin irrigation districts will review the report and consult with stakeholders, agencies, and entities, including the Columbia River Basin Policy Advisory Group, prior to a decision as to whether to request from Congress authorization and funding for a feasibility study and EIS.

For info: Ecology website: www.ecy.wa.gov/programs/wr/cwp/cr_storage.

GOOD SAMARITAN US AGREEMENTS

CERCLA TOOL FOR MINES

On June 6, the US Environmental Protection Agency (EPA) released new policies and administrative tools that will enable public and private parties to take voluntary cleanup actions at orphaned mine sites across the West. These tools provide for the use of "Good Samaritan Settlement Agreements" to remove long-standing legal uncertainties associated with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as the nation's Superfund law.

The Good Samaritan Settlement Agreements provide key legal protections to Good Samaritans as non-liable parties including: a federal covenant not to sue under CERCLA and protection from third-party contribution suits. Other tools include a model comfort letter intended for Good Samaritan parties. The liability clarification that these tools provide will allow Good Samaritans to proceed with qualified projects — such as efforts to remove and cap waste rock, tailings piles and soils contaminated with high levels of lead, arsenic, zinc, and other metals in areas where they threaten human health and water quality.

There are an estimated 500,000 orphan mines in the US, most of which are former hardrock mines located in the West. Thousands of watersheds and stream miles are impacted by drainage and runoff from these mines, one of the largest sources of water pollution in the region. At many orphan mine sites and processing areas, disturbed rock and waste piles contain high levels of sulfides and heavy metals. These piles, when exposed to air and water, undergo physical and chemical reactions that create acid drainage. As this drainage runs through mineral-rich rock, it often picks up other metals — such as arsenic, cadmium, lead, mercury and zinc — in solution or in suspension as sediment. When this runoff enters local streams and rivers, it can severely degrade water quality, and damage or destroy insect, plant and animal life.

Good Samaritan Agreements are intended for use by EPA regional offices working with non-liable volunteers to clean up abandoned hard rock mines. These tools preserve CERCLA's fundamental principle that responsible parties should pay for cleanups as intended by Congress since the tools do not absolve responsible parties of their existing liability for pollution. However, in many cases the parties responsible for the pollution from orphan mine sites no longer exist or are not financially viable. A variety of interests, including nonprofit organizations and state and local governments, are eager to voluntarily clean up these abandoned sites even though they are not responsible for the pollution. Previously, many potential Good Samaritans expressed concerns that they might be held liable under the Clean Water Act and CERCLA. This obstacle prevented many cleanup projects from moving forward.

EPA's press release noted that while their announcement is a significant step forward, EPA cannot remove all legal risks and uncertainties associated with orphan mine sites. EPA believes that targeted legislation will allow even more Good Samaritan cleanups to happen.

For info: Carol Russell, EPA, 303/ 312-6310, Mark Chalfant, EPA Legal, 303/ 312-6177, or website**:** www.epa.gov/compliance/resources/publications/cleanup/superfund/factsheet/goodsam-tools-fs.html

WATER BRIEFS

PERCHLORATE BATTLE CA

CITY V. NASA

The city of Pasadena, California, has challenged a National Aeronautics and Space Administration (NASA) report that concludes that the source of perchlorate impacting five of the city's Sunset Reservoir wells is not from the Jet Propulsion Laboratory (JPL) area. The report was submitted to the US Environmental Protection Agency (EPA), the federal agency overseeing NASA's environmental cleanup. An agreement between the city and NASA was reached after a long negotiation process during which the city of Pasadena claimed NASA was responsible for perchlorate in the city's Monk Hill wells as well as the Sunset Reservoir wells. Upon completion of negotiations in January 2006, NASA agreed to fund cleanup of the Monk Hill wells and conduct a study of the perchlorate contamination origin of the Sunset Reservoir wells.

NASA's study claims the source of perchlorate affecting the five Sunset Reservoir wells is of a different origin than perchlorate disposed of by the U.S. Army in the upper Arroyo Seco in the 1940s and 1950s. The report states that results from four analytical tools – groundwater modeling, groundwater geochemistry, groundwater chemical concentrations and perchlorate isotope analysis – support NASA's conclusion.

