Natural Resources, Energy and Environmental Law Section

State Bar of New Mexico

Vista

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Introduction to the Winter 2012 NREEL Newsletter

Sally Paez

This edition of NREEL *Vista* begins with Luke Pierpont's assessment of the Interstate Stream Commission's ability to allocate relinquishment credit water. In the next article, Jason Kerkmans discusses the inherent tension between New Mexico landowners' right to exclude the public from private property and the public's right to use New Mexico's streams for recreation. Next, Sean FitzPatrick makes the case for the United States to increase its investment in the solar industry in order to remain competitive in the global energy market. Finally, Dominique Work provides an informative overview of the Indian Water Rights Settlements E-Repository, an initiative that seeks to provide broad public access to documents and information pertaining to over fifty Indian water rights settlements.

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Muddying the Waters: The Fight Over Relinquishment Credit

By Luke Pierpont[1]

Introduction

The Middle Rio Grande is a water short system, and the addition of endangered species requirements into that system has only increased the pressure on water managers. In recent years the Interstate Stream Commission (ISC) has sought to use relinquishment credit to alleviate some of the strain. With this potential new management tool has come disagreement, and the fight over who should control this credit water is far from settled.

Origin of Relinquishment Credit

In its broadest terms the Rio Grande Compact (the Compact) of 1938 apportions the water available for in-state consumptive use between Colorado, New Mexico, and Texas. The Compact commits New Mexico to delivering a percentage of the total amount of water that passes Otowi gage, located north of Santa Fe, to Texas.[2] Along with requiring a percentage-based delivery, the Compact establishes a system of credits for delivering more water than required, and debits for delivering less water than required, which accounts for the historical variability of the Rio Grande.[3] These credits and debits provide flexibility for the water managers of the compacting states, but in New Mexico the use of credit water is generating controversy. Under Article VII of the Compact, when New Mexico relinquishes credit water to Texas, it is entitled to store a like amount in its post-1929 reservoirs; this entitlement to store water is relinquishment credit.[4]

When the Compact negotiators apportioned the waters of the Rio Grande, they created a system of

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debits and credits to soften the effect of a purely percentage-based obligation in recognition of the river's unpredictability.[5] Article VII of the Compact prevents New Mexico from storing water in its post-1929 reservoirs when Elephant Butte falls below 400,000 acre feet of usable storage.[6] However, Article VII also provides that when New Mexico is in a credit situation, and Texas requests and New Mexico agrees to a relinquishment of that credit water, New Mexico is then entitled to store in its post-1929 reservoirs an amount equal to that relinquished, even when the storage prohibition of Article VII is in effect.[7] The New Mexico Compact Commissioner, a position filled by the State Engineer, may then allocate these credits.[8]

Only in the recent history of the Compact has New Mexico had the option to relinquish credit water. Until 1985, New Mexico was in perennial Compact debt, and only through extensive physical and legal management of the Rio Grande and its interconnected waters was the state able to get out of that debt.[9] New Mexico, over the last 25 years, has delivered, and frequently over-delivered, the water required by the Compact.[10] New Mexico's efforts to control the river, the cooperation of the weather, and the substantial imported waters from the San Juan-Chama Project have generated relinquishment credits.[11] As of 2010 New Mexico claimed 226,243 acre-feet of credits that have yet to be stored and converted into relinquishment water.[12] Remarkably, since 2003 New Mexico has accrued 380,500 acre-feet worth of relinquishment credits.[13]

Allocation of Relinquishment Credit

In the shadow of the *Silvery Minnow* litigation New Mexico, through the ISC, and the United States, through the Bureau of Reclamation and the Army Corps of Engineers, entered into the Conservation Water Agreement in 2001. This agreement was amended by the Emergency Drought Water Agreement in 2003 and again by the Emergency Drought Water Agreement Amendment No. 1 in 2008. These agreements describe the ISC's effort to manage the water of the Rio Grande in a manner consistent with the Compact and in-state water rights without jeopardizing the endangered silvery minnow or southwestern willow flycatcher.[14] The agreements also created a mechanism for keeping water in the Rio Grande, protecting in-state water users from Endangered Species Act liability.[15]

To that end, New Mexico agrees to provide, in exchange for 100 dollars per acre-foot, up to 82,000 acre-feet of water to the United States to reduce the risk of extinction of these species and to promote their recovery.[16] The agreement defines the water to be used for these purposes as "Emergency Drought Water," which is water that New Mexico may store in its post-1929 reservoirs following "relinquishment of New Mexico's Rio Grande compact credits[.]"[17] Significantly, these agreements provide nearly twice that amount of water, 150,000 acre-feet, (without charge) to the Middle Rio Grande Conservancy District (MRGCD).[18]

Who Owns Relinquishment Water?

While relinquishment credit entitles New Mexico to store water in its post-1929 reservoirs, actually storing that water requires storage rights in those reservoirs. Contracting with the United States and the MRGCD provides the ISC the necessary storage to turn relinquishment credit into relinquishment water.[19] According to one experienced water attorney, the purpose of relinquishment credit is allowing in-state beneficial use to continue in times of drought when it would otherwise be curtailed by Article VII, but the ISC has commandeered it for other purposes.[20] While many in the middle Rio Grande believe that the ISC has used this process to usurp water that would otherwise be destined for beneficial use by private water users,[21] the ISC describes its role in managing these

credits as balancing compact compliance with the broad range of in-state water use.[22]

A recent ISC proposal to use relinquishment credit as part of an exchange with Intel generated opposition from a variety of water users in the Middle Rio Grande. The deal proposed a complex swap of water rights and money from Intel in exchange for the ISC assuming the burden of offsetting the delayed effects on the river from Intel's groundwater pumping.[23] The deal would have retired 3,248.6 acre-feet per year of hydrologically connected groundwater pumping while conveying to the ISC ten million dollars and 740.9 acre-feet of senior water rights in exchange for the temporary use of credit water.[24] While many Middle Rio Grande water users were concerned the deal did not adequately protect their surface water rights,[25] the ISC proposed to use that money and water to further its water management goals on the Rio Grande, including protection of senior rights.[26] Additionally, some were concerned that the ISC selling relinquishment water in the middle Rio Grande would distort the market for pre-1907 rights.[27] In response, the ISC claimed the deal was too small to disrupt the water market.[28] The plan ultimately failed when Intel withdrew in the face of mounting public opposition.

