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ARTICLE: SAVING WATER IN THE PECOS: ONE COIN, TWO SIDES, MANY OVERDRAFTS (AND NO BAIL OUTS?)

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LEXISNEXIS SUMMARY:

... During the Compact negotiations, Tipton identified two primary causes of reduced river flows in the Pecos River: (1) "the effects of New Mexico 's groundwater pumping in the RAB ," and (2) "the spread of salt cedars." ... It was the threat of ever increasing depletions due to salt cedar proliferation combined with the hope of acquiring federal funds to eradicate the salt cedar menace that arguably convinced the two states to enter into the Pecos River Compact. ... Reynolds persuaded CID not to assert its rights through a priority call because of the "futile call" scenario, but, in recognition of the conjunctive relationship between surface and groundwater supplies, he encouraged CID irrigators to follow their scant surface water under the ground by developing supplemental groundwater wells. ... In its study of options for New Mexico to meet its Pecos River delivery obligation to Texas, the Office of the State Engineer (OSE) stated that the priority administration was "the only option currently available for meeting the delivery obligation under the Amended Decree" but that it should be "avoided at all costs." ... The water bank would take active and valid senior water rights that the owners were willing to lease, rather than use, and bank them for lease to junior users whose own water rights would be curtailed by the priority call. ... Pursuant to the Settlement, the ISC was to "use its best efforts to request from, and to utilize monies appropriated by" the Legislature to purchase up to 6,000 acres of land within CID, and up to 11,000 acres of irrigated land in the Roswell area (3,000 acres pumping the shallow aquifers and 8,000 acres pumping the artesian aquifers). ... As surface water supplies dried up due to impacts from the local groundwater pumping, HIC followed the surface water underground and developed wells to pump groundwater into the irrigation ditches. ... Several conditions certainly aided the Settlement's relative success in the lower Pecos basin: (1) the State was not experiencing the budgetary shortfall that it is today; (2) the cost of the water rights in the rural region were relatively affordable; (3) the hammer of the Amended Decree and priority enforcement strongly encouraged the collaborative solution that emerged; (4) the cause of the problem, the interconnected surface and groundwater hydrology, provided the immediate and long-term solutions; (5) stakeholders were included early on, and their representatives sold the Plan to their constituencies; and (6) strong leadership brought and held the process together.

HIGHLIGHT: I. ABSTRACT

In July 2001, New Mexico was running out of options. The Southwest was deep in drought and all indications showed that the State was heading for another crisis on the Pecos River. Pecos River Compact delivery projections indicated New Mexico would soon under-deliver water to Texas, and that meant New Mexico could lose its administrative control over water in the Pecos River and its associated aquifers to the federal government. Desperate times can catalyze desperately needed action, and New Mexico rose to the occasion behind competent leadership to bring together the principal stakeholders in the lower Pecos River Basin to either negotiate a compromised solution, or face the dreaded and dire consequences of priority enforcement. The motivated group worked fast, under the mounting crises. They saved New Mexico from immediate default and began paving the way for a long-term solution to the overdrawn basin. Key to success was New Mexico's government intervention--to the tune of $ 100 million. On March 25, 2003, New Mexico and the United States joined with irrigators in the lower Pecos River basin to execute a water rights settlement agreement that resolved a century-old water dispute and would keep the state in compliance with the Pecos River Compact and the United States Supreme Court's Amended Decree in *Texas v. New Mexico*.

The roots of the problem began just after the turn of the century when irrigation was growing in New Mexico and irritation was growing in Texas. At that time, the bordering and battling states began long slow negotiations towards apportionment of the Pecos River. In 1948, Texas and New Mexico signed an interstate water compact, but this compromise involved a gamble that sought to outmaneuver a dynamic natural river system. Vigorous groundwater pumping in New Mexico had lowered the water table, which in turn depleted the surface flow of the river. Rather than rein in the pumping, New Mexico pinned its future on the belief that eradicating phreatophytes n1 would make up for the lost river flow and keep the two states whole. But the gamble did not pay off, and New Mexico began racking up a large water debt to Texas. Rather than reducing demands to the system, New Mexico's leadership supported administrative alternatives to minimize the problem. For years, the New Mexico State Engineer did everything but actually administer water rights pursuant to the law--priority enforcement. Eventually Texas lost patience and sued. New Mexico lost the case and was forced to pay for past undelivered water. The basin was out of balance and groundwater pumping was sucking the river dry. With nowhere else to turn, New Mexico's leadership addressed the problem, dried up farmland and built augmentation well fields. But, the compromise solution was neither free nor certain.

TEXT:

[*342] II. INTRODUCTION

> *"'As first responders to an unprecedented crisis that threatened the destruction of the modern financial system, we had little choice' but to bail out the banks."* n2
>
> - Henry Paulson, former U.S. Treasury Secretary
>
> > *"Judging from the snowpack now, [priority enforcement is] a real concern. In the event of a call--and I'm prepared to make a call--the junior users would no longer have water available, and* [*343] *that would be devastating. . . ."* n3
> >
> > - Tom Turney, former New Mexico State Engineer

In arid parts of the world, underground water is a precious resource, which accumulates slowly over time--much like monetary savings accumulate in a bank account. And, just as spending money in excess of reserves in the bank results in overdrafts and penalties, groundwater pumping at a rate that exceeds the rate it is being recharged results in reduced river flow, compact delivery deficits, and associated penalties. Eventually, creditors come knocking and the debt must be paid. Such was the case with the lower Pecos River basin crisis and its resolution.

But, who should pay the accrued hydrologic debt? Should the irrigators in the basin who for generations made a living putting the precious resource to beneficial use be made to pay? Or should the state of New Mexico, which agreed to the obligations in the Pecos River Compact in the first place, and which, for a time, may have abdicated some of its administrative duties? If the latter, was there any truth to the argument that the Pecos River water rights Settlement Agreement amounted to "nothing more than a pay-off that saves wealthy and influential upstream farmers who have benefited from relatively cheap water supplies from the consequences of prior appropriation enforcement"? n4

Em Hall, in his definitive book on the Texas-New Mexico struggle for the Pecos River, identified the root of the Pecos water problem: "[The Pecos River Compact was devised] based on the belief that science could accurately describe western rivers, that law could apportion what science described, and that technology could improve what science saw and law regulated." n5 Unfortunately, the science of the time was not up to the task, the technological improvements never delivered, and the law was not followed until ordered by the Supreme Court forty years after the states' entry into the Compact.

This article aims to provide the larger context of the Pecos Settlement Agreement by beginning with the history of the area, the problems with the Compact, and the issues dealt with in *Texas v. New Mexico*. It then discusses New Mexico's process of dealing with the Amended Decree and the forging of the Settlement. The paper concludes with a description of the components of the Settlement and New Mexico's implementation of it.

[*344] III. PRE-COMPACT HISTORY

In the great American tradition, Francis Tracy arrived in Carlsbad, New Mexico in 1890 with great dreams of turning the desert into an oasis--with limitless growth and financial reward. n6 Tracy founded the Pecos Irrigation District, predecessor of the present day Carlsbad Irrigation District (CID). n7 When he began, little was known of the aggressive intervention required to harness wild western rivers like the Pecos for human use. n8 He developed methods of damming the river and creating a large enough reservoir to store the water, as well as ways to divert and deliver the stored water for use on lands where it did not occur naturally. n9 His challenge was to make a dependable supply for humans from the varied natural supply of the Pecos River's flood flows. n10 The three centerpieces of the plan Tracy developed included McMillan Dam to store flood flows, Avalon Dam to divert the stored water into irrigation ditches, and the Carlsbad flume to deliver the diverted water to irrigable land. n11 He raised private money and constructed the necessary dams and irrigation works, only to have them later washed out by a major flood event in 1904. n12 The private money quickly dried up in the face of extensive repair needed to remedy the flood damage, and it appeared that the Carlsbad project would meet the same fate as 90 percent of the privately financed irrigation projects across the American West. n13 In 1905, Tracy saved the irrigation district with its sale to the newly formed United States Reclamation Service, later renamed the Bureau of Reclamation (Reclamation). n14

Even before the 1904 flood, Tracy had dreamed of building a third dam to capture flood flows and render the supply even more dependable, but he could not raise enough private capital. n15 However, Reclamation's takeover of the project provided access to taxpayer dollars. n16 Tracy badgered Reclamation to build a bigger and stronger dam on the Pecos River that would help him realize his lofty ambitions. n17 Of course, the more water the irrigation district was able to capture and use, the less made it downstream to Texas. n18 Reclamation's potential construction of [*345] another dam on the Pecos in New Mexico triggered Texas' ire and involvement. n19 Texas not only opposed the dam but sought to rein in New Mexico's Pecos River uses altogether. Texas successfully blocked federal funding for the dam and threatened to sue New Mexico for an equitable apportionment of the river if the states could not agree between themselves on an interstate compact. n20

The states negotiated the first Pecos River Compact in 1924, which provided New Mexico another dam, but capped the amount of irrigated acreage, and in exchange provided Texas funding for its own dam as well as guaranteed water delivery to the state line. n21 In 1925, the states agreed to the Compact, which never became effective because the legislatures of the respective states failed to ratify it. n22 In 1935, Texas and New Mexico completed a second round of negotiations, which resulted in the so-called Alamogordo Agreement, whereby they agreed to the construction of two dams, one in each state, to apportion flood inflow. n23 However, controversy sparked once again as Texas alleged that New Mexico's Alamogordo Reservoir n24 was not being operated in accordance with the agreement, and water that belonged to Texas was being withheld. n25

In 1939, the federal government, through the National Planning Board, instituted the Pecos River Joint Investigation (PRJI) for the purpose of providing a quantitative basis, using existing data that the two embattled states could rely upon to negotiate a final apportionment of the Pecos River. n26 Royce Tipton headed the PRJI, which was the first of three roles he would play in apportioning the Pecos

River's water. n27 Unfortunately, the PRJI failed to evaluate the region's water budget. Had they done so, they would have found the river's water account was already overdrawn by the 1940s. n28

IV. LOWER PECOS RIVER BASIN HYDROLOGY

The headwaters of the Pecos River form high in the Sangre de Cristo Mountains of northern New Mexico, just north of the City of Santa [*346] Fe, at an altitude of over 12,000 feet. n29 The river descends from the alpine mountains and travels through desert regions where ephemeral tributary inflows, generated by unpredictable precipitation events, contribute to its flow. n30 The Pecos River drains much of southeastern New Mexico as it passes by the grave of Billy the Kid and the old Navajo Internment camp in Fort Sumner, continues by the crash site in Roswell, and flows just east of the great Carlsbad Caverns before crossing into the State of Texas. n31 The river then flows through southwestern Texas before merging with the Rio Grande near Del Rio, and eventually dumps into the Gulf of Mexico--assuming there is any water left to dump. n32

Figure 1 n33

[*347] In addition to direct contributors to surface flows, snowmelt runoff and flood inflow from precipitation, groundwater inflow--or base inflow--is a significant source of Pecos River water. In the Roswell area, where the majority of the basin's groundwater use occurs, there are two groundwater sources: an artesian aquifer and a shallow alluvial aquifer. n34 The artesian aquifer of the Roswell Artesian Basin (RAB) contributes significant base inflow in the Roswell area. Between 1905 and 1998, the annual base inflow ranged from a high of roughly 120,000 acre-feet (AF) to a low of about 15,000 AF. n35 The artesian aquifer is recharged by precipitation and by surface runoff from the eastern slopes of the Sacramento Mountains, which rise to over 10,000 feet to the west of the Pecos River. n36 The water enters into permeable formations, fractures and sinkholes exposed at the surface and travels within those formations that dip to the east until it is confined and pressurized beneath nearly impervious layers of ancient marine sediments. n37 The water leaks upward into the shallow alluvial aquifer, and had historically augmented Pecos River flow through base inflow and natural springs discharging into river tributaries. n38 Natural recharge provides approximately 300,000 acre-feet per year (AFY) to the aquifers, but approximately 350,000 AFY is diverted from groundwater pumping. n39 Over 200,000 AFY of the pumped water is consumed through evapotranspiration, and only one-third returns to the system. n40 Currently, groundwater discharges to the Pecos River equal only about 30,000 AFY. n41

The increase in groundwater use for irrigation is the primary cause of substantial reduction in base-flow to the river at the beginning of the twentieth century. n42 The two aquifers currently supply groundwater for approximately 100,000 acres of irrigated land. n43 Prior to the 1930s, artesian pressure allowed water to flow freely at the surface of the aquifer, allowing high-capacity artesian wells to withdraw water without the use of pumps. n44 However, the artesian aquifer has become depressurized as a result of the groundwater irrigation and now most wells do not flow [*348] freely. Additionally, surface water irrigation has suffered because many of the area's large springs have dried up. n45

Between 1900 and 1940 New Mexico had discovered easily accessible groundwater in the Roswell area and consequently had developed an agricultural-based economy. n46 During that time no data existed to show that the groundwater and surface water were connected and it was generally assumed that well water and river water were not connected. n47 However, there was some qualitative understanding of their connection. As the states' delegates worked on the compact, Texas demanded that the pumped groundwater be counted against New Mexico's surface supply. n48 An August 14, 1935, letter from a hydrologist working for Texas, Vernon L. Sullivan, suggested that: "groundwater pumped from wells in the Pecos River basin 'should be treated as river water and its use charged against [New Mexico's entitlement to] the Pecos River water supply.'" n49

Linking flood inflows and groundwater contributions to base-flows in an interstate surface water agreement was a radical idea at the time. n50 According to PRJI estimates, groundwater contributions to the base flow of the Pecos River equaled 235,000 AFY prior to the development of irrigated agriculture, but by 1939 that contribution shrank to 70,000 AFY. n51 Therefore, nearly a decade before the signing of the Compact, New Mexico had already appropriated 70% of the groundwater contribution to the base flow. n52 Had the states truly resolved the issue, New Mexico may have been spared the Amended Decree in *Texas v. New Mexico*, and may have avoided spending over $ 100 million to address

the problem. On the other hand, by so doing, New Mexico would have deprived itself of a significant portion of the region's agricultural economy.