The city retained the services of Geoscience Support Services Inc. of Upland, California, to review the NASA report. Geoscience Support Services concluded that the NASA report was not entirely correct and would ultimately lead to inaccurate conclusions. As a result of these findings, the city sent a letter to NASA Remedial Project Manager Steve Slaten on June 5 challenging NASA's conclusion that the perchlorate source impacting the Sunset wells is not from the JPL area, and attached the Geoscience Support Services report and its response to the NASA study.

For info: Ann Erdman, Pasadena Public Affairs, 626/ 744-4755, email: aerdman@cityofpasadena.net or website: www.ci.pasadena.ca.us/publicaffairs/news/perchlorate.asp; see also the NASA CERCLA Program website at the Jet Propulsion Laboratory: http://cercla.jpl.nasa.gov/NMOWeb/

CALENDAR

July 12-13 ID
Idaho Water Resources Board Meeting, Lewiston, Red Lion Inn. For info: IDWR, 208/ 287-4800 or website: www.idwr.idaho.gov/waterboard/

July 16 OR
Oregon Task Force on Land Use Planning Meeting, Lake Oswego. RE: Review of Oregon Statewide Planning Program & Recommendations to Land-Use Policy to the 2009 Legislature. For info: Becky Steckler, Dept. of Land Conservation & Development, 503/ 373-0050 x286 or website: http://centralpt.com/pageview.aspx?edit=1&id=15666

July 16 CO
South Platte Task Force Meeting, TBA. RE: Issues & Solution Relating to South Platte River Basin Water Crisis. Written comments can be mailed to Russ Zigler at Executive Director's Office, 1313 Sherman, 7th Floor, Denver CO 80203 or emailed to Russ.Zigler@state.co.us. For info: Susan Lesovsky, Colorado Dept. of Natural Resources, 303/ 866-3277, email: Susan.Lesovsky@state.co.us or website: http://dnr.state.co.us/

July 16 OR
Water Quality Permit Revisions Public Hearing, Portland, DEQ Headquarters, EQC-A Conference Room (10th floor), 811 SW Sixth Ave. (SW Sixth & Yamhill). RE: DEQ Revision/Renew Water Pollution Control Facility (WPCF) General Permits for Wastewater Discharges: Sand & Gravel Operations; Wineries; Food Processors; Petroleum Hydrocarbon Cleanup Operations; and Vehicle Washing Operations. Comments accepted through July 23. For info: Scott Manzano, DEQ, 503/ 229-5185, or DEQ website: www.deq.state.or.us/wq/wqpermit/.permitdocs.htm

July 16-17 NM
Natural Resource Damages Litigation Conference, Santa Fe, El Dorado Hotel. RE: Claim Limits, Injury Assessment Process, Defenses, Injuries Monetized, Strategies & Tactics for Litigation & More. For info: Law Seminars Int'l, 800/ 854-8009 or website: www.lawseminars.com

July 17 OR
Water Quality Permit Revisions Public Hearing, Salem, Salem Public Library, Anderson Room B, 585 Liberty St. SE. RE: DEQ Revision/Renew Water Pollution Control Facility (WPCF) General Permits for Wastewater Discharges: Sand & Gravel Operations; Wineries; Food Processors; Petroleum Hydrocarbon Cleanup Operations; and Vehicle Washing Operations. Comments accepted through July 23. For info: Scott Manzano, DEQ, 503/ 229-5185, or DEQ website: www.deq.state.or.us/wq/wqpermit/.permitdocs.htm

July 17-18 DC
Energy Development on Tribal Lands, Washington, D.C., Hyatt Regency Washington on Capitol Hill. Sponsored in collaboration with the National Congress of American Indians & Council of Energy Resource Tribes. For info: Law Seminars Int'l, 800/ 854-8009 or website: www.lawseminars.com

July 17-20 OH
Summer Conference & 37th Annual Meeting, Cleveland. Renaissance Cleveland. Sponsored by the National Association of Clean Water Agencies. For info: NACWA, 202/ 833.2672, email: info@nacwa.org, or website: www.nacwa.org/meetings/#07winter

July 18 IL
Implementing Sustainable Development Programs, Chicago. RE: How Companies Can Achieve Competitive Business Advantage Through Sustainable Business Approaches. Successful Programs Presented and Discussed. For info: Trinity Consultants, 800/ 613-4473 or website: www.trinityconsultants.com/Training/