In response to the public reaction that the Intel deal evoked, the ISC produced a series of draft guidelines for the allocation of relinquishment credit. The draft guidelines were intended to guide the ISC in its recommendations to the Compact Commissioner for allocating relinquishment credit; however, the ISC has not, and likely will not, adopt them.[29]

Much of the concern over the allocation of relinquishment credit arose from the perception that the ISC was creating a new type of water right and making an end run around the prior appropriation doctrine.[30] This concern was amplified by the apparent conflict between the State Engineer's dual role as Compact Commissioner on the one hand, and water rights regulator on the other.[31] The State Engineer has declared that there is no unappropriated water in the Rio Grande system, yet, as Compact Commissioner, the State Engineer sought to allocate credit water for environmental uses.[32] The MRGCD argued that nothing in the Compact vests the ISC with the right to allocate water, and that once the Compact apportions the water among the states, those portions are then governed by prior appropriation.[33] Further, it claimed, New Mexico water law does not authorize the state to appropriate water, thus the ISC and Compact Commissioner would violate the constitution by allocating credit water that is either already privately appropriated, or should be available for appropriation.[34]

Similarly, the Albuquerque Bernalillo County Water Utility Authority ("ABCWUA") objected to the ISC allocating water that ABCWUA considered the subject of a previous application to appropriate.[35] The ABCWUA asserted that, in its Application No. SP-4831, it had sought to appropriate flood flows, the primary generator of Compact credits, and store those flood flows in Abiquiu Reservoir.[36] However, this application was denied when the Office of the State Engineer found that there was no unappropriated water in the system.[37]

The ISC sees a clear distinction between relinquishment credit and public water that is available for appropriation.[38] This distinction arises from the different laws governing the river, the Compact for interstate obligations, and the prior appropriation doctrine for in-state water use.[39] The Compact imposes real limits on New Mexico's water use, but rather than restraining in-state use the ISC has managed the river itself for Compact compliance.[40] Managing the river for Compact compliance is within the ISC's "broad statutory authority to do any and all things necessary to protect, conserve, and develop the waters and stream systems of the state[.]"[41]

Nonetheless, a fundamental concern with the ISC's attempts to allocate credit water is that it is overreaching. The role of the ISC is narrow, according to one commentator, and limited to "compliance with the compact; identification, development, conservation, and protection of water for appropriation for beneficial use; and the protection of endangered species."[42] The appearance that the ISC was managing relinquishment credit outside of the doctrine of prior appropriation and outside its statutorily narrow role was an impermissible overreach in the eyes of many Middle Rio Grande water users.

The Emergency Drought Water Agreement intends to protect in-state water users and New Mexico's ability to comply with the Compact and the requirements of the Endangered Species Act. However, as the ISC has sought to expand its use of relinquishment credit as a water management tool on the Rio Grande traditional water users are balking. The apparent conflict between relinquishment credit and prior appropriation, and the State Engineer's dual role in the administration of each respec-

tively raises the ire of many water users in the Middle Rio Grande. Relinquishment credit is a complicated feature of the complex water management regime of the Middle Rio Grande, and many water users have valid concerns about its use.

Endnotes

[1] Luke Pierpont is graduating from UNM School of Law in May 2012. Luke thanks Josh Mann for his excellent editorial help.

[2] Rio Grande Compact, NMSA 1978, § 72-15-23, at Art. IV (1945). For purposes of the Compact the state line is effectively at the mouth of Elephant Butte Reservoir where deliveries are measured, so much of the water delivered to "Texas" in fact goes to New Mexico irrigators south of Elephant Butte. *See* Raymond Hill, *Development of the Rio Grande Compact of 1938*, 14 Nat. Resources J. 163, 181 (1974).

[3] Rio Grande Compact, Art. VI.

[4] *Id.* at Art. VII.

[5] Hill, *supra* note 2, at 187.

[6] Rio Grande Compact, Art. VII (post-1929 reservoirs include El Vado, McClure, and Abiquiu).

[7] *Id.*

[8] ISC-Intel Agreement, Frequently Asked Questions at Q3, *available at* http://www.ose.state.nm.us/PDF/ISC/News/Intel/FAQ-ISC-Intel-Agmt.pdf.

[9] *See* S.E. Reynolds & Philip B. Mutz, *Water Deliveries Under the Rio Grande Compact*, 14 Nat. Resources. J. 201, 204 (1974).

[10] *A Brief Overview of the Rio Grande Compact*, Interstate Stream Commission, Chart: Rio Grande Compact Cumulative Delivery Departure (Apr. 26, 2006), http://www.waterassembly.org/archives/06%20Compact%20Forum/RolfSchmidtPeterson-BriefOverviewOfRGC-Slides.pdf.

[11] *See* Reynolds & Mutz, *supra* note 9, at 203; *see generally* U.S. Geological Survey, Effects of Reservoir Installation, San Juan-Chama Project Water, and Reservoir Operations on Streamflow and Water Quality in the Rio Chama and Rio Grande, Northern and Central New Mexico, 1938-2000 (2004).

[12] Report of the Rio Grande Compact Commission at 17 (2010).

[13] *Id.*

[14] Emergency Drought Water Agreement, § 1 (2003).

[15] Memorandum on Middle Rio Grande Settlement Agreement, Interstate Stream Commission at 3 (Jun. 29, 2011), *available at* http://www.ose.state.nm.us/doing-business/mrgsettle/agreement-details.pdf.

[16] Emergency Drought Water Agreement Amendment No. 1, § 1 (2008).

[17] Emergency Drought Water Agreement, § 3 (2003).

[18] Emergency Drought Water Agreement Amendment No. 1, § 5 (2008) (providing 82,000 acre-feet to the United States and 150,000 acre-feet to the MRGCD).

[19] *See* Kevin G. Flanigan, *Surface Water Management: Working Within the Legal Framework*, 47 Nat. Resources J. 515 (2007) (discussing operation of Rio Grande reservoirs).

[20] Interview with Sam Hough (Nov. 2, 2011).

[21] Comments of the Middle Rio Grande Conservancy District on New Mexico Interstate Stream Commission's Draft Guidelines for Recommendation to the Rio Grande Compact Commissioner of New Mexico on the Allocation of Relinquishment Credits at 10 (Oct. 26, 2010).

[22] Interview with Rolf Schmidt-Petersen (Oct. 3, 2011).

[23] ISC-Intel Agreement, *supra* note 8, at Q1-Q5.

[24] *Id.* at Q10.

[25] Hough Interview, *supra* note 20.

[26] ISC-Intel Agreement, *supra* note 8, at Q20, Q6

[27] Hough Interview, *supra* note 20.

[28] ISC-Intel Agreement, *supra* note 8, at Q21

[29] Schmidt-Petersen Interview, *supra* note 22.

[30] MRGCD Comments, *supra* note 21, at 6.

[31] Comments of the Pueblo of Santa Ana to the New Mexico Interstate Stream Commission's Draft Guidelines for Recommendation to the Rio Grande Compact Commissioner of New Mexico on the Allocation of Relinquishment Credits at 3 (Oct. 27, 2010).

[32] *Id.*

[33] MRGCD Comments, *supra* note 21, at 6.

[34] *Id.* at 10

[35] ABCWUA's Comments to Draft Guidelines for Recommendations to the Rio Grande Compact Commissioner for New Mexico on the Allocation of Relinquishment Credits at 2-3 (Oct. 29, 2010).

[36] *Id.* at 3.

[37] *Id.*

[38] ISC-Intel Agreement, *supra* note 8, at Q5.

[39] Schmidt-Petersen Interview, *supra* note 22.