V. THE PECOS RIVER COMPACT

On December 3, 1948, Texas and New Mexico signed the Pecos River Compact, which was subsequently ratified by both state legislatures, and approved by Congress n53 as required under the Compact Clause of the Constitution. n54 Of the twenty-six interstate water allocation compacts [*349] in the United States, n55 most typically allocate annual volumetric shares of a river between signatory states. n56 In contrast, the Pecos River Compact does not provide a definite share of water for each state. n57 The apportionment provision of the Pecos River Compact is unusual in that it is based on depletions occurring in the upstream state: "New Mexico shall not deplete by man's activities the flow of the Pecos river at the new Mexico-Texas state line below an amount which will give to Texas a quantity of water equivalent to that available to Texas under the 1947 condition." n58 The Compact represented a political compromise, and the tradeoffs were hidden in the accounting assumptions underlying the New Mexico guarantee not to deplete the river more than it had in 1947. n59

The process toward Texas and New Mexico's entry into a final apportionment compact began in earnest in 1945. n60 The parties established a Compact Commission, including one Commissioner representing New Mexico, one representing Texas and one representing the United States, and they created an Engineer Advisory Committee to study the basin. n61 Royce Tipton appeared again, now in the role of the federal engineering representative. n62 He suggested a novel and scientifically impossible approach to the Compact, which the states eventually adopted:

> Texas and New Mexico should base [the compact allocations] on the . . . operation of the Pecos River at a particular time, . . . [meaning] the way the natural and man-made conditions of the river in a particular year [1947] and at a specific stage of development would affect the highly variable supply for any [future] year. n63

To determine "how much water Texas should be expected to receive over any particular period for any particular level of precipitation under the consumption conditions prevailing in New Mexico in 1947," the Engineering Advisory Committee developed a complex accounting formula: [*350] the inflow-outflow method (Inflow-Outflow Method). n64 Forty years later the two states would battle over this issue, and even at the time they both questioned the accuracy of the Inflow-Outflow Method. Nonetheless, they eventually accepted it and agreed to Tipton's compromise solution. n65 The "1947 condition" allocation would limit New Mexico uses, and the "man's activities" provision would limit its obligations. n66 Significantly, under this approach, the New Mexico's Roswell area wells were not protected if they reduced the flow of the river beyond that defined by the 1947 condition. However, the scientific limits of the approach were quickly revealed. "In almost every year following adoption of the Compact, state-line flows were significantly below the amount that one would have predicted on the basis of the [I]nflow-[0]utflow [M]ethod, with no obvious change either in natural conditions along the river or in 'man's activities.'" n67

In 1957, with the hopes of representing the actual depletions to the river system under the "1947 condition", the Commission authorized the "Review of Basic Data". n68 Tipton looked at the underlying assumption of the "1947 condition" and reworked the accounting formula of the Inflow-Outflow Method by removing several anomalous years. n69 This finessing of the accounting benefited New Mexico and further delayed its day of reckoning by assigning depletions to nature rather than to man's activities. n70

During the Compact negotiations, Tipton identified two primary causes of reduced river flows in the Pecos River: (1) "the effects of New Mexico['s] groundwater pumping in the [RAB]," and (2) "the spread of salt cedars." n71 Tipton understood that continued groundwater pumping would eventually use all of the remaining 70,000 AFY of base inflow. n72 However, he predicted a savings of 56,000 AFY available for human uses from salt cedar eradication, which could compensate for the increasing impacts of groundwater pumping and protect New Mexico's existing uses. n73 He relied on hyperbole to sell his eradication theory: "Unless this natural cancerous growth is abated and much of it eliminated, nature

soon will have taken over the river and deprived the irrigators of water which they have used for many years." n74

The phreatophytic salt cedars, or tamarisk, are now considered "the water vampires of the west," but were introduced by the railroads for the purpose of stabilizing bridges and banks, and were popular landscaping [*351] options because of their attractive pink flowers. n75 Salt cedars are a nuisance in dry climates because their roots suck water directly from the groundwater table, and once established they spread like wildfire. n76 The exotics began their invasion of the Pecos River riparian areas around 1914. n77 PRJI estimates show that in 1915 salt cedars depleted 5,000 AFY from the Pecos River, and leapt to 56,000 AFY by 1939. n78 The PRJI believed that the salt cedars would deplete more and more of the Pecos River water each year unless they were stopped. n79

It was the threat of ever increasing depletions due to salt cedar proliferation combined with the hope of acquiring federal funds to eradicate the salt cedar menace that arguably convinced the two states to enter into the Pecos River Compact. n80 Even as his approach failed to produce results, Tipton continued to propose technological improvements rather than curtailing human. n81 In the 1950s he received federal funding for developing a channel to bypass a heavily infested area of the Pecos River, and in the 1960s he received additional funding to clear and plow 15,000 acres of salt cedars. n82 However, despite all of these efforts, none were ever shown to yield additional water in the river. "A series of USGS studies begun in the late 1960s . . . could never prove that Tipton's plan for offsetting the over-appropriation of groundwater in the Roswell by cutting salt cedars ever produced an additional drop of water in the river." n83

New Mexico gambled on the assumption that water salvaged from salt cedar eradication would offset the delayed impacts from existing pumping in 1947, and it avoided acknowledgment of the full depletive effects of its existing uses. When the full impact of the pumping in the RAB reached the river, it would violate the Compact's apportionment even though the uses were established prior to 1947. n84 Eventually, New [*352] Mexico would need to reduce groundwater pumping to meet its delivery obligations to Texas. n85

Meanwhile, groundwater drafts in the Roswell basin grew. By 1940, farmers were pumping groundwater to irrigate 120,000 acres, and that amount increased to 136,000 acres by 1947. n86 Frenetic well drilling in 1947 represented a last ditch effort to establish wells before the Compact stopped further growth. n87 Such development continued, reaching a high of 158,000 acres in 1955. n88 Because all the water salvaging efforts missed their mark, CID suffered water shortages and requested a priority call against the junior groundwater pumpers in the Roswell area. n89

VI. PRIORITY ADMINISTRATION: THE FUTILE CALL

There is no more storied New Mexican water personality and power player than Steve Reynolds, New Mexico State Engineer from September 1955 to March 1990. n90 Ironically, the godfather of New Mexico water law actually disliked and disregarded its basic tenet--the doctrine of prior appropriation. n91 The doctrine provides that beneficial use is the basis, measure, and limit of a water right and that the first or senior users will receive their full supply before later or junior users receive any. n92 Reynolds disliked priority administration because it protected New Mexico's oldest and least efficient uses rather than facilitating the movement of water to higher valued uses. In other words, it prevented water from flowing uphill towards money. n93

Reynolds was a man of science and a pioneer of conjunctive management of water resources. In 1956, he began conjunctively managing surface and groundwater use in the Rio Grande basin with the City of Albuquerque. However, that effort did not spill into the Pecos, despite the Pecos River Compact's specific requirement that "[i]n maintaining the flows at the New Mexico-Texas state line . . . New Mexico shall in all instances apply the principle of prior appropriation within New Mexico." n94 Rather than administer priorities, Reynolds sought to reduce wasteful use of water in the Pecos by adjudicating groundwater rights. n95 [*353] In 1960, 10,000 acres (30,000 AFY) were removed from groundwater irrigation and controls on valid wells were tightened, saving another 20,000 AFY. n96 However, the adjudication of water rights in the basin did not mean that he was prepared to administer by priority date, and it was insufficient to offset the years of groundwater pumping.

Perhaps Reynolds' resistance to priority administration in the Pecos Basin rested on his recognition of the physical boundary to effective enforcement of priorities. n97 Curtailing junior groundwater users would not increase surface water supplies in the short term, but would hurt the groundwater users. Such a scenario is referred to as a "futile call." In the Pecos River Basin, CID was senior, its irrigators used surface water and they were downstream of the junior groundwater pumpers in the Roswell area served by the Pecos Valley Artesian Conservancy District (PVACD). n98 Shutting off PVACD users would not help CID users much because by the time the impacts would have reached them, their lands had likely dried up and blown away. n99 Furthermore, a priority call would not help with Compact deliveries because CID users would soak up as much water as it could before the water could get to the state line. n100

Reynolds persuaded CID not to assert its rights through a priority call because of the "futile call" scenario, n101 but, in recognition of the conjunctive relationship between surface and groundwater supplies, he encouraged CID irrigators to follow their scant surface water under the ground by developing supplemental groundwater wells. n102 Soon after, nearly half of the CID's 25,055 acres were served by supplemental wells. Reynolds asserted that the supplemental well plan was "a reasonable alternative to priority enforcement," n103 but their effects exacerbated New Mexico's water delivery problems. The supplemental wells captured groundwater that would otherwise have made it to the state line, which doubled the groundwater impact on the surface flows, further reducing Pecos River flows. n104

[*354] The collapse of Reynolds' scheme began in the 1970s when CID and Texas asserted their respective rights despite his best efforts. n105 Rising power costs of the 1960s and 1970s resulted in increased cost to power CID's supplemental wells, surface supply became more attractive, and CID irrigators began a push for priority enforcement. n106 In 1976, CID wrote a letter to the State Engineer requesting a priority call. n107 Around the same time, Texas roused to the fact that New Mexico had been chronically under-delivering Compact water. n108 New Mexico was caught and Reynolds chose to confront the problem through litigation rather than administration of water rights. n109

VII. *TEXAS V. NEW MEXICO*

At a special meeting of the Commission in July 1970, the Texas Commissioner stated that the Inflow-Outflow Method showed that from 1950 to 1969 New Mexico had accumulated a 1.1 million acre-foot deficit. n110 He argued that the Review of Basic Data was "incomplete and replete with errors," and should not be used unless and until the Commission adopted of a revised method. n111 Each state then prepared independent reports concerning the cumulative shortfalls relying on the method they believed best supported their position. Texas used the original Inflow-Outflow Method, and New Mexico used the updated method devised from the Review of Basic Data. n112 When attempts to mediate the two positions failed and Texas threatened suit, Reynolds said, "Fine, let the interstate water battle begin." n113

In June 1974, Texas invoked the original jurisdiction of the United States Supreme Court n114 and alleged that New Mexico defaulted on its Compact delivery obligations under Art. III(a) of the Compact "by countenancing and permitting depletions by man's activities within New Mexico to the extent that from 1950 through 1972 there has occurred a cumulative departure of the quantity of water available from the flow of the Pecos River at the Texas-New Mexico State Line in excess of 1,200,000 acre-feet from the equivalent available under the 1947 condition . . . ." n115 Texas asked the Court to enjoin New Mexico to comply with [*355] its Compact delivery obligations. n116 *Texas v. New Mexico* marked the first major interstate lawsuit in the United States involving the legal relationship between groundwater and surface water. n117

Justice Brennan succinctly framed the case when he summarized the two fundamental questions involved: "First, under the proper definition of the '1947 condition'. . . what is the difference between the quantity of water Texas could have expected to receive in each year and the quantity it actually received? . . . Second, to what extent were the shortfalls due to 'man's activities in New Mexico'?" n118 If as New Mexico argued, the 1947 Condition included all *uses* established in 1947 or earlier, even though those uses continued to reduce Pecos flows after 1947, then its state line delivery requirements would be substantially less. n119 On the other hand, if, as Texas argued, the 1947 Condition included all *depletions* as of 1947, then the pre-1947 uses were not protected, New Mexico's delivery requirements were much

higher and it owed Texas a lot of water. n120 New Mexico's view protected all wells drilled through 1947, and Texas' view targeted all pumping impacts that had not reached the river in 1947, irrespective of whether a given well was in existence in 1947. n121 At stake was the status of all the wells in New Mexico that did not begin reducing Pecos River flows until after 1947. n122

New Mexico lost the first question, and the Court found that "New Mexico was entitled to deplete by wells the base flow of the river only to the extent that New Mexican wells were affecting the river at the beginning of 1947." n123 So, the two states were forced to come to final agreement on a method to calculate that elusive "1947 condition." n124 New Mexico was knocked down, but not out, hoping that even if Texas could demonstrate that less water was reaching the state line than should have been under the "1947 condition", Texas could not prove that New Mexico was responsible for the diminution. n125

Unfortunately for New Mexico, losing the second question was the TKO. The state mistakenly thought that the burden of determining which depletions were caused by man's activities would fall on Texas, n126 so it did not present a shred of evidence on that point. n127 Much to New Mexico's and Reynolds' surprise, the Court agreed with Texas and determined that all depletions were presumed to be caused by the activities [*356] of man in New Mexico. n128 "Texas and New Mexico agreed that New Mexico had under-delivered water at the state line by 370,000 acre-feet over the thirty-four year from 1950 to 1983," which amounted to roughly 10,000 AFY. n129 The Court considered ordering New Mexico to repay Texas with water rather than money but gave New Mexico a reprieve and ordered the state to pay money, for the undelivered water. n130 Texas argued that New Mexico owed $ 1.1 billion, but the Court determined that New Mexico had to pay just $ 14 million. n131

