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THE FOREST SERVICE, WATER YIELD, AND COMMUNITY STABILITY: DEFINING THE CONTOURS OF AN AGENCY COMMITMENT TO INCLUDE LAND GRANT COMMUNITIES IN THE TIMBER MANAGEMENT PROCESS

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From summer rain to spring corn snow, water falls on the highlands of northern New Mexico. Throughout the summer, melting winter snowpack and monsoon deluge saturate the sod of subalpine forested slopes, infiltrating the layers of pulverized granites and gneisses below. Gravity and montane contour unite to direct groundwater and surface runoff down slope into stream beds. Thereafter, the incipient streams swell, plunging downward, gouging canyons and valleys. Emerging from the upland watersheds, the streams pass through cultivated bottom lands between rolling hills of pinion and juniper, eventually finding their way to the Rio Grande. Aside from scarce annual precipitation in the lower semi-arid elevations, these streams ultimately provide the sustaining waters to New Mexico's human communities.

While camped along the Rio Grande during the 1880s, John Wesley Powell discerned the interrelationship between the river’s arterial streams and the life ways of the ancient Pueblo and Hispanic communities of the Rio Arriba. Powell had previously come to understand aridity as the immutable fact of life west of the 100th Meridian. But in New Mexico, the connection between surface water and the cultural and political institutions of la gente vieja imprinted itself upon Powell's evolving conception of a western society tailored to regional environmental realities.¹

The anomalous Powell, a hybrid frontiersman and self-educated scientist, devoted nearly
half his life to the formulation of a rational plan for the final surge westward of Anglo American empire. Eschewing the prevailing township and range gridiron, Powell’s 1878 Report on the Lands of the Arid Region of the United States and later Irrigation Surveys proposed a settlement pattern based upon watersheds or “hydrographic basins.” Reflecting the environmental reality of western aridity, Powell’s paradigm envisioned economies, planning, and laws tailored to the peculiarities of the local resource base—a kind of watershed democracy in which communities would retain the authority to manage local irrigation projects and protect upland forests to maximize limited resources. In contrast to the prevailing policy of random land disposal under the Homestead Act and its progeny, Powell’s proposal was perhaps the first federal public land policy founded upon a concern for community stability.

Powell’s plan died ingloriously in the Senate Committee on Irrigation. In 1890, Washington could not harmonize scientific reality with a public lands policy founded on mythic notions of individualism and garden utopias, entrepreneurial economics, graft and venality. Yet, Powell’s ideas did not go completely unheeded. Ironically, within seven years of his resignation, profligate overgrazing and logging in the West’s forested uplands would force the federal reservation of the National Forests under the Organic Administrative Act of 1897.

By identifying the critical link between the health of mountain watersheds and the needs of downstream irrigators, the Organic Act reflected concerns voiced years earlier in Powell’s surveys. The Act directed the management of reserved, upland watersheds for the twin purposes of “securing favorable conditions of water flows, and to furnish a continuous supply of timber for the...citizens of the United States....” Yet, the Act’s mandate for watershed conservation diverged from Powell’s plan in at least two critical aspects. First, it divided control over
watershed resources between state and federal government coterminous with the boundaries of each forest reserve. Second, by aggregating all aspects of forest management within the Department of the Interior (later passed to the Department of Agriculture), the Organic Act prospectively severed local communities’ control of upland range, timber, and water resources. Thereafter, the Forest Service commenced watershed management on behalf of, rather than in conjunction with, downstream communities. The Organic Act’s invocation of federal hegemony over upland resources was largely a response to the localized ecological-and ultimately social-effects of the tragedy of the commons. Thus, despite downstream communities’ consequent exclusion from control of up and resources, the Organic Act nonetheless voiced a Division of Forestry (later renamed the Forest Service) commitment to community stability.