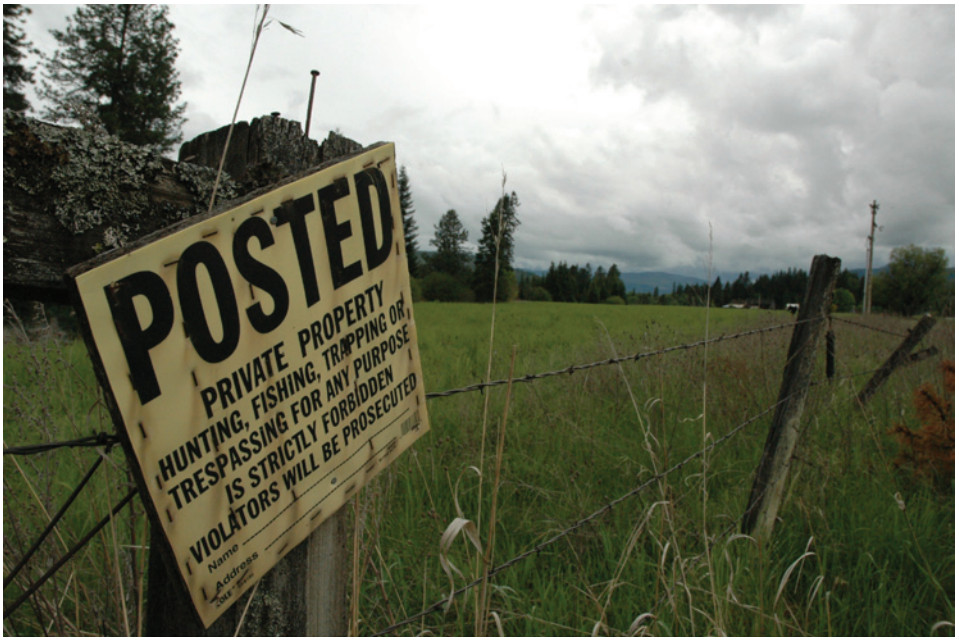
[40] *Id.*

[41] ISC-Intel Agreement, *supra* note 8, at Q4.

[42] MRGCD Comments, *supra* note 21, at 6.

Rising Tide: Will the Challenges to Stream Access Laws that Are Spreading Across the West Spill Over into New Mexico Waters?

By Jason Kerkmans[1]



Throughout the West, legislatures and courts have faced increasing conflicts over the public's right to access sections of streams and rivers that cross through private property. At issue is whether a landowner may exclude the public from using streambeds—or even the surface water—for recreational purposes, including fishing and boating.

The potential for conflict increases when the boundary between the public's recreational easement and landowners' legally protected private property is not clearly defined, or in some cases, even understood. As public recreation on New Mexico waters grows, so too does the potential for future conflict. According to the Outdoor Foundation's 2009 Outdoor Participation Report, recreational kayaking is one of the fastest growing outdoor activities today.[2] Additionally, the Outdoor Industry Association reports that, based on the number of current anglers, fishing is one of the three most popular outdoor recreation activities.[3]

At the same time, conversion of New Mexico's agricultural land to residential or recreational private use may create additional conflicts between private owners and the public.[4] Landowners seeking to establish or retain private control over such waters have argued that allowing the public access to the streambeds creates a disincentive for landowners to maintain and improve river conditions.[5] The consequences of expanded public access potentially include overuse, environmental abuse, increased litter, vandalism, and water contamination.

The basis for the public's right to recreational use of Western waters passing through private lands was largely established through the federal navigability laws created by the equal footing doctrine and later codified by federal statute.[6] Under the equal footing doctrine, the federal government granted each state title to the beds of navigable streams, lakes, islands, and accumulations of land within the state's borders, up to the high-water flow line.[7] The Supreme Court has explained that navigable streams are those "susceptible of being used, in their ordinary condition, as highways for commerce."[8]

State constitutions provide an additional source of public access rights to both water passing over private streambeds and the private streambeds themselves. To outline the contours of this public right, at least forty-two states have adopted their own definitions of navigability.[9] And the Western states' adoption of prior appropriation laws—which establish the states' waters as belonging to the public and largely subject to appropriation for beneficial use[10]—have been used to uphold public easements for recreational use as well.[11]

As a result, the state law that controls the public's recreational access rights can be based on varying definitions of what constitutes a navigable stream, sometimes in ad-

dition to other determinative factors. As such, a wide range of broad and narrow access laws exist throughout the West, varying by state.

On one end of state access laws paradigm is Montana, whose broad right of entry laws have been codified and provide the public with access to "all surface waters that are capable of recreational use . . . without regard to the ownership of the land underlying the waters."[12] "'Surface water' means, for the purpose of determining the public's access for recreational use, a natural water body, its bed, and its banks up to the ordinary high-water mark."[13]

In contrast to Montana is Colorado, where the public's narrow access rights were established in the case of *People v. Emmert*.[14] Colorado Attorney General Duane Woodard provided the prevailing interpretation of the *Emmert* holding in 1983. In a formal opinion, Woodard wrote that Colorado's natural, unappropriated streams are public property, but anyone who steps foot or drops anchor on a privately owned streambed without permission from the owner is trespassing.[15]

Recent conflicts in Montana and Colorado show that neither broad nor narrow access laws are immune from challenges. Montana's 2008 *Bitterroot River Protective Ass'n v. Bitterroot Conservation District* case highlighted the battle between private landowners who want to prohibit public access and a public that favors increased access to rivers and streams. Ultimately, in *Bitterroot*, the Montana Supreme Court rejected the private landowners' claim that the Mitchell Slough was an improved ditch, which would be exempt from the state's stream access laws, and held that the slough was a navigable river, accessible to the public.[16]

In Colorado, river-rafting guide operators and private resort and residential landowners have been battling over the public's right to pass through a three-quarter of a mile section of the Taylor River.[17] The guide operators argue that Colorado law prevents the privatization of the river, while the landowners seek to restrict use of the river in light of the $100,000 in riverbed improvements they have made.[18] The matter remains unresolved and is currently at the midpoint of a four-year truce enacted only after then-Governor Bill Ritter's personal intervention.[19] As a result of the Taylor River conflict, the state legislature received twenty-four citizen-sponsored ballot initiatives regarding the public's right to float on rivers passing through private lands in 2010 alone.[20]

This fall,[21] the Supreme Court heard oral arguments concerning the definition of navigability in *PPL Montana, LLC v. Montana*.[22] The Court ultimately will determine whether three Montana rivers should be deemed navigable today based solely on whether they were navigable at statehood, or whether a river's navigability based on current recreational use is sufficient to sustain a public right to use the river.

The Supreme Court's holding in *Montana* could affect the viability of individual state definitions of navigability, but it is unlikely to have much if any impact in New Mexico where the test of navigability does not conclusively determine the public's right to use a river. Instead, Article 16, Section 2 of the New Mexico Constitution declares, "the unappropriated water of *every* natural stream, *perennial or torrential*, within the state of New Mexico, is hereby declared to belong to the public and to be subject to appropriation for beneficial use."[23] The effect of this constitutional provision is to make navigability just one of the elements that determines the public's right to use a body of water in the state of New Mexico.[24]

In *Red River Valley Co.*, the New Mexico Supreme Court interpreted Article 16, Section 2 as providing the public with the right to float and wade in any stretch of stream that passes through private land, so long as the public has legal access to the stream.[25] This landmark case, which provides the determinative public access case law in New

Mexico to this day, arose out of a corporation's ownership of 655,000 acres of land surrounding the Conchas and South Canadian Rivers. After the rivers were damned to create the Conchas Reservoir, an issue arose as to whether the public had a right to use the lake and its streambeds for recreation.