July 18 WA
Global Warming Part 3, Conference, Seattle. For info: Holly Duncan, Environmental Law Education Center, 503/ 282-5220, email: hduncan@elecenter.com or website: www.elecenter.com/

July 18-19 WA
Underground Storage Tank Inspection Training, Seattle. For info: Kristine Robson, NW Environmental Training Center, 206/ 762-1976 or email: krobson@nwetc.org or website: www.nwetc.org

July 19 OR
Northwest Water Trading & Marketing Conference, Portland. For info: The Seminar Group, 800/ 574-4852, email: info@theseminargroup.net, or website: www.theseminargroup.net

July 19-21 B.C.
Rocky Mountain Mineral Law Institute 53rd Annual Meeting, Vancouver. For info: RMMLF, 303/ 321-8100, email: info@rmmlf.org, or website: www.rmmlf.org

July 23 HI
SEPA & NEPA Conference, Honolulu. For info: Law Seminars Int'l, 800/ 854-8009, email: registrar@lawseminars.com, or website: www.lawseminars.com

July 23 CA
California Water Plan Update 2009 Regional Workshop, Santa Barbara. RE: Central Coast Region Outreach for Water Issues & Management Strategies for Water Plan's Regional Reports. For info: California Dept. of Water Resources website: www.waterplan.water.ca.gov

CALENDAR

July 24-25 OH
2007 NGWA Ground Water and Environmental Law Conference, Dublin. For info: National Ground Water Association, 800/ 551-7379, email: customerservice@ngwa.org, or website: www.ngwa.org

July 24-26 ID
"Hazards in Water Resources," Universities Council on Water Resources (UCOWR) and the National Institutes for Water Resources (NIWR) 2007 Conference, Boise, Grove Hotel. Call for Papers until 12/4/06. For info: Rosie Gard, SIU, 618/ 536-7571, or email: gardr@siu.edu; Idaho Water Resources Research Institute, 208/ 332-4430; or website: www.ucowr.siu.edu/

July 25 CA
California Water Plan Update 2009 Regional Workshop, Los Angeles. RE: South Coast Region Outreach for Water Issues & Management Strategies for Water Plan's Regional Reports. For info: California Dept. of Water Resources website: www.waterplan.water.ca.gov

July 25-26 WA
Stormwater Monitoring and Data Analysis Under New NPDES Phase I & II Regulations Workshop, Seattle, NW Environmental Training Center HQ, 650 S. Orcas Street, Ste. 220. RE: Tools To Design & Implement Stormwater Monitoring Program for New Phase I and II Permit Requirements. For info: Kristine Robson, NW Environmental Training Center, 206/ 762-1976 or email: krobson@nwetc.org or website: www.nwetc.org

July 25-27 CA
Western Water Seminar, Monterey. For info: NWRA, 703/ 524-1544, email: nwra@nwra.org, website: www.nwra.org/meetings.cfm

July 26-27 WA
TMDLs in the Pacific Northwest Conference, Seattle. For info: Law Seminars Int'l, 800/ 854-8009, email: registrar@lawseminars.com, or website: www.lawseminars.com

July 27 OR
Oregon Coastal Law 2007, Environmental and Natural Resources Section of the Oregon State Bar Presentation, Newport, Hatfield Marine Science Center, 8am-5pm. RE: Law Affecting the Oregon Coast and Near Shore Ocean: Tribal Resources, Marine Protected Areas, Wave Energy, Measure 37 on the Coast, Marine Mixing Zones, More. For info: www.osbenviro.homestead.com/

July 27-28 CA
Total Maximum Daily Loads in California, Berkeley, UC Berkeley Extension, 1005 University Avenue. RE: Technical, Legal & Practical Issues in TMDL Program. For info: UC Berkeley Extension, 510/ 642-4111 or website: www.unex.berkeley.edu/cat/course794.html

July 30-31 WA
Environmental & Natural Resources Litigation Conference, Seattle, Washington State Convention & Trade Center. For info: Law Seminars Int'l, 800/ 854-8009, email: registrar@lawseminars.com, or website: www.lawseminars.com