By the 1940s, however, the Forest Service had committed itself nationwide to the singular oxymoronic goal of maximum output sustained yield forestry. The notion of an explicit agency commitment to community stability only resurfaced in 1976 with passage of the National Forest Management Act (NFMA).7 NFMA vivified the community stability goal by providing broad guidelines for comprehensive land management plans and public participation in the forest level planning process.8 Furthermore, after decades of myopic management focused almost solely upon maximum yield timber extraction, NFMA sought to realign Forest Service resource management with local economic and social needs through a general policy of agency comity with state and local governments.9

Today, the Forest Service pursues these objectives on each National Forest through Land Resource Management Plans (LRMPs or “Forest Plans”). Each LRMP provides long range direction for Forest Service management of an individual “unit,” or forest, under the rubric of
“multiple use”. The plan directs both forest wide and site-specific allocation for such uses as timber harvesting, grazing, mining, and recreation. NFMA preserved the Forest Service hallmark of broad discretion by allowing the agency the flexibility to shape the LRMP around environmental, economic, local and national demands unique to each individual forest.

Ironically, though NFMA revived an agency commitment to shaping certain aspects of forest management to the needs of forest-dependent communities, it merely reinforced the agency’s existing policy in northern New Mexico. Indeed, from the outset, the Organic Act’s stream flow directive and the broader goal of providing a national supply of timber had complimentary social and ecological results in northern New Mexico. Sustained yield forestry and a sharp reduction in sheep grazing eventually quelled the most devastating manifestation of nineteenth century watershed mismanagement: flooding caused by rampant over cutting and overgrazing.

The NFMA-mandated LRMPs are just another template for implementing the existing agency commitment to the well being of northern New Mexico Hispanic communities. The Carson and Santa Fe National Forest plans, for example, identify the principal objective for each forest as multiple use management which contributes to the economic and social needs of rural Hispanic communities dependent on forest resources. Accordingly, the agency purports to tailor the Carson and Santa Fe forest planning process to the region’s unique cultural and environmental exigencies. Yet, despite this explicit commitment to community stability, the Forest Service’s own countervailing national and local mandates for resource management, in tandem with fragmented state and federal control over certain resources, currently prevent the realization of that goal.
This essay probes the limits of the Forest Service’s regional community stability policy by examining a community destabilizing effect of Forest Service timber management in upland watersheds: a reduction in the yield of surface water to downstream, acequia-based land grant communities caused by fire suppression in the Carson, Cibola and Santa Fe National Forests.

Powell’s fear of fragmented control over watershed resources and the implications for upland resource-dependent communities have apparently come to fruition in this contemporary ecological, legal and political quagmire. Recent scholarship has echoed Powell’s concern by criticizing the Forest Service’s exclusion of land grant communities from the timber management process. These land grant communities downstream from the Pecos Wilderness, explains one author, are “twice removed from a land-use practice that profoundly affects their current lives,” meaning they have no input into either timber management decisions which affect their ancient irrigation practices or wilderness policies which emphasize non-economic or recreational values.

Furthermore, neither state or federal water law appear to address the hydrological and legal dilemma confronting the land grant communities. Conceived during the nascent stage of hydrological science, New Mexico’s law of prior appropriation attaches to surface water only after it reaches a “channel having definite banks and bed.” Similarly, the unintended hydrological effects of timber management practices appear too attenuated from intentional surface water diversion to involve federal reserved water rights. As this legal-scientific disjunction persists, Forest Service timber management practices increasingly impair the acequia communities’ access to water for irrigation.

Given the Organic Act’s substantive mandate to preserve stream flow for downstream
users, as well as the Forest Service’s explicit “recognition that the way of life of...rural residents [of northern New Mexico] is...directly affected by the management of [National] Forest lands,” how should the agency respond to this divergence of forest management objectives and local community needs?" In the absence of a legal solution, one must look to both legal and bureaucratic precedent in order to forge some type of comity between the Forest Service and land grant communities.