In arriving at its interpretation of the New Mexico Constitution, the Court relied on the influence of Mexican and Spanish laws to shape New Mexico state law.[26] And ultimately, the Court explained that while title to streambeds may be held by a private entity, appropriators hold only a usufructory right to the water, and title to the water remains in the state.[27] The Court went even further in condoning recreational uses of public waters, including their streambeds: "The small streams of the state are fishing streams to which the public have a right to resort so long as they do not trespass on the private property along the banks."[28]

This nearly seventy-year-old holding has yet to be superseded or substantiated through legislation. However, *Red River Valley* does not conclusively establish the extent of the public easement along stream banks and lakeshores. The potential for confusion is illustrated by the discrepancies between information issued by different state agencies. For example, the New Mexico Game and Fish Department's Fishing Rules and Information publication presents the stream access law in New Mexico as requiring the public to obtain "permission before entering into or onto private lands, including streambeds."[29] Meanwhile, the New Mexico State Parks Division of the Energy, Minerals and Natural Resources Department website states, "*Red River Valley* recognized a general expansion in the public water doctrine… [giving] the public the right to use the zone between the high and low water marks."[30] These conflicting interpretations of *Red River Valley* may exacerbate the uncertainty experienced by the general public and private landowners alike. As a result, New Mexico, like Colorado, faces the possibility of potential conflicts between landowners and the public. And conflicts may be arising already. It is not uncommon for landowners in New Mexico to string barbed wire over streams and post no trespassing signs along stream banks.[31] And reports continue to emerge of landowners allegedly forcing boaters off of or away from New Mexico rivers at gunpoint.[32]

Although the various possible interpretations of *Red River Valley* leave New Mexico law unclear, legislation may not provide an immediate solution. Given the number of challenges that Montana's stream access law continues to face, legislation—while providing a greater clarity as to the extent of the public easement along the beds of New Mexico's rivers, streams, and lakes—will not lessen the likelihood of potential legal conflicts in the future.

Yet, as attention to public access laws for water and streambeds throughout the West increases, New Mexico's courts, legislature, or state agencies may be forced to clarify the respective rights of recreation enthusiasts and private landowners nonetheless. Ultimately, the goal of reducing the potential for on-the-water conflicts between public recreationalists and private landowners will only gain importance as more people vie for an already limited and valuable resource.

Endnotes

[1] University of New Mexico School of Law, J.D. expected May 2014. Prior to law school, Jason was a magazine writer and editor for eight years, and a father for 9 months.

[2] Outdoor Foundation, Outdoor Recreation Participation 2009 Topline Report (2009), *available at* http://www.outdoorfoundation.org/pdf/ResearchParticipation2009Topline.pdf.

[3] Outdoor Industry Association, State of the Industry Report (2006), *available at* http://www.outdoorindustry.org/images/researchfiles/SOI.pdf?29.

[4] *See generally* Daniel G. Brown et al., *Rural Land-Use Trends in the Conterminous United States, 1950-2000, 15(6)* Ecological Applications, 1851, 1854 (Dec. 2005).

[5] James Huffman, *Public Access Muddies Waters*, 27(1) PERC Reports 16, 17-19 (2009).

[6] *See* 43 U.S.C. § 1311 (2010).

[7] *PPL Mont., LLC v. State*, 229 P.3d 421, 431 (Mont. 2010), *cert. granted in part by PPL Montana, LLC v. Montana*, 131 S. Ct. 3019 (2011).

[8] *The Daniel Ball*, 77 U.S. 557, 563 (1870).

[9] Travis H. Burns, *Floating on Uncharted Headwaters*, 5 Wyo. L. Rev. 561, 567 (2005).

[10] *See, e.g.*, N.M. Const. art. 16, § 2; Mont. Const. art. 9, § 3; Colo. Const. art. 16, § 6; Wyo. Const. art. 8, §§ 1, 3.

[11] *State ex rel. State Game Comm'n v. Red River Valley Co.*, 51 N.M. 207, 218, 182 P.2d 421, 428 (1945).

[12] Mont. Code Ann. § 23-2-302(1) (Westlaw 2011).

[13] Mont. Code Ann. § 23-2-301(12) (Westlaw 2011).

[14] *People v. Emmert*, 597 P.2d 1025 (Colo. 1979) (en banc).

[15] Op. Att'y Gen., State of Colo., File No. ONR8303042/KW, Alpha No. NR AD AGALA, 1983 WL 167506 (Aug. 31, 1983) (concluding that "persons who float or boat on Colorado rivers and streams" are not subject "to criminal trespass prosecution if they float across private lands, provided that they do not touch the river bank or river bed").

[16] *Bitterroot River Protective Ass'n v. Bitterroot Conservation Dist.,* 198 P.3d 219 (Mont. 2008).

[17] Stephanie Simon, The Wall Street J., *In This Political Battle, A River Runs Through It,* Apr. 8. 2010, *available at* online.wsj.com/article/SB10001424052702303720604575169940537963832.html.

[18] *Id.*

[19] Editorial, *Taylor Truce*, The Pueblo Chieftain, June 17, 2010, *available at* http://www.chieftain.com/opinion/editorials/article_f0b594f4-79c0-11df-afc4-001cc4c002e0.html.

[20] Simon, *supra* note 17.

[21] Oral argument was held December 7, 2011. *See* Supreme Court of the U.S. Argument Calendar, http://www.supremecourt.gov/oral_arguments/argument_calendars/MonthlyArgumentCalDecember2011.pdf; *see also* SCOTUSblog, http://www.scotusblog.com/casefiles/terms/ot2011/.

[22] *PPL Mont., LLC v. State*, 229 P.3d 421, 431 (Mont. 2010), *cert. granted in part by PPL Montana, LLC v. Montana*, 131 S. Ct. 3019 (2011).

[23] N.M. Const. art. 16, § 2 (emphasis added).

[24] *See Red River Valley*, 51 N.M. at 218, 182 P.2d at 428 ("Navigability, perhaps the earliest test by which the public character of water was fixed, is not the only test to be applied."); *see also* N.M. Energy, Minerals & Natural Resources Dep't, State Parks Div., *River Running Laws in New Mexico*, http://www.emnrd.state.nm.us/prd/boatingweb/Boatingwatersriverrunninglawsofuse.htm (last visited Dec. 5, 2011) (explaining that "navigability is but one criterion in determining whether there exists public rights to use a body of water").

[25] *Red River Valley*, 51 N.M. at 222, 182 P.2d at 430.

[26] *Id.*

[27] *Id.* at 224, 182 P.2d at 432 ("The appropriator does not acquire a right to specific water flowing in the stream, but only the right to take therefrom a given quantity of water, for a specified purpose.").

[28] *Id.* at 225, 182 P.2d at 432 (quoting *Nekoosa-Edwards Paper Co. v. R.R. Comm'n,* 228 N.W. 144, 147 (Wis. 1929)).

[29] N.M. Game & Fish Dep't, *New Mexico Fishing Rules & Information* 3 (2011-12 License Year), *available at* http://www.wildlife.state.nm.us/publications/documents/rib/2011/2011_Fish_RIB.pdf.

[30] N.M. Energy, Minerals & Natural Resources Dep't, *River Running Laws in New Mexico*, *supra* note 25.

[31] *See, e.g.*, American Whitewater, *Rio Chama, New Mexico, US,* http://www.americanwhitewater.org/content/River/detail/id/1218/ (last visited Dec. 1, 2011) (warning boaters of barbed-wire fences strung across a river).

[32] *See, e.g.*, Frederick Reimers, *Running the Forbidden River*, 14 Men's J. 88, 88 (Oct. 2005).

Introduction

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The purpose of the NREEL *Vista* Newsletter is two-fold: (1) to provide informative articles to our section members, and (2) to provide opportunities for UNM law students, who are interested in natural resources, energy, environmental, and water law, to study a legal issue and work with an editor from the NREEL Board of Directors to produce a quality piece of writing. The views expressed in these articles are those of the authors alone and not the views of the NREEL Section or the editors.