July 30-August 10 MT
Environmental For The Future: Environmental Ethics Institute 2007, Missoula. For info: EEI website: www.umt.edu/ethics

August 1 CA
The Wonders of Wetlands, Los Angeles, California Science Center. For info: Anna Gaiter, CSC, 213/ 774-7455 or email: agaiter@cscmail.org

August 2 CA
Facilitator Training (Wonders of Wetlands), Los Angeles, California Science Center. For info: Anna Gaiter, CSC, 213/ 774-7455 or agaiter@cscmail.org

August 3 OR
Department of Fish & Wildlife Commission Meeting, Salem. For info: Director's Office ODFW, 503/ 947-6044, email: odfw.commission@state.or.us, or website: www.dfw.state.or.us/agency/commission/minutes/

August 5-7 TX
Future of Desalination: Water & Wastewater Issues & Technologies, A "Hands-On Workshop," College Station. Sponsored by Texas A&M, Separation Science Lab, Petroleum Engineering Dept. GPRI & Texas Water Resources Institute. For info: Carl Vavra, Texas A&M, 979/ 845-2758 or email: cjvavra@tamu.edu; or TAMU website: http://foodprotein.tamu.edu/separations/scdesalination.htm

August 6-7 NM
New Mexico Water Law Conference: The Year of Water, Albuquerque, Marriott Pyramid North. RE: Policy & Enforcement Priorities, Lower Rio Grande Regulations, Water Courts, *Rapanos* Implementation, Produced Water Regulation, Groundwater Standards, Water Quality Law & More. For info: CLE Int'l, 800/ 873-7130 or website: www.cle.com

August 7 CA
EPA's Sustainable Infrastructure Forum, Sacramento, CalEPA Bldg., 1001 I Street. RE: Sustainable Infrastructure and Effective Utility Management, Innovative Treatment Strategies, Technologies, Management Approaches & Emerging Issues. For info: dan Steinborn, EPA, 206/ 553-2728, email: steinborn.daniel@epa.gov or website: www.epa.gov/region09/water/siwest/

August 8-10 MT
154th Council Meeting, Western States Water Council, Bozeman, Hilton Garden Inn, 2023 Commerce Way. For info: Cheryl Redding, WSWC, 801/ 561-5300, email: credding@wswc.state.ut.us or website: www.westgov.org/wswc/meetings.html

August 9 CA
San Bernadino Water Conference, Ontario, Ontario Convention Center. RE: Groundwater, Maximizing Imports & Recycled Water, Conservation & Water Quality, Land Use, Economy & Environment, Needs & Solutions. For info: San Bernadino Water Conference, 866/ 737-4880 or website: www.sbcwater.com

August 9-10 AZ
Arizona Water Law SuperConference, Phoenix. For info: CLE Int'l, 800/ 873-7130 or website: www.cle.com

August 9-10 OR
Monitored Natural Attenuation of Petroleum and Chlorinated Hydrocarbons in Soil and Groundwater, Workshop, Portland. For info: Kristine Robson, NW Environmental Training Center, 206/ 762-1976 or email: krobson@nwetc.org or website: www.nwetc.org

August 9-10 WA
Renewable Energy in the Pacific Northwest Conference, Seattle, Sheraton Hotel. Includes Special Address by FERC Commissioner Jon Wellinghoff. For info: Law Seminars Int'l, 800/ 854-8009, email: registrar@lawseminars.com, or website: www.lawseminars.com

August 10 CA
California Water Plan Update 2009 Regional Workshop, Placerville. RE: Mountain Counties, North Lahontan Region Outreach for Water Issues & Management Strategies for Water Plan's Regional Reports. For info: California Dept. of Water Resources website: www.waterplan.water.ca.gov

August 12-17 Guatemala
Sixth Inter-American Dialogue on Water Management, Guatemala City. Sponsored by the Government of Guatemala and the Inter-American Water Resources Network. For info: IWRN website: http://d6.iwrn.net/

August 13-17 WY
State Board of Control Quarterly Meeting, Afton (tentatively) For info: Alan Cunningham, Administrator, 307/ 777-6178 or website: http://seo.state.wy.us/news.aspx