VIII. THE AMENDED DECREE

In its March 28, 1988 Amended Decree, the Supreme Court enjoined New Mexico to comply with the Compact and instituted several devices to insure that New Mexico would not be delinquent again. n132 A federally appointed River Master would calculate New Mexico's water obligation, and any shortage or overage, to Texas on an annual basis using the Pecos River Master's Manual. n133 New Mexico could not accrue debits, but it could accrue credits for overages, which proved extremely useful for an eventual settlement strategy. n134 The decree required that New Mexico deliver to Texas the amount of any shortage in excess of accrued credits within a six-month period, October through March. n135 If the River Master identified a shortfall, New Mexico would have thirty days to submit a rapid repayment plan, showing the specific actions New Mexico would take (where additional water would enter the river, or which diversions would be curtailed) to make up for the shortfall by March 31 of the following year. n136

Luckily for New Mexico, the Amended Decree authorized the River Master to modify the River Master Manual upon agreement by the states, or if the states could not agree, either state could file a motion with the River Master. The River Master could then "adopt, reject, or amend the proposed modification," and unless stayed by the Supreme Court, a final determination by the River Master "shall be effective upon its adoption, and shall be subject to review by this Court only on a showing that the Final Determination is clearly erroneous." n137 Struggling to cope with the imposition of the Amended Decree and its increased water delivery burden, New Mexico successfully achieved a more favorable accounting method by modifying the River Master Manual several [*357] times. n138 In the years immediately following the entry of the Amended Decree, New Mexico filed six motions to modify the River Master Manual, and the River Master approved most of New Mexico's substantive modifications. n139

The Amended Decree dealt a blow to New Mexico, but did it really lose the *Texas v. New Mexico* battle? Southeastern New Mexico's economy benefited for forty years by using Texas' water, and in the end the State merely had to pay $ 37 an acre-foot for it. Reynolds joked that the people of New Mexico certainly "would thank the State Engineer any time that he can buy $ 1.1 billion worth of water for $ 14 million." n140 Additionally, the modified River Master Manual had the effect of reducing New Mexico's delivery obligation. Nonetheless, New Mexico's over-drafting and aversion was over, and it was time to definitively deal with the impacts of the groundwater pumping--else the proverbial black helicopters would land in the alfalfa, pecan and cotton fields, and New Mexico would forfeit its ability to resolve the problem internally.

IX. NEW MEXICO'S FIRST RESPONSE

Reynolds soon visited the farmers in the Lower Pecos River Basin to explain the impacts of the Court's Amended Decree, and to share his plans for dealing with the 10,000 to 30,000 AFY of additional water needed. n141 True to form, Reynolds' proposal relied on the instant benefits of groundwater pumping and the delayed consequences of adverse surface water impacts; however, this time it would work in concert with priority administration. He suggested the creation of a super well field consisting of seventy new groundwater wells located north of Roswell where the most junior groundwater rights were located, twenty-six miles of collector pipe and between three and nine miles of large transmission lines at a construction cost of $ 20 to $ 30 million and annual operation and maintenance costs of $ 2 million. n142 Under the plan, New Mexico would pump as much groundwater as was needed to comply with its compact delivery obligations, and the following year would curtail that same amount of junior groundwater pumping. n143 The beauty of the plan is that it could get the additional 10,000 AF or so per year to the state line, and overcome the problem of a futile priority call. n144 However, the plan did not overcome a major obstacle: getting the additional water [*358] past the chronically water short CID, which given the opportunity would suck up the water before it made it to the state line. n145 Resolution of that issue would have to wait until the Pecos Settlement Agreement, which Reynolds would not live to see.

While the 39th New Mexico Legislature approved payment of the $ 14 million owed to Texas, it was not quite ready to jump on the augmentation well field bandwagon. n146 Instead, the legislature sought to examine other compliance options, including priority administration, trans-basin diversion, and acquiring and retiring existing rights, and it requested that the State Engineer study the alternative options. n147 In its study of options for New Mexico to meet its Pecos River delivery obligation to Texas, the Office of the State Engineer (OSE) stated that the priority administration was "the only option currently available for meeting the delivery obligation under the Amended Decree" but that it should be "avoided at all costs." n148 Instead, the study recommended an acquisition and retirement program that was estimated to cost New Mexico $ 60 million to buy enough water from willing sellers. n149 The plan would reverse the axiom that public water runs uphill to private money in a true prior appropriation system; instead public money would run downhill to private rights. n150

In the fall of 1990, the plan was presented to the people of the Lower Pecos River Basin. n151 Unsurprisingly, farmers in the Roswell Artesian Basin supported the idea of a taxpayer funded buyout through the acquisition and retirement of junior groundwater rights. n152 Equally as unsurprising, CID still petitioned for priority enforcement. n153 Specifically, CID argued for the State Engineer to cut off post-1946 water rights, including municipalities, and if more water was still needed, to cut off pre-1946 users in reverse order until CID received its full entitlement. n154 The legislature received the following estimates of the catastrophic economic impacts that shutting down water users would cause: a 5,000 AF shortfall would result in 48,922 irrigated acres going dry and farmers losing $ 12 million for the year; a 10,000 AF shortfall would take 86,252 acres out of production, costing $ 21 million for the year; and a 15,000 AF shortfall meant a loss of 100,692 acres and $ 24 million annual loss. n155

[*359] In 1991, the legislature supported the acquisition plan and appropriated $ 6.8 million to the New Mexico Interstate Stream Commission (ISC) to acquire water rights in the lower Pecos River Basin. n156 By the end of the twentieth century, New Mexico had appropriated a total of $ 40,727,000 for water acquisition, n157 and by the end of 2001 the ISC had spent about $ 20 million to purchase and retire approximately 27,000 AF of water, resulting in increased flows to the state line of about 8,600 AFY. n158 Additionally, between 1992 and 2001 the ISC leased water from CID resulting in a total of 190,000 AF of water released to the state line at a cost of $ 9 million. n159 The program succeeded in augmenting the state line flows by an average of 10,000 AFY beginning in 1987. n160 However, it still did not solve the larger problem that the basin was out of balance, and the effect of all the years of groundwater pumping continued to deprive the river of the historic and much needed base inflow. In 2001, compact delivery projections showed that New Mexico was again headed for default. n161 In compliance with the Amended Decree, New Mexico would have to present a plan to the River Master showing how the state would make up the shortfall. n162 In crisis once again, New Mexico needed a final and lasting solution, so it approached the irrigators in the RAB and wielded the threat of priority administration.

X. THE AD HOC COMMITTEE AND THE CONSENSUS PLAN

Norm Gaume, P.E., the Director of the ISC from 1997-2002, understood the consequences of a delivery shortfall and prepared to take action. On July 11, 2001, the ISC appointed the Ad Hoc Pecos River Basin Committee (Committee) to find a consensus solution for compliance with the Compact and the Amended Decree, otherwise the State Engineer would enforce priorities and shut users off. n163 At their first meeting at the Roswell Convention Center, Gaume told the Committee members that if they could reach a consensus, New Mexico would submit the consensus plan to the River Master and the ISC would do everything it could to implement the plan. n164 If they could not, then the State Engineer [*360] would unilaterally submit a plan, which would include priority administration with the disastrous impacts predicted since the early 1990s. n165 Priority enforcement had switched from a centerpiece of New Mexico and federal Pecos River Compact law to a threat whose consequences should be avoided at any cost. n166

As the name suggests, the Ad Hoc Pecos River Basin Committee stakeholders included parties with a lot at stake in the basin: cities, counties, the dairy industry, the oil and gas industry, farmers, ranchers, irrigation districts, state and federal agencies, and community members. The stakeholders were selected for membership on the Committee based on their potential to provide water or other solutions for a consensus plan or their potential to be adversely affected by such a plan. n167 At the first meeting John D. Antonio, who would later become State Engineer, presented a set of ground rules for the meetings, which included: "Members will be respectful and attack the problem (not other committee members)." n168 Such guidance was necessary because tensions were high and many of the stakeholders had been at each other's throats for the past hundred years, with lawsuits stretching back to the 1950s. n169 New Mexico threatened not only priority administration, but to curtail even senior surface use if necessary, n170 which provided strong incentive for all parties to reach consensus on how to solve the problem. n171

Some stakeholders expressed concern that the Committee would become a voting group that would pit southern users against northern users to ratify a plan already structured by the ISC. n172 But the ISC stated that it did not have a preconceived plan; rather, it aimed to bring the stakeholders together so that they may evaluate all of the options and formulate their own plan. n173 Through the course of meetings, "[t]he will and commitment to meet the challenge grew as relationships improved, [*361] trust developed, and potentially productive ideas began to emerge." n174 Early in the process, the Committee members agreed that they had a "better chance for success if members avoided public criticism of the process or each other." n175 By the end of the process, they would all come together.

The success of the Committee was not predestined: it was short on time and resources, and the complex problems were unyielding and multiplying. To compound matters, soon after formation of the Committee an environmental group served a sixty-day Notice of Intent to file suit on behalf of the federally threatened fish, the Pecos bluntnose shiner, and impacts from Reclamation's modified reservoir operations for the benefit of the species emerged as a serious concern.

The ISC allowed the Committee eight meetings for progress to be made before the ISC would determine whether to continue the meetings. Gaume established an accelerated timeline and work plan, which included a May 2002 due date for the plan to remedy the anticipated 2001 shortfall to be in place. At its start, the ISC only had $ 4.7 million to implement the Committee's plan, and they would need more. The eighth meeting would occur in December, just in time to get a consensus plan before New Mexico's legislative session, which begins in January of each year. n176 To support the group, the ISC and the OSE provided staff and contract hydrologists to model and evaluate all the alternatives developed by the Committee, an economist to assess the economic impact of the alternatives, and a meeting facilitator, Reese Fullerton. n177

At the first meeting, Dr. Bhasker Rao, PhD Hydrologist and the ISC's Pecos River Basin manager, facilitated a true water planning process that would look at the basin's water budget and examine the range of alternatives available to increase state line deliveries by 15,000 AFY. n178 The process began with a brainstorming session and a ranking of the various criteria that would be used to evaluate the Committee's proposed alternatives. n179 Protecting existing uses from impairment and economic impacts to the region was the highest ranked criteria, while financial costs to the State did not receive a single vote. n180 ISC staff then organized "four fundamental criteria: effectiveness, implementability, [*362] fairness and impact," and Gaume, with his result oriented focus, added that they should be "comprehensive, mutually exclusive, and capable of being evaluated." n181 Next, the Committee began

identifying the short-term and long-term alternatives. n182 Some early suggestions included trans-basin diversions, desalination, lease and acquisition of water rights, and, of course, the perennial favorite - salt cedar eradication. n183 Eventually, the Committee drafted a "components matrix", which listed the alternatives, their timelines, and their rankings. To aid the Committee's process, computerized hydrologic models were used to simulate how future pumping from and recharge to the RAB would affect the aquifer and depletions to the Pecos River. n184 The models evaluated whether 15,000 AFY delivered to the state line would insure permanent compact compliance. n185 There was Committee consensus that farmland acquisition and fallowing was a preferred long-term solution. Also, they agreed that the mechanism to augment shortfalls in the immediate term required the ability to pump groundwater from the RAB and bypass that water through CID. n186

One of the alternatives the Committee considered, at the suggestion of New Mexico legislators, was the establishment of a water bank as a possible means both for augmenting compact deliveries and helping water rights holders to cope with priority administration. n187 The water bank would take active and valid senior water rights that the owners were willing to lease, rather than use, and bank them for lease to junior users whose own water rights would be curtailed by the priority call. n188 The state legislature passed a law governing such a mechanism, n189 but it was never implemented. The Committee came to understand that the accumulation of Compact delivery credits to Texas functioned as a virtual water bank. n190 "Under a system of comprehensive administration, the State could utilize previously delivered credits in a dry year, reducing the otherwise necessary curtailment of New Mexico junior uses." n191 Thus, developing a sizeable cumulative compact delivery credit by annually over-delivering water emerged as a key strategy for long-term compact compliance.

[*363] The Committee realized that its success hinged upon public support, which could only be developed if the public understood the problem. n192 The meeting facilitator implored the Committee members to multiply their communication efforts by talking to the people in the community. n193 "The public needs to know how bad things are. Don't put off bad news." n194 Gaume developed a tool for communicating the dire circumstances, which was titled "Plain Truths":

> All paths lead to compliance with the Compact;
> The Supreme Court is supreme;
> its decision is final and not appealable;
> We risk losing control of our waters if we don't comply;
> We don't want the federal government in charge of the Pecos River;
> The water is there for compliance;
> 10,000 [AFY]; [about]1.5% of total Pecos River Basin water . . .
> There are no simple, painless solutions n195

Further, "some people will not get water." n196

Members took "Plain Truths" to their local newspaper and requested it be published. n197 The Committee prepared a video to tell the story of the basin in crisis. n198 The members went into their communities, attended meetings and communicated with their constituencies hoping to build support for the process and the plan. n199 Various members reported emotionally charged incidents or misinformation spreading through the community, such as a rumor that the State Engineer had already planned a priority call for a certain date. n200 Interestingly, some people in the basin saw the problem as the state's because it was the state that entered into the Compact, not them. n201 Additionally, members discussed [*364] with the Committee the issues arising in their communities so the Committee could plan a unified response.