In addition to publishing articles by UNM law students, NREEL *Vista* publishes articles written by section members. If you would like to submit an article for our Summer 2012 edition on a topic of interest to New Mexico practitioners, please contact Sally Paez at sally.paez@gmail.com.

I am deeply grateful to Theresa Copeland, Josh Mann, and John Verheul for their excellent editorial work.

Thank you for your support,
Sally Paez, Editor

Has the Sun Set on the Solar Industry in the United States?

By Sean FitzPatrick[1]

With a string of bankrupt solar companies in the United States and China's increasing share of the solar market, the United States' role and the United States federal government's involvement in the solar industry is in doubt. New York based SpectraWatt,[2] Massachusetts based Evergreen,[3] and California based, and federally-backed, Solyndra[4] all filed for Chapter 11 bankruptcies within the last twelve months. Solyndra's bankruptcy prompted questions about assistance to United States solar companies by the federal government.[5] Critics want to know how federal subsidies are going to make the United States competitive against countries like China. These questions are warranted in light of the substantial shift in production power between China and the United States over the past decade. In 2001, the United States produced 100 of the 400 global megawatts of photovoltaic power. China produced three global megawatts. Nine years later, in 2010, China produced 10,852 of the 24,047 global megawatts. The United States produced only 1,115.[6] With 2011 numbers still outstanding, China's production gap is only expected to widen. This article will address the reasons for China's dominance, how a lack of understanding of those reasons led to a solar market crash in Spain, why the United States should still be interested in producing its own solar panels, and how the federal government might spur such production.

In 2010, China produced nearly ten times as many solar megawatts as the United States.[7] The Chinese government's role in developing its country's solar industry cannot be discounted. Chinese loan guarantees totaled about $41 billion, just for solar companies, in 2010.[8] This figure is in sharp contrast with the $13.25 billion in United States loan guarantees for solar energy funded pursuant to the American Recovery and Reinvestment Act of 2009.[9] Certainty that the Chinese government will back renewable energy loans with massive amounts of capital has allowed Chinese companies to focus less on profit margins and more on flooding the market with cheap solar panels. With its massive manufacturing base and crushing capital infusions, China is capable of dwarfing any solar company not based in China.

While China has gained significant market share through government involvement, Spain was unable to harness the same success through government intervention. Spain's solar program is generally considered an illustration of failed government involvement. At the height of Spain's solar boom in 2007, the solar industry was largely fueled by a feed-in tariff. A feed-in tariff pays producers of alternative energy a guaranteed rate. In Spain, the government set up legislation to pay any producer of solar electricity according to a generous fixed rate around 40 cents per kilowatt hour. The market rate for energy from dirty sources was around 12 cents.[10] The Spanish government's fixed rate was quickly outpaced by the rapid annual reduction in the cost of solar power. This artificially inflated price lead the solar market to grow so quickly that Spain soon owed over $25 billion in feed-in tariffs after solar energy production in 2007 rose beyond the goal set for 2010.[11] Spain quickly ran out of money and could not pay all the claims. The Spanish government's solar program was unable to address the rapidly changing solar industry.

The failures of the solar industry in Spain and the Spanish government's inability to anticipate and adjust to changes in the solar market beg the question of whether the United States can successfully implement a federal program in this increasingly dynamic market. The pace of the solar industry indicates a cost reduction per year model similar to

that of the computer processor industry described as "Solar Moore's Law."[12] In 1965, Gordon Moore observed that the number of transistors per square inch on integrated circuits had doubled every year since the integrated circuit was invented.[13] This observation was modified to the current adoption of Moore's Law, which predicts that computer processing power will double every eighteen months.[14] This increase in processing power reduces the price of current computing power. Theoretically, the price of photovoltaic solar panels will drop, just as computer processors dropped, ultimately providing cheap powerful solar panels for a low cost. Though Solar Moore's Law doesn't follow the 50% price reduction of the computer processor, it is consistently trending downward. This race to the bottom makes it increasingly difficult for countries like Spain or the United States to compete in the solar industry and for national governments to successfully support this rapidly changing industry.[15]

Despite the difficulties associated with maintaining a competitive solar edge, the United States should not forfeit its solar market share. The benefits that motivated the United States to enter into the solar market remain and are straightforward: reduced fossil fuel emissions, reduced reliance on energy imports, and increased overall energy security. The need for secure energy sources has taken on new urgency with the recent development of malicious computer codes specifically designed to attack industrial control systems, which include solar operations.[16] A 2011 congressional report characterizes a foreign cyber attack on the United States energy sector as a real and likely possibility.[17] A United States solar operation constructed with foreign components is arguably more susceptible to a cyber espionage attack waged by a foreign county. By manufacturing panels domestically, the United States can enhance its ability to fend off a hacker attempting to cripple a United States solar energy system using malicious software.[18] Additionally, domestic production of solar panels may ensure quality control not seen in panels built in China. [19]

Given significant environmental benefits[20] and the potential risks in relying on foreign made electronics to power the United States, this article suggests two steps the United States could take to enhance the country's global competitiveness in the solar industry. First, a national feed-in tariff should be implemented, and second, the Department of Energy's Section 1705 Loan Guarantee Program should be expanded.

A market based national feed-in tariff for domestically produced solar panels would avoid the pitfalls and provide the benefits of the fixed-rate Spanish model.[21] Twenty-three states have proposed legislation considering feed-in tariffs, each with their own program requirements.[22] States such as California and Vermont have already implemented feed-in tariff programs. Making a uniform nationwide tariff system would reduce the uncertainty and complications of having to comply with fifty unique feed-in tariff programs. The authority to initiate a nationwide feed-in tariff can be found in the 2006 Public Utility Regulatory Policies Act (PURPA).[23] The general purposes of PURPA include conserving energy supplied by electric utilities and encouraging equitable rates for consumers.[24] Implementing a solar power feed-in tariff would fall under these purposes since renewable energy is more efficient, and the true cost of an electric rate for fossil fuels (including health) are not adequately represented in the market rate. With a little reworking, PURPA could provide the legal framework for a national feed-in tariff.

The second step, expanding the Department of Energy's Section 1705 program, would be simpler and potentially more effective than the national feed-in tariff. The Section 1705 program is part of the American Recovery and Reinvestment Act of 2009 (ARRA).[25] The Innovative Technology Loan Guarantee Program had some success,[26] but the loan guarantee amount provided specifically for solar since 2009 was only $13.25 billion.[27] When that amount is compared with the amount of money put towards nuclear under ARRA ($10.33 billion)[28] and fossil fuel research development programs ($3.4 billion)[29] it is evident that solar is not being aggressively pursued in the United States as it is in China.[30] Instead of focusing on innovative technologies, a loan program to beef up manufacturing of proven technologies could increase American competitiveness. Additionally, the Section 1705 loan program closed on September 30, 2011. With no financing tool in place, American based companies are at a disadvantage in the global solar marketplace dominated by China.

The United States is being outmaneuvered, outspent, and out produced when it comes to solar energy. China has the political will to provide strong support through loan guarantees in the tens of billions. Consequently, China is capturing solar market share while ensuring that China will be able to meet any increase in domestic demand. Any nation dependent on other countries for its energy needs, whether it is oil or clean energy, exposes itself to national security challenges. The United States has historically risen to challenges by other nations. When Russia launched Sputnik the United States had a lot of catching up to do. Ultimately, the United States won the race to the moon. Now the challenge is a clean energy economy, and China has bet on the sun.