August 14-15 WA
Introduction to ArcHydro: Managing and Mapping Hydrologic Data with ArcGIS Workshop, Olympia, Evergreen State College, 2700 Evergreen Parkway NW. For info: Renata Sobol, NWETC, 206/ 762-1976, email: rsobol.nwetc.org, or website: www.nwetc.org/

August 14-16 WA
Northwest Power & Conservation Council Meeting, TBA. For info: NWPPC, 800/ 452-5161 or website: www.nwcouncil.org

August 16-17 OR
Oregon Environmental Quality Commission Meeting, Western Region. For info: Helen Lottridge, ODEQ, 503/ 229-6725, or website: www.deq.state.or.us/about/eqc/EQCagendas.htm

August 20 TX
Conservation Easements Conference, Austin. For info: CLE Int'l, 800/ 873-7130 or website: www.cle.com

August 20 CA
CEQA and Global Warming: Latest Developments, Requirements & Approaches, Los Angeles, Hyatt Regency Century Plaza. For info: CLE International, 800-873-7130 or website: www.cle.com

August 20-22 HI
Water Resources Management 2007 Conference, Honolulu. Sponsored by the International Association of Science & Technology for Development. For info: IASTED website: www.iasted.org/conferences/home-578.html

August 20-23 AZ
North American Surface Water Quality Conference & Exposition, Phoenix, JW Marriott Desert Ridge. RE: NPDES Phase II Training, Stormwater Management for Municipalities, Consultants, Highway & Heavy Construction Contractors, Developers, & Regulated Industries. For info: Stormcon website: http://stormcon.com/sc.html

August 20-23 AZ
StormCon'07 :North American Surface Water Quality Conference & Exposition, Phoenix, JW Marriott Desert Ridge. For info: Steve Di Giorgi, StormCon, 805/ 682-1300 x129 or website: www.stormcon.org/sc.html

August 21 CO
Pre-Summit Workshop: Environmental Health for Tribal Health Care Professionals, Denver. For info: Kris Larson, Center for Disease Control, email: Kil1@cdc.gov

August 22 MT
"What the Heck Is a Phreatophyte? A Field Investigation of Ecohydrologic Processes in Stream-Aquifer Systems" Lecture, Butte, Montana Tech. RE: 2007 Darcy Lecturer Dr. James J. Butler, Jr. For info: John LaFave, Montana Tech, 406/ 496-4306 or email: jlafave@mtech.edu

August 22-23 CO
2007 Tribal Nations Children's Environmental Health Summit, Denver. Organized by EPA & Pediatric Environmental Health Specialty Units (PEHSUs) from Region 6 (AR, LA, NM, OK, & TX), Region 8 (CO, MT, ND, SD, UT, and WY), and Region 10 (AK, ID, OR, and WA) and planned in partnership

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with the Agency for Toxic Substances and Disease Registry (ATSDR) and Indian Health Service (IHS). For info: Alicia Aalto, EPA, 303/ 312-6967 or email: aalto.alicia@epa.gov

August 23 CA

California Water Plan Update 2009 Regional Workshop, Red Bluff. RE: Sacramento River, North Coast Region Outreach for Water Issues & Management Strategies for Water Plan's Regional Reports. For info: California Dept. of Water Resources website: www.waterplan.water.ca.gov

August 23 MT

"Getting the Information Ground Water Modelers Need: A Report from the Field," Missoula, University of Montana. RE: 2007 Darcy Lecturer Dr. James J. Butler, Jr. For info: John LaFave, Montana Tech, 406/ 496-4306 or email: jlafave@mtech.edu

August 23-24 CA

California Climate Change Law, San Francisco. For info: CLE Int'l, 800/ 873-7130 or website: www.cle.com

August 23-24 CA

California Wetlands, San Diego, Loews Coronado Bay Resort, 4000 Coronado Bay Road. For info: CLE International, 800-873-7130 or website: www.cle.com

August 23-24 CO

Eminent Domain, Denver. For info: CLE International, 800-873-7130 or website: www.cle.com

August 27 HI

NEPA & Hawai'i EIS Law Conference, Honolulu. For info: Law Seminars Int'l, 800/ 854-8009, email: registrar@lawseminars.com, or website: www.lawseminars.com