Priority administration remained a highly contentious issue in the communities and among stakeholder representatives. Preliminary modeling indicated that curtailment of all groundwater pumping in the RAB would increase river flow by less than 4,000 AF in the first year following curtailment and would increase gradually over time. n202 Later model runs indicated that if 320,000 AF of groundwater rights were curtailed, only 1,000 AF would accrue to the river within a single year. n203 Therefore, priority administration alone would not work. The problem of the futile call persisted. Keeping the pressure on, Gaume asserted that the State Engineer would curtail senior surface water rights to make up the necessary water to solve a short-term delivery crisis. However, to return the basin to some sort of hydrologic balance would require that some amount of groundwater pumping cease. The models showed the retiring of

50,000 AFY would yield 8,000 AF to the state line after ten years, which *would* go a long way toward solving the problem. n204

But, the members felt they could not endorse priority administration as one of the elements in their final recommendation for a consensus plan, even though they stated otherwise in their October 4, 2001 Resolution. n205 Gaume countered, stating a plan without elements of priority administration would hold the state hostage to annual CID lease agreements. n206 But the members did not relent, and eventually Gaume did--to some degree. He stated he would not overrule or veto a consensus plan that did not include priority administration, so long as it was viable. n207 After some discussion, the winning argument emerged: the best chance at getting funding from the legislature may be to demonstrate that it is cheaper for the state to fund a consensus solution than to suffer the economic loss to the state and basin which would result from priority administration. n208 Stick in hand, Gaume stated that if the consensus plan was not adequately funded, he would recommend to the State Engineer that priority administration begin at the end of the 2002 irrigation system. n209

[*365] Over the course of its first year, the Ad Hoc Committee passed four resolutions that addressed the immediate problems and provided a long-term solution. For that year, the Committee achieved 9,000 AF of additional state line deliveries through leasing surface water from CID and through pumping groundwater into the river. n210 For the long term solution, the Committee set two goals: (1) supply and demand must be balanced in the long term; and (2) a short-term water delivery mechanism must be developed to deliver water to the state line until the impact of the actions to balance supply and demand increased flows at the state line and New Mexico accumulated a sufficiently large delivery credit. n211 Reducing depletions was essential to achieve a balance between supply and demand. n212 The "1947 condition" stream depletion had been approximately 125,000 AFY, but the current stream depletion fluctuated around 160,000 AFY, and the 35,000 AFY difference resulted in reduced river flows that had contributed to the 10,000 AFY average historical shortfalls in deliveries to Texas. n213 Shutting down all post-1946 water rights would yield approximately 32,000 AFY. n214 The full impact of the reduction in pumping would take years but eventually would result in reduction of depletions by about 20,000 AFY, which could increase state line flows by approximately 7,000 to 15,000 AFY over the long term. n215 The long-term plan would reduce depletions and permanently avoid compact shortfalls, hopefully bringing hydrologic balance to the basin.

The Committee's plan would not rely on priority administration, but it outlined a viable, if not taxing, alternative. The Committee's December 1, 2001, Resolution begins by reiterating the consequence warned of years earlier and reminding that the proposed alternative would solve the problem for less money than priority administration. Instead, the plan placed the burden on taxpayers; the state should acquire and retire post-1946 water rights, which would reduce water diversions in the RAB by about 32,000 AFY. n216 But that was not all. Because delivery shortfalls would occur during the decades before the full impact would reach the river, the state should develop a well field, with the capacity to pump about 10,000 AF in a six month period, in the southern end of the RAB to meet the shortfalls as and when they occur. n217 Preliminary well field cost estimates indicated $ 8 million in initial capital costs, $ 700,000 in operation costs to pump about 10,000 AF, and an annual maintenance cost of about $ 25,000, which was annualized [*366] at a cost of about $ 150 per AF. Getting water past the CID was the next trick. For the groundwater pumping to succeed as a river flow augmentation project, the ISC would need Reclamation and CID's agreement to allow the pumped water to flow to the state line, through CID's reservoirs without storage and diversion. By agreeing to this concept, the junior users in the RAB would avoid the need for more drastic shutdown of pumping and CID would benefit from the increased stream flows from shut down of post-1946 diversion.

On January 16, 2002, the Committee approved the Consensus Plan (Plan), which outlined a "permanent solution" to the Pecos problem. n218 However, the Committee added a few caveats: (1) that watershed conditions do not deteriorate; (2) "that depletions of water caused by actions to comply with the Endangered Species Act are offset, and that any new or increased uses of water are offset by discontinuance of equivalent existing uses"; and (3) that "a prolonged, severe drought does not occur." n219 The Plan included three key elements:

> 1. The purchase of 6000 acres of irrigated farmland within [CID] and conversion of the annual water diversion allotment for that farmland to water releases from the last dam in New Mexico for delivery to the state line;
>
> 2. The purchase 12,000 acres of water rights upstream [of CID] to reduce depletions of water and bring the Pecos River Basin water uses into permanent balance with New Mexico's entitlement to use water; [and]

3. The pumping of an average of 20,000 [AFY]from the [RAB] artesian aquifer to augment water supplies for the downstream senior water rights that historically have been short of water supply and for New Mexico's state line deliveries. n220

Additionally, the Plan identified a benchmark number, 115,000 AF, for accumulated state line delivery credits, which Bhasker Rao determined would provide New Mexico sufficient protection against a shortfall, even in successive years of drought. n221 The estimated cost of the Plan to taxpayers: $ 68 million. n222

Throughout the Committee process, and likely before, Gaume had an eye toward the legislature and strategically planned for the imminent funding request. Between Committee meetings, he and Committee representatives met with the legislature's interim Water and Natural Resources Committee and kept them apprised of the Committee's progress. n223 [*367] Before the Committee could request additional funds from the legislature, it needed to put together a package of alternatives with timelines and cost estimates. The Committee agreed the requests needed "to be solution driven, solve the long-term problem and contain detailed timelines and estimates." n224 Members were asked to talk with their legislators, express the realities and complexities of the problem, and garner support. n225 The Committee considered several funding options including a water surcharge, either basin specific or statewide, n226 or a gross receipts tax. n227 Ultimately, it decided to seek legislative support. The Committee members rallied their constituents to contact legislators and let them know they wanted the funding bills to pass. n228 The preparation and Committee efforts were fruitful. By March 2002, bills authorizing $ 40 million toward the Consensus Plan were passed by the legislature and signed by the Governor. n229 But the funding came with strings attached in the form of a compliance statute: the water rights claims of CID and the RAB groundwater pumpers, which involved many decades of litigation, would need to be settled. n230 *N.M. Stat. § 72-1-2.4* ("Compliance Statute") conditioned the expenditure of the funds upon the ISC entering into contracts with irrigation districts in the basin "that specify the actions the parties agree will be taken or avoided to ensure that the expenditures will be effective toward permanent compliance with New Mexico's obligations under the Pecos River Compact and amended decree." n231 The Committee members, "spurred on by the potential positive consequences of their comprehensive solution, met and agreed to the conditions" the state legislature placed upon their [*368] Plan. n232 The water right settlement parties then began further evaluations of options for their agreement. n233

XI. THE PECOS RIVER DECISION SUPPORT SYSTEM

Before the parties could enter into a final settlement, they needed to more fully understand the Consensus Plan's complex hydrologic impacts on their water supply. The burden fell to the hydrologists to use their models to simulate the impacts of the Plan, to determine how the Plan "would translate into actual water operations, and how those modified operations would impact water supply" to the various stakeholders. n234 The Pecos River Decision Support System (DSS) was developed, which consists of a computerized model of river and reservoir operations between Santa Rosa Reservoir and Avalon Dam, two groundwater models of the Roswell and Carlsbad groundwater basins, numerous pre- and post-processing tools, and accounting spreadsheets. n235 The DSS used historical hydrologic records from 1967 to 1996, including as inputs: river gauges, pumping records, and meteorological data. n236 The physical system characteristics (reservoirs, diversion structures, etc.) and the system management policy (reservoir management, irrigation demands, etc.) were based on current conditions, and the models represented current development and operational conditions superimposed on historical hydrology. n237 The DSS was not intended to predict future hydrologic conditions in the basin at any particular time, but instead to predict the expected differences in hydrologic conditions in the basin that would result from two different management actions. n238

Two model scenarios were developed: the Baseline scenario to represent a baseline condition against which any proposed actions may be evaluated, and a Settlement scenario to simulate the operation of the system under proposed water right settlement terms. n239 The results provided an estimate of the changes in water supply that could be expected if the settlement were implemented. n240 The Settlement scenario assumed the following:

1. The retirement of 11,000 acres in the RAB;

[*369] 2. Augmentation pumping up to 35,000 AFY and 100,000 AF per 5-year period when CID's supplies are low;

3. The purchase of 6000 acres in CID, delivered pursuant to the above mentioned formula; and

4. Limited CID supplemental well pumping. n241

Figure 2

The model results showed a suite of benefits to CID, the basin hydrology, and, of course, state line deliveries. n242 As is shown on Figure 2 below, the model predicted that at the end of the thirty-year simulation period, the benefits of reduced groundwater pumping in both the RAB and CID were predicted to result in 9,380 AFY of additional water reaching the state line each year.

As Figure 3 shows, the benefits from the land retirement in the RAB alone would result in approximately 7,500 additional AF of baseflow in the Roswell area (Acme gauge to Artesia gauge) by the end of the 30-year simulation period. n243 The average increase in water available for CID irrigators due to implementation of the Plan would be 0.42 per acre per year, and the benefit would be most significant in dry years when the additional water is needed most. n244 Total releases from CID's storage dam would increase by about 4,500 AFY. n245

[*370] Figure 3

In sum, the models showed that by maintaining CID's water supply, and by direct delivery of the CID water purchased by ISC, New Mexico could increase its cumulative Compact credit to a level that would allow it to weather drought years without damaging the region's economy too severely. n246 As the figure below shows, the plan's simulated net impacts on state line flows show an estimated increase by almost 10,000 AFY. n247 This is the precise amount that the Supreme Court estimated as New Mexico's annual shortfall. n248 "Early in the simulation period, deliveries of . . . CID water directly from [its storage reservoir] account for much of the gain in stateline flow. In the later two-thirds of the period, additional return flows and baseflow gains from the CID area account for much of the gain." n249

Figure 4

[*371] The modelers anticipated that it would take ten years before the state would accumulate a 50,000 AF state line delivery credit. n250 However, as is often the case reality did not match the model scenarios, and by 2009 New Mexico had amassed a Compact delivery credit exceeding 100,000 AF. n251

XII. THE PECOS SETTLEMENT AGREEMENT

After generations of conflict, avoidance, and denial, on March 25, 2003, New Mexico (through the OSE and the ISC), Reclamation, CID, and the PVACD (Settlement Parties) entered into a historic Settlement Agreement (Settlement) to ensure rapid delivery of water to the state line, to increase the senior water rights holders' annual supply, and to bring the basin into hydrologic balance. n252 The agreement contained a list of Conditions Precedent that the ISC would need to fulfill, using the moneys appropriated by the legislature, before the Settlement would be implemented: (1) adjudication of CID's water rights, (2) acquisition of water rights appurtenant to 12,000 acres of irrigated farmland, and (3) development of an augmentation well field capable of delivering 15,750 AFY to the Pecos River. n253 Additionally, the Settlement included protocols for delivery of the water ISC would purchase from CID and from the augmentation well field, n254 and an emergency plan for dealing with a state line delivery shortfall. n255

Adjudication of CID's water rights was significant because in 1994 PVACD, along with hundreds of other water users, protested "virtually every element" of the water rights that the OSE accorded to CID. n256 Between 1996 and 2002, the water rights adjudication court ruled on several "threshold legal issues," but many objections remained and addressing them would involve drawn out litigation. n257 The Settlement obligated the parties to enter a Partial Final Decree (PFD) with the adjudication court, n258 which would finally perfect, under state law, the right initiated [*372] by Francis Tracy over a century earlier. n259 The PFD decreed that CID had an irrigable area not to exceed 25,055 acres and a diversion amount not to exceed 125,200 AFY. n260 Further, it established the Court's jurisdiction over the Settlement. n261 It did not adjudicate the individual members' water rights--that would occur during the "Membership Phase" of the adjudication. n262

A. Water and Land Acquisitions

The key to returning the basin to hydrologic balance was the cessation of some of the groundwater pumping and drying up some of the farmland in the RAB. Some of the wells would be sacrificed so that others could survive. Pursuant to the Settlement, the ISC was to "use its best efforts to request from, and to utilize monies appropriated by" the Legislature to purchase up to 6,000 acres of land within CID, and up to 11,000 acres of irrigated land in the Roswell area (3,000 acres pumping the shallow aquifers and 8,000 acres pumping the artesian aquifers). n263 As the DSS

showed, the retirement of that quantity of acreage in the RAB would, after thirty years, yield an additional 9,380 AFY in water delivery to the state line. n264 However, the Settlement's Conditions Precedent only obligated the State to purchase 4,500 acres of irrigated land in CID and 7,500 acres in the RAB prior to implementation of the Settlement. n265 The smaller acquisition requirements were a good thing from a water acquisition perspective, because acquiring even that much water would prove a monumental task for the ISC.