Endnotes

[1] Sean FitzPatrick expects to graduate from UNM law school in May 2012 and is pursuing a Natural Resources and Environmental Law Certificate.

[2] Michael Levenson, *Solar Firm Files for Bankruptcy,* Times Herald Rec. (Aug. 23, 2011), http://www.recordonline.com (click on "News" dropdown; choose dropdown "Archive"; type "spectrawatt" in search bar, and click title hyperlink "Solar Firm Files for Bankruptcy").

[3] Katy Stetch, *Energy Department Fights to Keep Solar Patents in U.S. Hands,* Wall St. J. (Oct. 10, 2011), http://blogs.wsj.com/bankruptcy/2011/10/10/energy-department-fights-to-keep-solar-patents-in-u-s-hands/.

[4] Voluntary Petition, Solyndra LLC, Case No. 11-12799-MFW (Bankr. D. Del. Sept. 6 2011).

[5] *The Solyndra File* (2011), http://www.gop.com/images/research/091211SOL.pdf.

[6] J. Matthew Roney, *Eco Economy Indicators*, Earth Pol'y Inst. (Oct. 27, 2011), http://www.earth-policy.org/indicators/C47/solar_power_2011.

[7] Roney, *supra* note 6.

[8] William Pentland, *China's Coming Solyndra Crisis,* Forbes (Sept. 27, 2011), http://www.forbes.com/sites/williampentland/2011/09/27/chinas-coming-solyndra-crisis/.

[9] U.S. Dep't of Energy, *The Financing Force Behind America's Clean Energy Economy,* Loans Program Off (2011), https://lpo.energy.gov/?page_id=45.

[10] Paul Voosen, *Spain's Solar Market Crash Offers a Cautionary Tale About Feed-In Tariffs*, N.Y. Times (Aug. 18, 2009), http://www.nytimes.com/gwire/2009/08/18/18greenwire-spains-solar-market-crash-offers-a-cautionary-88308.html?pagewanted=all.

[11] Voosen, *supra* note 10.

[12] Ramez Naam, *Smaller, Cheaper, Faster: Does Moore's Law Apply to Solar Cells?,* Sci. Am. (Mar. 16, 2011), http://blogs.scientificamerican.com/guest-blog/2011/03/16/smaller-cheaper-faster-does-moores-law-apply-to-solar-cells/.

[13] R.R. Schaller, *Moore's Law: Past Present and Future,* 34 Spectrum 52, 52-59 (June 1996), (discussing Moore's Law).

[14] *Id.*

[15] Selya Price et al., *2008 Solar Technologies Market Report*, U.S. Dep't. of Energy (Jan. 2010), http://www.nrel.gov/analysis/pdfs/46025.pdf. "Grid parity" is defined as solar's ability to match the price of traditional sources of electricity such as coal and natural gas. Stephen Lacey, *Solar is Ready Now: 'Ferocious Cost Reductions' Make Solar PV Competitive,* Think Progress (Jun. 9, 2011, 12:58 PM), http://thinkprogress.org/romm/2011/06/09/241120/solar-is-ready-now-%e2%80%9cferocious-cost-reductions-make-solar-pv-competitive/.

[16] David W. Opderbeck, *Hackers,* 1070 PLI/Pat 127, 127-132 (Nov. 2011) (discussing hacking activities in China). Industrial control systems are used in gas pipelines and power plants. Nicolas Falliere, Liam O. Murchu & Eric Chien, *W32. Stuxnet Dossier: Version 1.4*, 1, Symantec Corp. (Feb. 2011), http://www.symantec.com/content/en/us/enterprise/media/security_response/whitepapers/w32_stuxnet_dossier.pdf.

[17] A report to Congress specifically lists clean technologies as an area that cyber-attacks will target in the future. *U.S. Foreign Spies Stealing US Economic Secrets in Cyberspace: Report to Congress on Foreign Economic Collection and Industrial Espionage,* 8 Off. of the Nat'l Counterintelligence Executive (Nov. 2011), http://www.ncix.gov/publications/reports/fecie_all/Foreign_Economic_Collection_2011.pdf.

[18] *Id.* at 30.

[19] Seven out of ten major solar panel brands failed National Renewable Energy Laboratory testing. Manufacturer names were kept confidential, but failure rates are a problem with most solar panels, and most solar panels are made in China. John Wohlgemuth, *How Standards Control Module Design for Better or Worse,* Nat'l Renewable Energy Laboratory 4 (Feb. 16, 2011), http://www.nrel.gov/docs/fy11osti/51007.pdf.

[20] S. Grover, *Energy, Economic and Environmental Benefits of the Solar America Initiative,* Nat'l Renewable Energy Laboratory (Aug. 2007), http://www.nrel.gov/docs/fy07osti/41998.pdf.

[21] While Spain's program eventually was cut due to the artificial non market based feed-in rate, Spain's installed solar PV capacity went from .66 gigawatts in 2007 to 3.4 gigawatts in 2008, a 410% increase. Price et al., *supra* note 15.

[22] *Status of FIT Legislation in Each State*, Alliance for Renewable Energy (2011), http://www.allianceforrenewableenergy.org/us-reps.html#NM.

[23] Public Utility Regulatory Policies Act, 16 U.S.C. §§ 2001 et seq. (2011).

[24] *Id.* § 2611.

[25] American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, Tit. XVII, 123 Stat. 115, 140.

[26] The program has created an estimated 64,000 jobs. U.S. Dep't of Energy, *supra* note 9.

[27] *Id.*

[28] *Id.*

[29] *Id.*; ARRA at Tit. XVII.

[30] Pentland, *supra* note 8.

The Indian Water Rights Settlements E-Repository – A Tool for the Future

By Dominique M. Work[1]

The American Indian Law Center, Inc., the UNM Centennial Library of Science and Engineering, and the Utton Transboundary Resources Center Ombudsman Program,[2] together with the University of Idaho College of Law (collectively referred to as the "Organizers"), are currently working to create an e-repository of documents for all Indian water rights settlements in the United States. In 2008, the Utton Center organized and hosted a conference to celebrate the centennial of the U.S. Supreme Court decision in *Winters v. United States*.[3] Participants from all over the United States gathered in Albuquerque to discuss the impact of that seminal decision, in 1908 and now, on Indian water rights. Conference attendees indicated the need for a centralized repository of information about all Indian water rights settlements, both existing and in progress. Professor Barbara Cosens followed up on the idea, and, with help from students in her Water Policy class at the University of Idaho College of Law, began gathering documents on the various existing settlements.

Project Purpose

To date, approximately thirty settlements have resulted in acts of Congress and another twenty-one settlements are in various stages of negotiation or pending legislation. The purpose of the e-repository is to provide online access to the various documents pertaining to each Indian water rights settlement, such as agreements between parties, legislation, court orders and decrees, public outreach and information regarding implementation. Due to the variety of creative approaches used to resolve water disputes, the project will be of value to anyone trying to address transboundary water issues. The Organizers are committed to designing the project and collecting materials in a manner respectful of the needs and desires of each Tribe, Nation or Pueblo. In order to protect tribal privacy, the Organizers will obtain tribal permission for each document to be posted, except state and federal legislation. The e-repository will be hosted by the University of New Mexico libraries and will give the public ready access to the resources necessary to examine patterns and trends in Indian water rights settlements. Interested persons will be able to view national trends, compare regional similarities and differences, or focus on specific aspects of any particular settlement. The documents will be accessible through the web using either a map-based website or search engines such as Google or Bing.