August 27-29 NM

Indian Water Right Claims Settlement Symposium, Albuquerque, Hyatt Regency. Sponsored by the Native American Rights Fund and the Western States Water Council. For info: WSWC, 801/ 561-5300 or email: credding@wswc.state.ut.us

August 28-30 VA

Wetlands 2007 National Symposium, Williamsburg, Colonial Williamsburg Lodge and Conference Center. RE: Watershed-Wide Strategies to Maximize Wetland Ecological & Social Services. For info: Laura Burchill, Association of State Wetland Managers, 207/ 892-3399, email: laura@aswm.org, or website: www.aswm.org/calendar/wetlands2007/wetlands2007.htm

August 29-September 1 AZ

2007 Regional Water Symposium & 20th Annual Arizona Hydrological Society Symposium, Tucson, Westin La Paloma Resort & Spa. RE: Sustainable Water, Unlimited Growth, Quality of Life: Can We Have It All? For info: Betsy Woodhouse, Southwest Hydrology, 520/ 626-1805, email: mail@swhydro.arizona.edu, or website: www.swhydro.arizona.edu/symposium/

August 29-30 OR

Oregon Water Resources Commission Meeting, TBA. For info: Cindy Smith, OWRD, 503/ 986-0876, or website: www.wrd.state.or.us/OWRD/COMMIS/calendar.shtml

August 30 OR

Oregon Task Force on Land Use Planning Meeting, Albany. RE: Review of Oregon Statewide Planning Program & Recommendations to Land-Use Policy to the 2009 Legislature. For info: Becky Steckler, Dept. of Land Conservation & Development, 503/ 373-0050 x286 or website: http://centralpt.com/pageview.aspx?edit=1&id=15666

September 2-6 CA

American Fisheries Society Annual Meeting, San Francisco. For info: AFS website: www.fisheries.org/html/index.shtml

September 3-6 Finland

Third International Congress on Climate and Water, Helsinki. RE: Impacts, Adaptation & Mitigation in Water Sector Facing Climate Change. For info: www.environment.fi/default.asp?contentid=226056&lan=EN

September 3-6 Australia

10th International Riversymposium and Environmental Flows Conference, Brisbane. For info: Emily Smigrod, +61 (0)7 3034 8230, email: emily@riverfestival.com.au, or website: www.riversymposium.com/index.php?page=Symposium2007

September 6-7 OR

Department of Fish & Wildlife Commission Meeting, Klamath Falls. For info: Director's Office ODFW, 503/ 947-6044, email: odfw.commission@state.or.us, or website: www.dfw.state.or.us/agency/commission/minutes/

September 10 CA

CEQA: Latest Updates on Caselaw, Legislation & Policy Issues, Sacramento, Sheraton Grand. For info: CLE International, 800-873-7130 or website: www.cle.com

September 10-11 TX

Texas Water Law SuperConference, Austin. For info: CLE Int'l, 800/ 873-7130 or website: www.cle.com

September 10-11 TX

Eminent Domain, Dallas, Fairmount Hotel. For info: CLE Int'l, 800/ 873-7130 or website: www.cle.com

September 10-12 CA

California Stormwater Quality Association 3rd Annual Conference, Costa Mesa, Hilton Hotel. For info: Association website: www.casqua.org

September 11-13 OR

Northwest Power & Conservation Council Meeting, Portland, Council Offices: 851 SW Sixth Avenue, Ste. 1100. For info: NWPPC, 800/ 452-5161 or website: www.nwcouncil.org

September 12 CO

Contaminant Forensics of Petroleum, Chlorinated Hydrocarbons, and Metals: Geochemical Applications for Assessing Contaminant Transport, Risk, and Apportioning Liability, Workshop, Denver. For info: Kristine Robson, NW Environmental Training Center, 206/ 762-1976 or email: krobson@nwetc.org or website: www.nwetc.org

September 13 OR

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

September 16-19 MT

Wild Trout 9, "Sustaining Wild Trout in a Changing World," Conference, West Yellowstone, Holiday Inn. RE: Balancing Native & Introduced Trout, Habitat Enhancement & Restoration, Catch-and-Release Fisheries, Genetic Conservation, & Invasive Species. For info: Dirk Miller, 307/ 777-4556, email: dirk.miller@wgf.state.wy.us, or website: www.wildtroutsymposium.com

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