In December 2002, pursuant to the Consensus Plan, but before the Compliance Statute or the Settlement, the ISC issued a Request for Bids (RFB), which stated that the ISC was seeking to purchase 6,000 acres of irrigated land in the CID and 12,000 acres of irrigated land upstream from the CID. n266 The ISC needed to acquire senior water rights so that in the event of a priority call, its rights would not be curtailed but could be pumped from the augmentation well field(s). Also, the ISC [*373] wanted to be sure that the rights it purchased were valid--with proven historic use--so that land that was actually being irrigated would be fallowed rather than just vaporizing paper water rights. The ISC decided to substantially discount water rights with priority dates later than January 1, 1947. n267 The ISC listed criteria to be used for determination of which offers were the most advantageous in increasing the flows in the river: "price, administrative considerations, hydrologic factors, the timing of increased water flow to the state line, and other considerations." n268 It also developed several factors to use in its water rights evaluations: the "Percentage Use Factor" looked at the percentage of "total available diversion used in the last [twenty] years"; the "Present Value Factor" evaluated the "hydrologic 'present value,'" which discounted water accruals that would occur in the future; the "River Response Factor" related to "the volume and timing of water accruals to the [Pecos River] due to the retirement of [the] water right[s]"; and the "River Routing Factor" would compare the ease of routing water rights and would be "calculated for each bid." n269 The most "advantageous" bids would increase river flows and get water through CID for state line delivery. n270

Predictably, all the factors and discounts created confusion among potential sellers, and the response was underwhelming. The ISC amended the RFB several times to simplify the bidding process, but the persistently low response caused them to extend the RFB closing date at first by one month, and later to July 31, 2003. n271 ISC staff even considered "a proposal from PVACD to get each member to commit to sell 3 to 5% of their acreage and appurtenant water rights to the program." n272 It was not until the ISC hired a land man from the basin, Len Stokes, who was a cattle rancher, a former member of the Committee, and former captain of the football team in high school, that deals were made.

The ISC completed a market study at the beginning of 2003, which was updated a few months later. n273 The studies showed that farm sales in the Roswell area with senior water rights varied between $ 2,650 and $ 2,900 per irrigated acre and farm sales in the CID varied between $ 1,800 and $ 2,650 per irrigated acre. n274 The ISC received offers to sell 9,100 acres of senior water rights from the RAB. n275 The Pecos River DSS models had simulated Settlement benefits based upon acquisition of water [*374] rights with a historic use of 60% or greater, but only 4,100 of the offered acres met that criterion. n276 Also, a large disparity existed between the estimates contained in the Market Studies and the offers received through the RFB. n277 Most of the offers were substantially higher than predicted, n278 which was likely due to the fact that the ISC's entry into the market instantly created a large demand and it became a seller's market. Half of the offers in the RAB were $ 5,000 per acre, and the other half ranged between $ 6,000 and $ 8,000 per acre. In CID, half of the offers were approximately $ 3,500 per acre and the other half were between $ 4,000 and $ 5,000 per acre. The ISC ultimately developed pricing guidelines to apply to the various flavors of available water rights and formally approved them in 2005. Then at the end of 2006, the ISC revised those pricing guidelines upward to attract more sellers. The range of prices provided a higher payment for acreage with a greater percentage of historical use.

Type of Water Right	Original Price Range	Revised Price Range
CID Assessed Land	$ 2800 - $ 3200	Same
RAB -- HIC	$ 3500 - $ 4500	Same
RAB -- Senior Artesian	$ 4000 - $ 5500	$ 5500
RAB -- Senior Shallow	$ 3000 - $ 3500	$ 4500 - $ 5500
RAB -- Senior Surface	$ 3000 - $ 3500	Same
RAB -- Junior Artesian	None	$ 2500 - $ 3500

The ISC began purchasing water rights with a historic beneficial use of 60% or greater in 2005, and by 2009 it completed purchasing for the Settlement minimums stated in the Conditions Precedent. To insure that titles to the properties that ISC purchased were unencumbered and that the water rights were valid and transferable, the ISC developed a comprehensive due diligence process to be completed before it closed on any property acquisitions. Under the supervi-

sion of ISC attorneys the process began with a water rights administrative specialist abstracting the water rights. Next, a former State Engineer (Eluid Martinez) reviewed the abstract and made recommendations. Finally, contract water lawyers performed fatal flaw analyses. Additionally, the ISC obtained legal opinions regarding title to the land, land boundary surveys, Environmental Phase I analyses, and hydrologic analyses evaluating the transfer of RAB water rights to the augmentation well fields. Once the properties were acquired, the ISC then complied with State Engineer regulations by filing applications to transfer the RAB water rights to its augmentation well fields. n279

[*375] By the end of its acquisition period, the ISC spent $ 48,811,563, exclusive of staff and contractor resources, to purchase 4,498 acres in CID (just two acres short of the minimum amount for the Conditions Precedent), and 7,492 in PVACD (just twelve acres shy of the Settlement minimum).

Year	PVACD		CID	
	Acres	Cost	Acres	Cost
2005	2196.1	$ 9,130,076	2,350.18	$ 7,572,023
2006	2247.63	$ 11,303,518	568.55	$ 1,813,901
2007	253.8	$ 1,305,518	1,408.4	$ 4,403,895
2008	2301.86	$ 10,325,750	170.3	$ 519,211
2009	353.5	$ 1,782,261		
2010	139.4	$ 655,868		
Totals	7492.29	$ 34,502,533	4497.43	$ 14,309,030

Ownership of fallowed land presented many challenges for the ISC. To deal with weed growth and erosion, the ISC developed property management plans for its lands. Primarily, the ISC dealt with the lands by leasing them to the original owners at no cost, but in exchange for management of the land. n280 At first the program was less than successful resulting in six-foot tall weeds, blowing tumbleweeds knocking down fences, and dust storms (one of which was rumored to be the cause of a school bus accident). Eventually, the ISC got things under control; it hired a rangeland specialist, developed a seed mix of native vegetation to plant on the lands and inspected the properties on a regular basis. n281 In 2008, the legislature corrected the requirement that ISC purchase the land, which it did not need, and authorized the ISC to sell the lands it had purchased and to buy only water rights in the future. n282 Included in the new law was the requirement that the sale deed would include a restrictive covenant prohibiting any new development of groundwater, specifically domestic wells. n283

B. The Augmentation Well Field(s)

While the water rights purchases worked toward balancing the basin, the state needed a tool to prevent a delivery shortfall, and CID required [*376] a greater supply. Settlement implementation could not occur until the ISC developed an augmentation well field capable of pumping a minimum of 15,750 AF of water per year. n284 The augmentation well field(s) promised to provide a useful tool in the event of a under-delivery crisis because the ISC could turn a few switches and rapidly increase river flows and, therefore, delivery of water to the state line. n285 Accomplishing the task required that the ISC site the wells in a location where they could tap a highly productive part of the artesian aquifer, but that did not communicate quickly with the shallow alluvial aquifer, which was directly connected to the Pecos River. The longer the delay was between the impacts from the groundwater pumping and depletions to the river, the better. Additionally, the well field discharge point to the river needed to be as close as possible to CID's storage facility, Brantley Reservoir. n286 The longer the distance between the discharge point and the Reservoir, the greater the transmission losses due to evapotranspiration, and the smaller amount of water would reach the Reservoir. Lastly, the well field would need to be located as near as possible to the river to reduce the costs of running pipelines from the wells to the river.

The ISC began by evaluating three potential well field locations and the production potential of the aquifer in each area. n287 The ISC considered several delivery pipeline routes, which aimed to minimize the distance between the well fields and the proposed Pecos discharge point. n288 "However, in some cases, choosing the shortest, straight-line route might cause the transmission pipeline to run across difficult terrain, private agricultural land, private residential land, or through a wildlife refuge." n289 As much as possible, the proposed routes would follow existing right-of-ways. n290 Additional considerations included increased construction costs in populated areas "due to high easement and right of way costs, pavement and other public and private property replacement required as a result of temporary construction activities." n291 Ultimately, the ISC chose to site the well field in the Seven Rivers area n292 The ISC determined that a well field capacity of 10,000 AFY at the Seven Rivers area was "safe from the perspective of potential for drawdown and water quality impairment," but an additional well field would need to be developed with a 5,750 AFY pumping capacity. n293

[*377] The ISC evaluated several options for development of the well field in the Seven Rivers area. n294 One of the chief concerns was that a local and very wealthy pecan farm in the area, Seven Rivers, Inc. (SRI), might challenge the well field and protest the ISC's transfer of water rights it would be purchasing. n295 To thwart SRI's opposition, ISC engaged with SRI in negotiations to develop the well field on portions of SRI's lands and rely on using some of SRI's wells. n296 ISC considered purchasing SRI's property, but concluded that the costs were too great. n297 On April 10, 2006, the ISC and SRI entered into an Augmentation Well Field Agreement, which provided that ISC would pay SRI $ 800,000 in exchange for use of some of SRI's wells and the right to develop additional wells and a delivery pipeline on portions of SRI's property. n298 Additionally, ISC would pay SRI to provide operation and maintenance of the system when completed. n299

The ISC obtained the remaining needed capacity using two well fields in the Roswell area: Hagerman Irrigation Company (HIC) wells and a Lake Arthur well field. n300 The HIC was originally formed to deliver surface waters to irrigators in an area south of Roswell. n301 As surface water supplies dried up due to impacts from the local groundwater pumping, HIC followed the surface water underground and developed wells to pump groundwater into the irrigation ditches. The ISC entered into an agreement with HIC to use the wells to supplement river flows. n302 The ISC also purchased land, wells, and water rights from farmers in the Lake Arthur area, also south of Roswell, and developed a pipeline to deliver the water to the river. n303

[*378] C. Projecting Water Supply and Hitting the Targets

The next great maneuver of the Settlement was getting the augmented water past CID and delivered to the state line. In exchange for the promise of an increased supply, CID guaranteed not to make a priority call for water "except to the extent necessary to supply not more than 50,000 acre-feet in any one year." n304 To insure that CID's minimum supply would be met, the Settlement provided protocols for 1) how to use the CID water purchased by the ISC, and 2) when and how much to pump from the augmentation well field. n305 Varying state line credit and CID water supply scenarios provide pumping triggers, which guarantee CID's minimum supply. n306

The distribution of the CID water rights owned by the ISC is conditioned on two competing objectives: to eliminate a default condition with respect to the Compact, and to maximize water available for agricultural production. n307 Distribution of water from the ISC's CID acreage is based on a tiered schedule of delivery and redistribution. n308 The Settlement requires that on or before January 31 of each year the ISC estimate the accumulated state line delivery credit from the previous year and the OSE determine the total water supply available to the CID. n309 If the state line credit is less than 50,000 AF, the ISC shall not receive delivery of its water to the state line from the first 50,000 AF increment of the CID supply. n310 Rather, CID shall re-allot the ISC's water from the first 50,000 AF increment to CID members. n311 If the CID project supply exceeds 50,000 AF at any time during that same year, CID shall deliver ISC's water to the state line. n312 If the state line delivery credit is equal to or greater than 50,000 AF, but less than 115,000 AF, the ISC shall not receive delivery of its water to the state line from the first 90,000 AF increment of the CID supply. n313 Rather, that water will go to other CID members. n314 However, if the CID supply is 90,000 AF or more, CID will deliver ISC's water to the state line. n315 And, when the state line delivery credit reaches or exceeds the threshold number of 115,000 AF, the CID members are entitled to receive a full supply (3.697 AF farm delivery [*379] requirement per acre) before the ISC may use its water for state line deliveries. n316

To determine the augmentation well fields' pumping schedule, ISC projects CID's water supply at specific times of the year and commences pumping to insure that CID receives its minimum supply. n317 The dates and target supply are as follows:

Target Date	Target Supply
March 1	50,000 AF
May 1	60,000 AF
June 1	65,000 AF
July 15	75,000 AF
September 1	90,000 AF n318

Accordingly, the ISC shall deliver water "from the Augmentation Wells to the Pecos River commencing November 1 of each year as necessary to meet a Target Supply for CID of 50,000 acre-feet on March 1 of the next succeeding calendar year and shall continue until [CID's] [s]upply reaches 50,000 acre-feet." n319 The ISC shall continue to project supply and pump as necessary to meet all of the target supplies by the target dates. n320 However, the Settlement limits its pumping from the augmentation wells to not more than 100,000 AF over a five-year period, and "in no event more than 35,000 acre-feet in any one year of such accounting period." n321 In exchange for the increased project supply,

CID agreed that in the event the federal River Master determines a net shortfall exists, the ISC may operate the Augmentation Well Fields to deliver the necessary water to the state line, and that water will pass through CID facilities for delivery to the state line. n322

D. The Joint Declaration

The Settlement Parties were to file a Joint Declaration with the Adjudication Court by December 31, 2004, stating that the Conditions Precedent n323 had been satisfied. As it turned out, the parties filed several requests for extensions of time because it took longer than anticipated [*380] for ISC to acquire the water rights and to develop the augmentation well fields. Finally, on June 11, 2009, the Settlement Parties filed a Joint Declaration with the court stating that the Conditions Precedent had been satisfied and that the Settlement terms would be implemented. n324 Needless to say, the ISC threw one hell of a party that summer to celebrate with all of the Settlement parties and stakeholders.