Project Status

The Organizers' first step is to collect information and to obtain permissions. This gathering phase is ongoing, following in the footsteps of the work already accomplished by Professor Cosens and her students. The second step will be to post online the documents for which permission has been obtained.

Certain types of documents are common to all Indian water rights settlements. The settlements generally involve some type of contract, compact or agreement between the Indian Tribe/Nation/Pueblo and other parties. Each settlement implicates some type of legislation, either state or federal, as well as some tribal resolution. In most cases, litigation is the impetus for conducting negotiations that lead to Indian water rights settlements. Often, this litigation is a water rights adjudication being conducted in State or Federal court. Court orders related

to a settlement will be available to users of the database. The database will eventually also include background and secondary materials, such as interviews of participants in the various settlements, federal laws of general applicability,[4] and influential court decisions, treatises and other relevant studies.[5]

The Organizers possess incomplete sets of documents for twenty-one settlements and they are still collecting information. Documents are evaluated and classified to identify the different categories to be included in the e-repository. As permissions are obtained from participants to each settlement, the documents will be analyzed for metadata and made available online. Completion of this phase depends on funding.

Once a web interface has been designed, the Organizers will make the documents available in PDF format through links. After the metadata has been prepared and the web design is completed, the project will be open to the public through the Utton Center website.[6] If a user chooses to access project documents through the website, he or she will first see a map of the United States. This map, a Google Earth type of visual, will allow users to refine their search by geographic area, that is, by region, state, or individual tribal lands. The user will be able to search, from any of these views, for all documents related to that geographic area, or to select only specific types of documents.

Technical issues and funding shortages are the biggest challenges for the project right now. Lack of personnel is slowing the data collection and metadata coding processes. While obtaining documents is mostly just time-consuming, the larger vision, to create a comprehensive repository of a wide range of information related to Indian water rights settlements, is currently impeded by lack of funding. To address these challenges, the Utton Center has applied for a grant from the U.S. Bureau of Reclamation, which is currently pending. The Center is also pursuing other sources of funding.

Benefits of the Project

This project, as envisioned, has the potential to provide great assistance to many people around the United States. Its future usefulness justifies the expenses associated with setting up the repository. Given New Mexico's diverse American Indian population, it is particularly appropriate that New Mexico entities have embraced this initiative. With adequate support, this project could be accessible within one year. Without support, it could take much longer.

The Organizers believe that Indian tribes will be the primary, but by no means the only, beneficiary of the project. The database will be a tool for research into previous settlements, thus providing guidance as to structures or actions most likely to result in a successful settlement that can pass Congress and that can be implemented.

Although getting an Indian water rights settlement through Congress feels like an end unto itself to the participants, it is, in many ways, only the first step of the process. Implementation of a settlement is the next true test. In a number of instances, parties have had to go back to Congress to modify an existing settlement to conform to actual needs on the ground. The Organizers intend to collect and post information that will allow Tribes to benefit from the settlement experience of others. In a time of financial stress nationwide, the Organizers envision that this tool will also allow current settlement participants to make better use of their limited resources to achieve successful implementation.

The e-repository can also be a tool to educate participants in adjudications in which Indian Tribes, Nations or Pueblos are involved. Such a tool could be particularly helpful in New Mexico, where four Indian water rights settlements have been approved by Congress. The oldest of these, the Jicarilla Apache Tribe's water rights settlement,[7] passed in 1992, has been successfully implemented, and benefits many New Mexicans, whether they are American Indian or not. The Navajo Nation water rights settlement[8] is going through the processes required by its ratifying act (i.e., entry of a partial final decree in the San Juan River adjudication and building of the Navajo-Gallup Pipeline) in order for the settlement to become final. The two settlements most recently approved by Congress, the *Aamodt* settlement and the Taos settlement, which were both signed into law on December 8, 2010,[9] must be reconciled with the 2010 Act and other necessary documents as a prerequisite to the partial final decree phase of the implementation process.

The e-repository could also assist other Pueblos in New Mexico that are in various stages of trying to obtain their own water rights settlements. These include the Pueblos of Jemez, Zia and Santa Ana on the Rio Jemez, and the Pueblos of Santa Clara and Ohkay Owingeh on the Santa Cruz/Truchas stream system. The Organizers hope that

the experience of other Indian groups throughout the country can benefit participants at all stages of adjudication and settlement of Indian water rights.

Finally, there is a historical dimension to this project that should not be understated. As time passes, many of the principal figures involved in the settlements pass on, leaving little or no detailed information about how each specific settlement unfolded.[10] Thus, as a separate, later phase of the project, the Organizers plan to continue to interview willing key players for each settlement to preserve information that will otherwise be lost to future generations. The Organizers also intend to interview representatives for stakeholders such as the Indian Nation/Tribe/Pueblo, the United States, the State, and other key persons identified by the major participants. These key persons may include mediators, judges, or any other person who is identified has having played such a decisive role that the settlement could not have occurred without them. While interviews may be conducted in writing at first, the Organizers hope to eventually conduct live interviews, to be kept in a special archive section of the project.

Once the proposed American Indian Water Rights Settlement Repository is available online, it will provide access to comprehensive information, while at the same time allowing users to tailor their research of Indian water rights settlements to fit their particular need. The project is necessary to fill a void. No one has ever attempted to gather all information pertaining to all Indian water rights settlements in the same place at the same time. As the climate changes, water issues will increasingly be at the forefront of national attention. This tool has the potential to help users solve local problems by learning from experiences that occurred thousands of miles away. The living library portion of the project will preserve stories from participants who crafted settlements, and will hopefully provide insight to future generations as to why certain things were done the way they were. The Organizers should be commended for undertaking this project, and they should also be funded in order to bring the project to full fruition.

Endnotes

[1] Dominique M. Work is a 2011 graduate from the UNM School of Law. She graduated cum laude, and received the school's Natural Resources Certificate. Ms. Work currently is a Staff Attorney for the New Mexico Interstate Stream Commission. The views expressed in this article are the personal views of the author and not the views of the Interstate Stream Commission.

[2] The American Indian Law Center is the oldest Indian-operated legal and public policy organization in the country. Its mission is to provide assistance to tribal organizations. The UNM Centennial Library is a branch of the University of New Mexico libraries. It is specialized in sciences and houses a collection on water resources. The Utton Center was created in 2001 to carry on the ideas of the late Professor Albert E. Utton for transboundary and international cooperation in water and other natural resource matters. Both the Centennial Library and the Utton Center are part of the University of New Mexico.

[3] 207 U.S. 564 (1908).

[4] For instance, the McCarran Amendment, 43 U.S.C. § 666.

[5] Such as the *Winters* decision mentioned above, and the seminal decision in *Arizona v. California*, 373 U.S. 546 (1963), which brought about the concept of Practicably Irrigable Acreage (PIA) as the measure of Indian water rights.

[6] http://uttoncenter.unm.edu.

[7] The Jicarilla Indian Tribe Water Rights Settlement Act of 1992, Pub. L. 102-441, 106 Stat. 2237 (1992). Although the accurate name is now the Jicarilla Apache Nation, the Nation was called the Jicarilla Apache Tribe at the time the act was passed. Thus, although the name of the nation appears to be incorrect, the actual name of the act is correct.