XIII. A LEGAL CHALLENGE TO THE SETTLEMENT

The Settlement Condition Precedent, which required the adjudication of the CID Project's surface water claims, once more kicked the hornets' nest that is priority enforcement and also brought attention to the state's financial investment in the basin. After the settlement parties entered the PFD, the court published notice of it to potentially impacted parties, providing them with an opportunity to object to the Settlement and the proposed PFD. n325 Two parties objected that the Settlement violated state law, specifically the doctrine of prior appropriation, and the case wound its way to the New Mexico Court of Appeals. n326 The plaintiffs, one of whom was Francis Tracy's great granddaughter, n327 claimed that the Settlement and PFD violated the New Mexico Constitution n328 and the Compact n329 because it did not require "the application of New Mexico's embedded doctrine of prior appropriation to resolve the problem of chronic shortages for senior users." n330 They claimed that because of the longstanding shortages for senior CID water users, the settlement parties were "duty-bound to adhere to the prior appropriation doctrine as it has been traditionally understood and enforced, through priority [enforcement]." n331 The plaintiffs asserted that the "new river management machinery (the Settlement Agreement), . . . not only ignores priority enforcement but explicitly waives and prohibits it," n332 pointing to a Settlement provision that states CID cannot call priority unless they have a project supply below 50,000 AF. n333

The court disagreed:

> [*381] By their settlement agreement, the negotiating parties sought to cut the water shortage Gordian knot through a process more flexible than strict priority enforcement, yet still comply with the doctrine of prior appropriation. The settlement agreement and decree are constitutional and an otherwise lawful resolution of the longstanding water rights and shortages issues. n334

The court presumed that the Settlement was constitutional because the ISC acted pursuant to statutory authority, n335 and it acknowledged the importance of the Settlement: "[t]he intent and purpose of the legislation is beyond dispute--to take charge of resolving a critical situation created by the amended decree, while complying with the State's obligation to protect downstream, senior users." n336 From the statute's silence regarding strict priority enforcement and its explicit intent to seek resolution through land and water rights purchases, the court found that the legislature intended that the parties first respond to shortage and Compact compliance through negotiated settlement rather than priority call as an exclusive remedy. n337 Additionally, the court held that the New Mexico Constitution did not require priority administration as "the first and only, and thus exclusive, response to water shortage concerns." n338 Instead the court thought it "reasonable" to construe the Constitutional provisions "to permit a certain flexibility within the prior appropriation doctrine" so long as "senior water rights are supplied their adjudicated water entitlement by other reasonable and acceptable management methods." n339 As a matter of contract construction, the court found that "Article IX of the Compact 'is not invoked until New Mexico has failed to meet its delivery requirements,' and that [it] 'does not mandate priority administration and curtailment of uses [as] the only option available to New Mexico.'" n340 Significantly, the court noted that "the settlement agreement does not rule out a priority call if needed. . . ." n341

The plaintiffs also claimed that the Settlement violated New Mexico's "anti-donation clause," n342 arguing that "relieving private persons and entities of their obligations to submit to priority administration and shut down pumping 'is simply an unconstitutional "donation" of [s]tate funds to juniors . . . who are now being richly rewarded . . . for their . . . efforts to thwart priority enforcement.'" n343 The plaintiffs further argued that "the purchase of junior water rights [did] not give the State value [*382] for every dollar spent because the State pays full market value for junior rights that would have no market value were priority to be called against them as New Mexico law requires." n344

Was the plaintiffs' argument true that the settlement was "nothing more than a pay-off that saves wealthy and influential upstream farmers who have benefitted from relatively cheap water supplies from the consequences of prior appropriation enforcement"? n345 The court did not think so, reasoning that "the State receive[d] present value for its purchase, even though subsequent circumstance may diminish the value." n346 However, did the court really address the plaintiff's overarching claim? Why was the state in the business of buying tens of millions of dollars worth of water rights in the lower Pecos River basin at all? Whether the value of the water rights rises or falls does not really matter because the State can never sell those rights- New Mexico must own them in perpetuity because under the Settlement it had assumed the burden of adding water to the Pecos River. Was the Court's reasoning a little cloudy from 30,000 feet? Moreover, didn't the State chose to pay heftily for the Settlement instead of obtaining compliance with the Compact and Amended Decree for free by curtailing water uses? On the other hand, it was the State that entered into the Faustian deal in the first instance. But, even if the State erred when it entered into the compromised agreement that was the Compact, could not have Steve Reynolds spared the State all the time and money spent on the Settlement had he dealt with its Pecos River problem during his tenure?

XIV. CONCLUSION

The New Mexico Court of Appeals affirmed the Settlement, the ISC dried up 12,000 acres of farmland and constructed a mechanism to rapidly get water to the state line, and the Settlement was implemented. Crises had been averted and the models showed the basin would return to some sort of hydrologic balance. The table below shows that from the time that the Supreme Court handed down the Amended Decree, New Mexico has not had a Compact deficit; in fact, by 2010 the state had accumulated a Compact credit of 100,100 AF.

Year	Cumulative State-Line Credit/Shortfall (AF)	Annual State-Line Credit/Shortfall (AF)	CID Water Released from Storage (AF)	Total State--Line Flows (AF)
1987	15,400	15,400	NA	169,900
1988	39,000	23,600	NA	62,500
1989	41,700	2,700	NA	370,000
1990	27,600	-14,100	NA	37,200
1991	11,100	-16,500	NA	100,800
1992	22,000	10,900	15,100	125,300
1993	28,600	6,600	18,000	67,400
1994	34,500	5,900	18,200	67,600
1995	20,400	-14,100	16,600	71,100
1996	13,700	-6,700	23,600	78,400
1997	19,800	6,100	44,600	100,600
1998	21,500	1,700	21,900	67,600
1999	22,900	1,400	15,700	81,800
2000	10,600	-12,300	14,900	59,200
2001	9,900	-700	6,900	44,000
2002	6,900	-3,000	6,900	42,200
2003	8,900	2,000	5,700	23,700
2004	17,200	8,300	26,300	144,700
2005	41,200	24,000	49,900	109,300
2006	67,300	26,100	16,100	69,000
2007	92,500	25,200	17,500	71,500
2008	98,500	6,000	17,000	59,600
2009	100,100	1,600	0	46,700

[*383] However, the groundwater table has not risen, and it is still too early to quantify whether the basin is returning to hydrologic balance. The bulk of the cumulative credit occurred in the years 2005, 2006, and 2007, which were the years that the ISC had acquired CID water rights, but all of those rights went to the state line. n347 None of ISC's CID water rights were apportioned to CID until implementation of the Settlement in 2009. n348 Since implementation, state line deliveries have been rather anemic, and preliminary numbers for 2010 show a small annual shortfall. n349 Also, the hydrologic projections of the beneficial impacts of the Settlement contained in the DSS were based on the ISC's acquisition of water rights appurtenant to 17,000 acres of land, but the ISC only acquired the minimum

quantity of water rights required by the Settlement. n350 It will be interesting to see whether New Mexico can maintain its large cumulative compact credit into the future now that the Settlement is implemented.

[*384] So, what lessons can be learned from the Pecos Settlement experience, and can these lessons be applied to other basins? Several conditions certainly aided the Settlement's relative success in the lower Pecos basin: (1) the State was not experiencing the budgetary shortfall that it is today; (2) the cost of the water rights in the rural region were relatively affordable; (3) the hammer of the Amended Decree and priority enforcement strongly encouraged the collaborative solution that emerged; (4) the cause of the problem, the interconnected surface and groundwater hydrology, provided the immediate and long-term solutions; (5) stakeholders were included early on, and their representatives sold the Plan to their constituencies; and (6) strong leadership brought and held the process together. Yet, compared with other western rivers, the total annual flow of the Pecos is one or several orders of magnitude less: the Pecos flow is less than 100,000 AFY; n351 the Rio Grande flow is around 1 million AFY; n352 and the Colorado River flow is about 10 million AFY. n353 As the quantities of water increase, so too do the layers of complexity. Additionally, the lower Pecos River Basin was spared a major water crisis due to species listed under the Endangered Species Act, and it did not have to contend with large and unquantifiable tribal water rights.

Norm Gaume summed it up when he told the members of the Ad Hoc Committee at its third meeting that they "may be able to secure enough state money to bail out the Pecos, but there is not enough money to bail out similar situations in the state." n354 Perhaps therein lay the two key variables to any successful water rights settlement-most importantly is a lot of money, and next is good, strong leadership that can manage a collaborative stakeholder process and implement its final resolution. n355

Legal Topics:

For related research and practice materials, see the following legal topics:
Real Property LawWater RightsGroundwaterReal Property LawWater RightsProcedureTax LawFederal Income Tax ComputationDeductions for Amortization, Depletion & DepreciationGeneral Overview

FOOTNOTES:

n1 Phreatophytes are long-rooted plants that absorb their water from the water table or the soil above them. OXFORD ENGLISH DICTIONARY (3d ed. 2008), *available at* http://www.oed.com/view/Entry/142960?redirectedFrom=phreatophyte.

n2 Peter Lattman, *Paulson, In Memoir, Defends Bailout*, WALL ST. J., Jan. 28, 2010, *available at*: http://online.wsj.com/article/SB10001424052748703410004575029823644505984.html (quoting Henry Paulson).

n3 *Water-banking Solution Could Foster Smoother Water*, U.S. WATER NEWS, Mar. 2002, http://www.uswaternews.com/archives/arcconserv/2watban3.html.

n4 New Mexico *ex rel. Office of State Eng'r v. Lewis, 150 P.3d 375, 389 (N.M. Ct. App. 2006).*

n5 G. EMLEN HALL, HIGH AND DRY: THE TEXAS-NEW MEXICO STRUGGLE FOR THE PECOS RIVER, 54 (2002).

n6 *Id.* at 25.

n7 *Id.* at 26-27.

n8 *Id.* at 27.

n9 *Id.*

n10 *Id.*

n11 *Id.* at 29.

n12 *Id.* at 30-31.

n13 *Id.* at 35; *see also* MARC REISNER, CADILLAC DESERT: THE AMERICAN WEST AND ITS DISAPPEARING WATER, 118-24 (1986).

n14 HALL, *supra* note 5, at 36.

n15 *Id.* at 38.

n16 *Id.* With the U.S. government's intervention, "the American West quietly became the first and most durable example of the modern welfare state." REISNER, *supra* note 13, at 115.

n17 HALL, *supra* note 5, at 38.

n18 *Id.* at 39.

n19 *Id.* at 40.

n20 *Id.* at 39.

n21 *Id.* at 39-40.

n22 *Id.* at 40.

n23 *See* Act of Aug. 11, 1939, Pub. L. No. 699, § 7, *53 Stat. 1414, 1417* (discussing the history and inception of Alamogordo Dam and Reservoir and authorizing the construction of Alamogordo Dam and Reservoir).

n24 Alamogordo Dam and Reservoir was later renamed Fort Sumner Dam and Reservoir.

n25 HALL, *supra* note 6, at 55.

n26 *Id.* at 54.

n27 *Id.*

n28 *Id.* at 57.

n29 John Longworth & John Carron, *Surface Water Hydrology of the Pecos River*, *in* WATER RESOURCES OF THE LOWER PECOS REGION, NEW MEXICO: SCIENCE, POLICY, AND A LOOK TO THE FUTURE, 20 (N.M. Bureau of Geology and Mineral Res. ed., 2003), *available at* http://geoinfo.nmt.edu/publications/decisionmakers/2003/DecisonMakers2003.pdf.

n30 *Id.*

n31 *See id.* at 11.

n32 Longworth, *supra* note 29, at 20-22. *See* Clifford N. Dahm, et al., *Gulf Coast Rivers of The Southwestern United States*, *in* RIVERS OF NORTH AMERICA 181, 186 (Arthur C. Benke & Colbert C. Cushing eds., 2005).

n33 Map of the Pecos River watershed in New Mexico showing locations of irrigation districts and various hydrologic features. John W. Shomaker, *How We Got Here: A Brief History of Water Development in the Pecos Basin*, *in* WATER RESOURCES OF THE LOWER PECOS REGION, NEW MEXICO: SCIENCE, POLICY, AND A LOOK TO THE FUTURE, 62 (N.M. Bureau of Geology and Mineral Res. ed., 2003), *available at* http://geoinfo.nmt.edu/publications/decisionmakers/2003/DecisonMakers2003.pdf.

n34 Peggy Barroll & John Shomaker, *Regional Hydrology of the Roswell Artesian Basin and the Capitan Aquifer*, *in* WATER RESOURCES OF THE LOWER PECOS REGION, NEW MEXICO: SCIENCE, POLICY, AND A LOOK TO THE FUTURE, 23 (N.M. Bureau of Geology and Mineral Res. ed., 2003), *available at* http://geoinfo.nmt.edu/publications/decisionmakers/2003/DecisonMakers2003.pdf.

n35 Longworth, *supra* note 29, at 20-21.

n36 Barroll, *supra* note 34, at 24.

n37 *Id.*

n38 *Id.*

n39 *Id.* at 25.

n40 *Id.*

n41 *Id.*

n42 *Id.* at 21.

n43 *Id.* at 23.

n44 *Id.* at 23, 25.

n45 *Id.* at 25.

n46 HALL, *supra* note 5, at 55.

n47 *Id.*

n48 *Id.* at 61.

n49 *Id.* at 55-56 (alterations in original).

n50 *Id.* at 56.

n51 *Id.* at 57.

n52 *Id.* at 57.

n53 Act of June 9, 1949, ch. 184, *63 Stat. 159 (1949).*

n54 U.S. CONST. art. I, § 10, cl. 3; Act of June 9, 1949, ch. 184, *63 Stat. 159 (1949).*

n55 Jerome C. Muys, George William Sherk & Marilyn C. O'Leary, *Utton Transboundary Resources Center Model Interstate Water Compact*, 47 NAT. RESOURCES J. 17, 21 (2006).

n56 Charlotte Benson Crossland, Note, *"Breach" of an Interstate Water Compact: Texas v. New Mexico*, 28 NAT. RESOURCES J. 849, 852 (1988).

n57 *Id.*

n58 *N.M. STAT. ANN. § 72-15-19* (West 2010). The Compact defines the "1947 condition" as "that situation in the Pecos river basin as described and defined in the report of the engineering advisory committee." Article VI provides that New Mexico's delivery obligation be calculated by the Inflow-Outflow Method.

n59 HALL, *supra* note 6, at 65.

n60 *Texas v. New Mexico, 462 U.S. 554, 557-58 (1983).*

n61 *Id. at 558.*

n62 HALL, *supra* note 5, at 59.

n63 *Id.* at 60.

n64 *Texas v. New Mexico, 482 U.S. 124, 127 (1987).*

n65 Crossland, *supra* note 56, at 857.

n66 *Id.* at 856.

n67 *Texas v. New Mexico, 462 U.S. 554, 560 (1983).*

n68 *Id. at 560-61.*

n69 HALL, *supra* note 5, at 70.

n70 *See id.* at 70-71.

n71 *Id.*

n72 *Id.* at 61.

n73 *Id.*

n74 *Id.*

n75 *Id.* at 60.

n76 *Id.*

n77 *Id.*

n78 *Id.*

n79 *Id.*

n80 *See id.* at 65-66.

n81 *Id.* at 71.

n82 *Id.* at 71-72.

n83 *Id.* at 72; Bruce Frederick, *Salvaged Water: The Failed Critical Assumption Underlying the Pecos River Compact*, 33 NAT. RESOURCES J. 217, 227-28 (1993). Possible reasons that the salt cedar eradication did not result in additional water is: 1) other vegetation replaced the salt cedar and continued to use water; 2) new salt cedar replaces the older salt cedar, and like a growing child requires a lot of water; and 3) the salt cedar had shaded the river and compensated for some of its depletions by diminishing evaporative losses. Conversation with Bhasker Rao, March 29, 2011 [hereinafter Conversation with Bhasker Rao]; Conversation with John Whipple, March 29, 2011 [hereinafter Conversation with John Whipple].

n84 HALL, *supra* note 5, at 67.

n85 *Id.* at 71.

n86 *Id.* at 102.

n87 *Id.* at 103.

n88 *Id.* at 105.

n89 *Id.* at 128-29.

n90 Reynolds' power is exemplified by the fact that during his tenure when a proposed law impacting water administration came for a vote at New Mexico's legislative session, Reynolds would stand in the balcony with a thumb up or down, and the lawmakers would vote accordingly.

n91 *Id.* at 120.

n92 *Id.* at 119.

n93 *Id.* at 120.

n94 Pecos River Compact, New Mexico-Texas, June 9, 1949, art. IX, *available at* http://wrri.nmsu.edu/wrdis/compacts/Pecos-River-Compact.pdf.

n95 HALL, *supra* note 5, at 124; *see also Albuquerque v. Reynolds, 739 P.2d 73 (N.M. 1962).*

n96 HALL, *supra* note 5, at 125.

n97 *Id.* Or, perhaps Reynolds' failure to conjunctively administer water was due to a belief that New Mexico's Pecos Compact delivery obligations were based on flawed science and that they were unfavorable and unfair to his State.

n98 "The Pecos Valley Artesian Conservancy District (PVACD) was created by Order of the District Court of Chaves County, New Mexico, on January 11, 1932. The district was created to conserve the waters of the Roswell-Artesian Basin, including the lands within the Basin located in both Chaves and Eddy Counties." *About Us*, PECOS VALLEY ARTESIAN CONSERVANCY DISTRICT, http://pvacd.com/index.php?option=com_content&view=article&id=47&Itemid=59 (last visited Mar. 22, 2011).

n99 HALL, *supra* note 5, at 120.

n100 *Id.*

n101 *Id.* at 126. *See Templeton v. Pecos Valley Artesian Conservancy Dist., 332 P.2d 465, 467-69 (N.M. 1958).*

n102 *See Templeton, 332 P.2d at 467-69.*

n103 HALL, *supra* note 5, at 127.

n104 *Id.*

n105 *Id.*

n106 *Id.* at 128.

n107 *Id.*

n108 *Id.*

n109 *See Texas v. New Mexico, 462 U.S. 554, 561-62 (1983).*

n110 *Id.*

n111 *Id.*

n112 *Id.*

n113 HALL, *supra* note 5, at 128; Statement 4(b) - *Pecos River Commission Administrative History at 28-30, Texas v. New Mexico, 462 U.S. 554 (1983)* (No. 65).

n114 *Texas v. New Mexico, 462 U.S. at 562;* U.S. CONST. art. III, § 2, cl. 2; *28 U. S. C. § 1251* (2006).

n115 *Texas v. New Mexico, 462 U.S. at 562.*

n116 *Id.*

n117 HALL, *supra* note 5, at 136.

n118 *Texas v. New Mexico, 462 U.S. at 575.*

n119 *See id. at 559.*

n120 *See id. at 562.*

n121 *Id.*

n122 HALL, *supra* note 5, at 146.

n123 *Id.* at 147; *see generally Texas v. New Mexico, 446 U.S. 540 (1980).*

n124 HALL, *supra* note 5, at 161.

n125 *Id.* at 162.

n126 *Id.* at 174-75.

n127 *See generally id.* at 164-96.

n128 *See id.* at 188-89.

n129 *Id.* at 175.

n130 *See generally id.* at 196.

n131 *Id.* at 198.

n132 *Texas v. New Mexico, 485 U.S. 388, 389-90 (1988).*

n133 *Id. at 391.*

n134 1997-1998 ANNUAL REPORT, INTERSTATE STREAM COMMISSION (1998), *available at* http://www.ose.state.nm.us/publications/97-98-annual-report/interstate.htm.

n135 *Texas v. New Mexico, 485 U.S. at 391.*

n136 *Id. at 393.*

n137 *Id. at 392.*

n138 Conversation with Bhasker Rao.

n139 The Pecos River Master Manual, Appendices, 27, July 28, 2003, *available at* http://www.ose.state.nm.us/PDF/ISC/ISC-Compacts/Pecos/pecos_river_master_manual.pdf.

n140 HALL, *supra* note 5, at 198.

n141 *Id.* at 197.

n142 *Id.* at 198-99.

n143 Conversation with John Whipple; Conversation with Bhasker Rao.

n144 Reynolds had proposed this plan in 1976 to prevent CID from making a priority call on the river. At that time, the additional water would have gone to satisfy water short CID rather than the Compact. *See generally* HALL, *supra* note 5, at 199.

n145 HALL, *supra* note 5, at 200.

n146 *Id.* at 201.

n147 *Id.* at 201-02.

n148 Interstate Stream Engineer John Whipple, "Options for New Mexico to Meet its Pecos River Delivery Obligation to Texas Under the U.S. Supreme Court's 1988 Amended Decree in Texas v New Mexico," 1 (December 11, 1990).

n149 HALL, *supra* note 5, at 205-06.

n150 *Id.* at 206.

n151 *Id.* at 203.

n152 *See id.* at 203-04.

n153 *Id.* at 204.

n154 *Id.*

n155 *Id.* at 209.

n156 *Id.* at 206.

n157 *Id.* at 214.

n158 New Mexico Office of the State Engineer, *New Mexico Needs a Plan to Address Possible Net Delivery Shortfall on the Pecos River*, WATERLINE, Dec. 7, 2001, *available at* http://www.ose.state.nm.us/publications/waterlines/wl-fall-2001/pg02-nm-plan.html.

n159 *Id.*

n160 *Id.*

n161 *See id.* (addressing the issue of dealing with a possible delivery shortfall).

n162 *See generally id.* (explaining that the delivery departures are computed by the River Master).

n163 *See* Ad Hoc Pecos River Basin Comm., Draft Summary of Meeting No. 1 (July 26, 2001) (stating that the Committee was to reach a consensus proposal that would "be less damaging . . . than strict priority administration") (on file with author).

n164 *Id.*

n165 *See id.*

n166 G. Emlem Hall, *Priority on the Pecos*, *in* WATER RESOURCES OF THE LOWER PECOS REGION, NEW MEXICO: SCIENCE, POLICY, AND A LOOK TO THE FUTURE 60 (N.M. Bureau of Geology and Mineral Res. ed., 2003).

n167 Ad Hoc Pecos River Basin Comm., Summary of, Meeting No. 2, 5 (Aug. 9, 2001) (on file with author).

n168 Ad Hoc Pecos River Basin Comm., Draft Summary of Meeting No. 1 (July 26, 2001) (on file with author).

n169 Ad Hoc Pecos River Basin Comm., Summary of Meeting No. 8 (Nov. 29, 2001) (on file with author); *Water Official Retiring at End of Year*, The ASSOCIATED PRESS STATE & LOCAL WIRE, Dec. 26, 2002.

n170 Had the Office of the State Engineer attempted to curtail water users in CID, which is a federal project, the State would have met strong federal resistance. Conversation with Chris Rich, Solicitor for the Intermountain Region Office of the Solicitor, on January 27, 2011.

n171 The New Mexico Office of the State Engineer, *New Mexico Needs a Plan to Address Possible Net Delivery Shortfall on the Pecos River*, WATERLINE, Dec. 7, 2001 , *available at* http://www.ose.state.nm.us/publications/waterlines/wl-fall-2001/pg02-nm-plan.html.

n172 Ad Hoc Pecos River Basin Comm., Summary of Meeting No. 2 (Aug. 9, 2001) (on file with author).

n173 *Id.*

n174 Reese Fullerton, *Building Consensus: A Plan for Long-term Management*, *in* WATER RESOURCES IN THE LOWER PECOS REGION, NEW MEXICO: SCIENCE, POLICY, AND A LOOK TO THE FUTURE, 110 (N.M. Bureau of Geology and Mineral Res. ed., 2003).

n175 Ad Hoc Pecos River Basin Comm., Summary of Meeting No. 3 (Sept. 6, 2001) (on file with author).

n176 Ad Hoc Pecos River Basin Comm., Summary of Meeting No. 2 Aug. 9, 2001) (on file with author).

n177 Ad Hoc Pecos River Basin Comm., Draft Summary of Meeting No. 1 (July 26, 2001) (on file with author). Also, the lower Pecos River basin regional water plan was completed and identified as a potential tool.

n178 *Id.*

n179 *Id.*

n180 *Id.*

n181 Ad Hoc Pecos River Basin Comm., Summary of Meeting No. 2 (Aug. 9, 2001) (on file with author).

n182 *Id.*

n183 *Id.*

n184 Ad Hoc Pecos River Basin Comm., Summary of Meeting No. 8, 3 (Nov. 29 2001) (on file with author).

n185 *Id.*

n186 *Id.*

n187 *Id.*

n188 *Id.*

n189 *N.M. STAT. ANN. § 72-1-2.3* (West 2010).

n190 Ad Hoc Pecos River Basin Comm., Summary of Meeting No. 4 (Sept. 19, 2001) (on file with author).

n191 *Id.*

n192 *Id.* (explaining, for example, that the ISC staff distributed two draft news releases as requested by the Committee).

n193 *See generally id.*

n194 *Id.*

n195 The New Mexico Office of the State Engineer, *Plain Truths*, http://www.ose.state.nm.us/PDF/ISC/ISC-Compacts/Pecos/plain_truths_2.pdf, (last visited Mar. 22, 2011).

n196 Ad Hoc Pecos River Basin Comm., Summary of Meeting No. 3 (Sept. 6, 2001) (on file with author).

n197 Ad Hoc Pecos River Basin Comm., Summary of Meeting No. 6 (Oct. 25, 2001) (on file with author).

n198 Ad Hoc Pecos River Basin Comm., Summary of Meeting No. 11 (Jan. 16, 2002) (on file with author).

n199 Ad Hoc Pecos River Basin Comm., Summary of Meeting No. 6 (Oct. 25, 2001) (on file with author).

n200 Ad Hoc Pecos River Basin Comm., Summary of Meeting No. 3 (Sept. 6, 2001) (on file with author).

n201 Ad Hoc Pecos River Basin Comm., Summary of Meeting No. 7 (November 4, 2001) (on file with author).

n202 Ad Hoc Pecos River Basin Comm., Summary of Meeting No. 6 (Oct. 25, 2001) (on file with author).

n203 Ad Hoc Pecos River Basin Comm., Summary of Meeting No. 7 (Nov. 12, 2002) (on file with author).

n204 *Id.*

n205 *See* Ad Hoc Pecos River Basin Comm., Summary of Meeting No. 8, 4 (Nov. 29, 2001) (on file with author).

n206 Ad Hoc Pecos River Basin Comm., Summary of Meeting No. 8, 4 (Nov. 29, 2001) (on file with author).

n207 Ad Hoc Pecos River Basin Comm., Summary of Meeting No. 10 (Dec. 20, 2001) (on file with author).

n208 *Id.*

n209 Ad Hoc Pecos River Basin Comm., Summary of Meeting No. 11 (Jan. 16, 2002) (on file with author).

n210 *Id.* at 3.

n211 *Id.* at 4.

n212 *Id.* at 5; Ad Hoc Pecos River Basin Comm., Summary of Meeting No. 8, 3 (Nov. 29, 2001) (on file with author).