[8] The Northwestern New Mexico Rural Water Projects Act, Title X, Subtitle B of the Omnibus Public Land Management Act of 2009, Pub. L. 111-11, 123 Stat. 991 (2009).

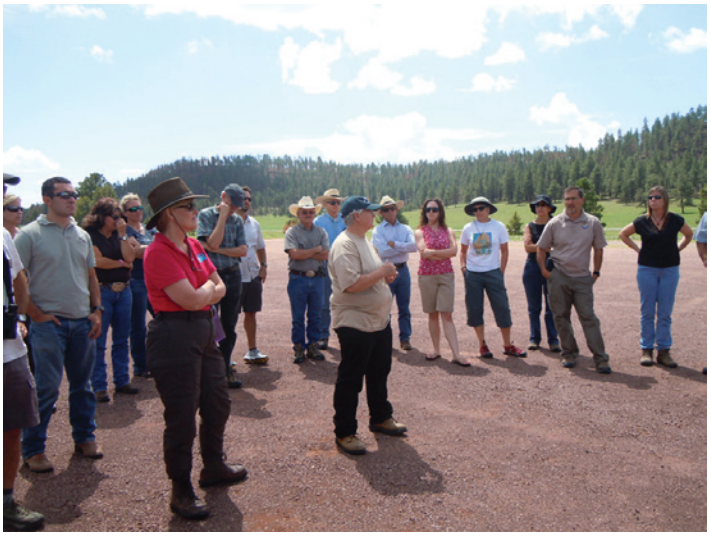
[9] The Claims Resettlement Act of 2010, Pub. L. 111-291, 124 Stat. 3064 (2010).

[10] Tim Vollmann died on December 2, 2010. Through his position as Regional Solicitor, his involvement in the Jicarilla Water Rights Settlement, and his personal wisdom, Mr. Vollmann had a wealth of knowledge to share with the Indian water law community. Sadly, there are too many instances where important information about the development of Indian water rights settlement has been lost because of the untimely death of key participants. The historic component of this project seeks to preserve this type of knowledge and wisdom for future generations.

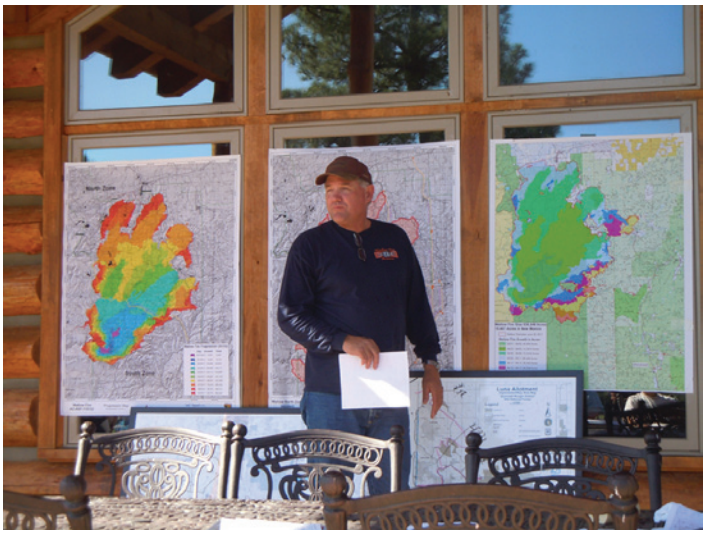
The Wallow Fire Field Trip

In early August, NREEL Section members participated in a field trip to view burned areas and discuss legal and policy issues associated with the Wallow Fire. From late May to early July 2011, the Wallow Fire burned 538,000 acres in New Mexico and Arizona. The NREEL Section visited the area on August 6 to see first-hand the burned areas and to discuss legal and policy issues associated with the fire. The trip was near Luna in Catron County, located 225 miles southwest of Albuquerque on US 180 near the Arizona/New Mexico state line. The trip encompassed the Gila and Apache-Sitgreaves National forests from elevations of approximately 7,000-8,500 feet. The group heard presentations from District Forester Doug Boykin, New Mexico Energy, Minerals and Natural Resources Department, Socorro District; Professor Eileen Gauna, UNM Law School; District Ranger Pat Morrison, U.S. Forest Service, Gila National Forest, Glenwood Ranger District; and NREEL Chair Tom Paterson, attorney and area rancher.

Blue Range Mountains from Blue Vista



Pat Morrison discusses Wallow Fire



Doug Boykin discusses Wallow Fire spread and suppression.

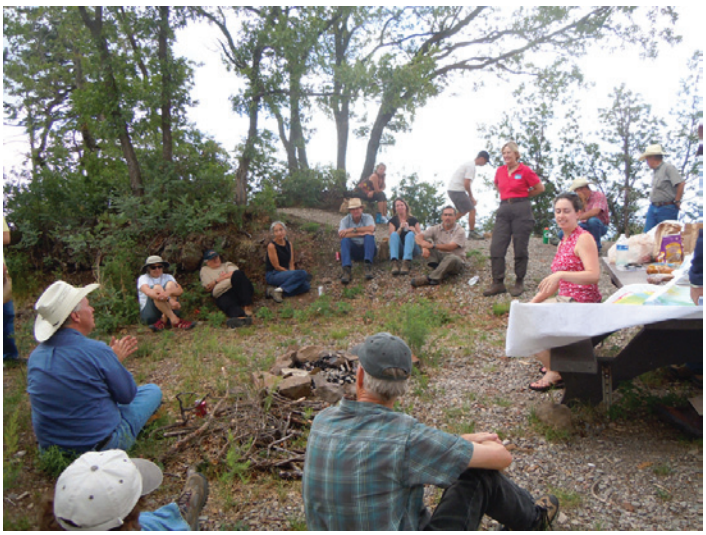
Wallow Fire Maps

2011 NREEL Chair Tom Paterson

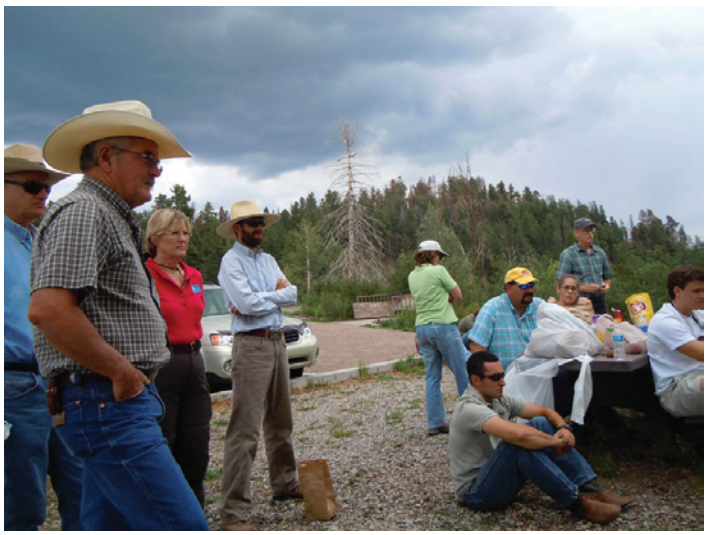
Field trip participants discuss the effects of fire and erosion on water tanks for cattle and wildlife.

Luna Lake

Group discussion at Blue Vista



Presentation by District Ranger Pat Morrison



Participants at Blue Vista

Natural Resources, Energy & Environmental Law Section

Board of Directors