n213 *Id.* at 4.

n214 *Id.*

n215 *Id.* at 6.

n216 *Id.* at 5

n217 *Id.*

n218 Ad Hoc Pecos River Basin Comm., Resolution (Jan. 16 2002) (on file with author).

n219 *Id.*

n220 *Id.* at 2.

n221 *Id.* at 3.

n222 *Id.*

n223 *See* Ad Hoc Pecos River Basin Comm., Summary of Meeting No. 8 (Nov. 29, 2001) (on file with author) (stating that Gaume presented the "concept that one-time state funding [was] needed to implement the final plan" to the Water and Natural Resources Committee).

n224 Ad Hoc Pecos River Basin Comm., Summary of Meeting No. 6 (Oct. 25, 2001) (on file with author).

n225 *See id.*

n226 Ad Hoc Pecos River Basin Comm., Summary of Meeting No. 8 (Nov. 29, 2001) (on file with author).

n227 Ad Hoc Pecos River Basin Comm., Summary of Meeting No. 10 (Dec. 20, 2001) (on file with author).

n228 Ad Hoc Pecos River Basin Comm., Summary of Meeting No. 12 (Feb. 5, 2002) (on file with author).

n229 2002 N.M. Laws 508 (appropriating $ 10 million), *available at* http://www.nmlegis.gov/Sessions/02%20Regular/FinalVersions/house/Hb0089s.html; 2002 N.M. Laws 692-693 (appropriating $ 30 million), *available at* http://www.nmlegis.gov/Sessions/02%20Regular/FinalVersions/house/HB451s.html.

n230 *See* Fullerton, *supra* note 174, at 110.

n231 *N.M. STAT. ANN. § 72-1-2.4 (C)* (West 2011).

n232 Fullerton, *supra* note 174, at 110. One curious requirement added by the legislature was that the ISC's water rights acquisitions may include the purchase of the lands to which they were appurtenant. N.M. STAT. ANN. § 72-l-2.4(B).

n233 *Id.*

n234 JOHN CARRON, NEW MEXICO INTERSTATE STREAM COMMISSION, PECOS RIVER ADJUDICATION SETTLEMENT NEGOTIATIONS: MODEL EVALUATION OF PROPOSED SETTLEMENT TERMS 1 (2003).

n235 *Id.*

n236 *Id.* at 3.

n237 *Id.* at 3-4.

n238 *Id.* at 3.

n239 *Id.* at 2.

n240 *Id.*

n241 *Id.* at 4-5.

n242 *Id.* at 20-21.

n243 *Id.* at 10.

n244 *Id.* at 15.

n245 *Id.* at 16.

n246 *Id.* at 18.

n247 *Id.*

n248 *See* HALL, *supra* note 5, at 175.

n249 CARRON, *supra* note 234, at 20.

n250 *Id.* at 12.

n251 N.M. OFFICE OF THE STATE ENG'R, INTERSTATE STREAM COMM'N, 2008-09 ANNUAL REPORT 63 (Karin Stangil ed., 2010), http://www.ose.state.nm.us/PDF/Publications/AnnualReports/08-09-annual-rpt.pdf (last visited Mar. 22, 2011).

n252 Settlement Agreement between the State of N.M. *ex rel.* the State Engineer, N.M. Interstate Stream Comm., the U.S., Dept. of the Interior, Bureau of Reclamation, Carlsbad Irrigation Dist., Pecos Valley Artesian Conservancy Dist., 1 (Mar. 25, 2003), http://www.ose.state.nm.us/PDF/ISC/ISC-Compacts/Pecos/settlement_03-25-2003.pdf (last visited Mar. 22, 2011) [hereinafter Settlement Agreement].

n253 *Id.* at 2-3.

n254 *Id.* at 10-11.

n255 *Id.* at 13.

n256 State *ex rel. Office of State Eng'r v. Lewis, 150 P.3d 375, 380 (N.M. Ct. App. 2006).*

n257 *Id.*

n258 Settlement Agreement, *supra* note 252, at 3.

n259 *See generally* MARK HUFSTETLER & LON JOHNSON, NAT'L PARK SERVICE, WATERING THE LAND: THE TURBULENT HISTORY OF THE CARLSBAD IRRIGATION DISTRICT 113-28 (Gregory D. Kendrick ed., 1993), *available at* http://www.nps.gov/history/history/online_books/rmr/0/chap8.htm.

n260 Partial Final Decree at 6, State *ex rel.* Office of State Eng'r v. Lewis, Nos. 20294, 22600, (N.M. Dist. Ct. 2003) *available at* http://www.ose.state.nm.us/isc_pecos_carlsbad_project.html (follow "Pecos River - Carlsbad Project Partial Final Decree" hyperlink).

n261 *Id.* at 3.

n262 *Id.* at 4.

n263 *Id.* at 5-6. Additionally, the Settlement provided for the acquisition of up to 1,000 acres of land in the Fort Sumner area.

n264 CARRON, *supra* note 234, at 4, 19.

n265 Settlement Agreement, *supra* note 252, at 3.

n266 N.M. Interstate Stream Comm'n, Request for Bids to Purchase Lands with Appurtenant Water Rights or Rights to the Delivery of Water in the Pecos River Basin, 2 (Dec. 2002) (on file with author).

n267 *Id.* at 7.

n268 *Id.* at 2.

n269 *Id.* at 6.

n270 *Id.* at 7.

n271 Lower Pecos River Basin Comm., Draft Summary of Meeting No. 22, at 3 (May 20, 2003).

n272 *Id.*

n273 Joe L. Harth, Market Study Irrigated Land Values: Roswell Underground Water Basin, Chaves & Eddy Counties, New Mexico (Aug. 1, 2003) (on file with author).

n274 *Id.* at 6.

n275 Memorandum from Rebecca King to Tanya Trujillo 4 (Aug. 5, 2004) (on file with author).

n276 *Id.*

n277 *Id.* at 5.

n278 *Id.*

n279 *See* State *ex rel. Office of State Eng'r v. Lewis, 150 P.3d 375, 380 (N.M. Ct. App. 2006).*

n280 *See* N.M. OFFICE OF THE STATE ENG'R, INTERSTATE STREAM COMM'N, 2008-09 ANNUAL REPORT 60 (Karin Stangil ed., 2010), http://www.ose.state.nm.us/PDF/Publications/AnnualReports/08-09-annual-rpt.pdf (last visited Mar. 22, 2011) (stating that the ISC leased land back to original owners to reduce management costs).

n281 *See generally id.* at 29, 32 (stating that the ISC has performed field inspections on several properties).

n282 *N.M. STAT. ANN. § 72-1-2.6(A)* (West 2010).

n283 *Id.* § 72-1-2.6(B)(3).

n284 Settlement Agreement, *supra* note 252, at 2.

n285 *Id.* at 13-14.

n286 *See id.* at 12.

n287 Draft Artesian Basin Well Field Augmentation Pumping Study, 1 (March 6, 2003) (on file with author).

n288 *Id.* at 5.

n289 *Id.*

n290 *Id.*

n291 *Id.*

n292 Bhasker Rao, Draft Evaluation of Alternative Options for Augmentation Well Fields 1 (Feb. 26, 2004) (on file with author).

n293 *Id.* at 2.

n294 *Id.* at 1.

n295 *Id.*

n296 *Id.*

n297 *See id.* at 5.

n298 Augmentation Well Field Agreement 2 (April 10, 2006) (on file with author).

n299 *Id.* at 1.

n300 Ad Hoc Pecos River Basin Comm., Resolution (Dec. 5, 2001) (on file with author); Press Release, Pecos Valley Artesian Conservancy District, Pecos Valley Artesian Conservancy District's Actions Seek to Protect and Conserve the Surface and Ground Water of Southeastern New Mexico, *available at* http://pvacd.com/index.php?option=com_content&view=article&id=55&Itemid=65.

n301 *See generally* Steve Bogener, *Carlsbad Project, Project History*, RECLAMATION: MANAGING WATER IN THE WEST (1993), http://www.usbr.gov/projects/Project.jsp?proj_Name=Carlsbad%20Project&pageType=ProjectHistoryPage (last visited Mar. 23, 2011).

n302 Ad Hoc Pecos River Basin Comm., Resolution (Dec. 5, 2001) (on file with author).

n303 *See* Press Release, Pecos Valley Artesian Conservancy District, Pecos Valley Artesian Conservancy District's Actions Seek to Protect and Conserve the Surface and Ground Water of Southeastern New Mexico, *available at* http://pvacd.com/index.php?option=com_content&view=article&id=55&Itemid=65. While developing the augmentation well fields the ISC overcame many obstacles. For example, the contractor for the Lake Arthur well field and pipeline decided to lay the pipeline above ground to test it before burying it, but failed to include any exhaust holes, so when they turned it on, the entire pipeline flattened.

n304 *See* Settlement Agreement, *supra* note 252, at 13.

n305 *Id.* at 8-9.

n306 *Id.* Individual CID irrigators receive their surface water deliveries based on an allotment, which is determined based on existing surface water supplies in CID reservoirs.

n307 Jim McCord, *Pecos River Decision Support System: Application for Adjudication Settlement and River Operations EIS* sec. 2.3 (2004).

n308 *Id.*

n309 Settlement Agreement, *supra* note 252, at 7.

n310 *Id.* at 8.

n311 *Id.*

n312 *Id.*

n313 *Id.* at 9.

n314 *Id.*

n315 *Id.*

n316 *Id.* at 9-10.

n317 *Id.* at 11.

n318 *Id.*

n319 *Id.*

n320 *Id.*

n321 *Id.* at 12.

n322 *Id.* at 13.

n323 *Id.* at 14. In addition to the Conditions Precedent discussed above, Reclamation and the CID were obligated to take the necessary steps in compliance with Federal Reclamation Law so that the ISC could continue leasing CID water, and Reclamation was required to complete all necessary environmental compliance under the National Environmental Policy Act and the Endangered Species Act. *Id.* at 3-4.

n324 *See generally Pecos River Settlement Implemented*, SOUTHWEST HYDROLOGY, Jan/Feb. 2010, 16, *available at* http://www.swhydro.arizona.edu/archive/V9_Nl/dept-government.pdf.

n325 *See* Settlement Agreement, *supra* note 252, at 3.

n326 State *ex rel. Office of State Eng'r v. Lewis, 150 P.3d 375 (N.M. Ct. App. 2006).*

n327 It seems ironic that the complainant charging that the Settlement amounted to a bailout was a descendant of the person who obtained a substantial federal bailout for his project over a hundred years earlier.

n328 *Lewis, 150 P.3d at 382.* The New Mexico Constitution states: "Priority of appropriation shall give the better right." N.M. CONST. art. XVI § 2.

n329 *N.M. STAT. ANN. § 72-15-19* (West 2010). Article IX of the Compact states: "In maintaining the flows at the New Mexico-Texas state line required by this compact, New Mexico shall in all instances apply the principle of prior appropriation within New Mexico."

n330 *Lewis, 150 P.3d at 382.*

n331 *Id. at 383.*

n332 *Id.*

n333 *Id. at 383-84.*

n334 *Id. at 385.*

n335 *Id.*

n336 *Id.*

n337 *Id.*

n338 *Id. at 386.*

n339 *Id.*

n340 *Id.* (quoting the district court below).

n341 *Id. at 388.*

n342 N.M. CONST. art. IX, § 14.

n343 *Lewis, 150 P.3d at 389.*

n344 *Id.*

n345 *Id.*

n346 *Id.*

n347 *Id.*

n348 *Id.*

n349 *See generally Pecos River Compact: 2010 Projections*, N.M. OFFICE OF THE STATE ENG'R, http://www.ose.state.nm.us/isc_pecos_settlement_accounting.html (last visited Mar. 22, 2011).

n350 N.M. OFFICE OF THE STATE ENG'R, INTERSTATE STREAM COMM'N, 2008-09 ANNUAL REPORT 60 (Karin Strangil ed., 2010), http://www.ose.state.nm.us/PDF/Publications/AnnualReports/08-09-annual-rpt.pdf (last visited Mar. 23, 2011)

n351 *See* PECOS VALLEY WATER USERS ORGANIZATION, LOWER PECOS WATER PLAN, EXECUTIVE SUMMARY, *available at* http://www.balleau.com/materials/PecosSWPExecSummary.pdf.

n352 *See generally Rio Grande Flow/Reservoir Conditions*, INT'L BOUNDARY AND WATER COMM'N, http://www.ibwc.gov/Water_Data/Reports/RG_Flow_data.html (last visited Mar. 22, 2011).

n353 *See generally* THE COLORADO RIVER COMPACT AND THE SAN-JUAN CHAMA PROJECT, http://www.lwvnm.org/Water/SJCBackground.pdf (last visited Mar. 22, 2011).

n354 Ad Hoc Pecos River Basin Comm., Summary of Meeting No. 3, 2 (Sep. 6, 2001).

n355 Norm Gaume retired in 2003, just before the legislature approved funding for the Plan and the parties executed the Settlement Agreement. Estevan L[#xF3]pez succeeded Mr. Gaume and can be credited with overseeing the implementation of the Settlement. Bhasker Rao served as Pecos River Basin Manager for the ISC from 1997 through 2009, and was the only state person involved through the entire settlement process -- from initial efforts to form a committee of water users; to development of a consensus plan; to seeking legislative funding and negotiating the settlement; and finally to implementation of the Settlement. Greg Lewis succeeded Dr. Rao and is responsible for complying with the Settlement's provisions.

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