This essay follows a coextensive chronological and legal spectrum to cobble together an assortment of nineteenth-century “rights” and forest management era “privileges” as vestiges of a centuries-old, watershed-based settlement pattern akin to that envisioned by John Wesley Powell. In the aggregate, these vestigial rights and privileges provide an equitable precedent for integrated watershed management. Rather than forge a legal nexus between the grants’ “water rights” based on intentional diversion of surface water and the incidental effects of Forest Service timber management practices, these rights and privileges militate for an obligation to include these communities in timber management decisions which affect their access to surface water for irrigation.

The case of the Las Huertas-La Jara Ditch Association of Placitas, New Mexico, illustrates how the reduction in basin yield of surface water presently hampers the irrigation needs of several northern New Mexico acequia communities. This ditch association diverts water from the perennial Las Huertas Creek in the Sandia Mountains of the Cibola National Forest. Association members grow beans, chilies and alfalfa on one hundred irrigated acres. The ditch association presently claims a duty of over 400 acre feet of water, but a 1991 study estimates their proper duty at 313 acre feet. However, the same study revealed that during the
peak irrigation months of May through October the ditch received only 253 acre feet of water.\textsuperscript{23} Indeed, available supply in June and July was less than half the duty.\textsuperscript{24} Other acequia communities have also experienced a substantial decrease in surface water yield from mountain streams.\textsuperscript{25}

This reduction in basin yield represents more than impairment of a water right. Many land grant communities still practice some vestige of their traditional subsistence pattern based on acequia irrigation of individual plots or “varas,” though less so in Placitas due to changing local demography. To these communities, the acequia represents more than a conduit for delivering the sustaining resource. It binds the community together through ancient, collective maintenance obligations. Thus, by impeding the land grants’ ability to practice acequia-based irrigation, Forest Service timber management practices may hasten their cultural erosion as well.

The reduction in available surface water to these acequia communities stems largely from the longstanding Forest Service practice of fire suppression. Consistent with a commercial forestry mind set, the agency has suppressed fires, large and small, since reservation of northern New Mexico’s National Forests.\textsuperscript{26} In some areas of the Carson National Forest, no major forest fires have occurred for over 90 years.\textsuperscript{27}

This practice affects forest ecology. Historically endemic drought and high incidence of lightning during the summer monsoon season once made fire a natural component of Southwestern forest ecosystems.\textsuperscript{28} Low intensity fires and periodic large burn-offs reduced the understory in ponderosa pine forests and opened park-like meadows in higher elevation spruce-fir forests.\textsuperscript{29} In the absence of fire’s natural thinning effect, the volume of timber or “basal area” increased radically throughout the twentieth century.\textsuperscript{30} Consequently, homogeneous “dog hair”
stands of spruce and fir now blanket much of the Carson and Santa Fe National Forests, and these thicker forests consume more water.

In hydrological terms, evapotranspiration and plant interception of precipitation reduce infiltration and recharge of hillslope aquifers, resulting in less surface water in down slope streams. Thus, the size and density of forest within a watershed significantly impacts stream flow because of the large volume of water required by vegetation for evapotranspiration. Hydrological studies attribute a thirty percent surface water reduction in several key Sangre de Cristo watersheds to massive basil area increase in the wake of fire suppression.

The Southwestern Region of the Forest Service has long understood the hydrological connection between increases in forest basil area and reductions in stream flow. Throughout the 1960s, the agency developed techniques to counter this hydrological phenomenon, through the application of thinning, strip and patch cutting, or clearcutting on a massive scale. This essay does not advocate the use of these aesthetically repugnant and ecologically disastrous means for increasing streamflow. Indeed, the Endangered Species Act of 1973 and recent Ninth Circuit case law likely prevent their future application.

Rather, this essay proposes a less industrial approach to timber management than presently evinced by the lingering Forest Service practice of fire suppression. The agency should use prescribed burning and natural fires within certain upland watersheds to decrease fuel load, slow down plant secession, thereby increasing surface water yield concomitant with the restoration of the National Forests to a healthier, more historic ecology. Furthermore, the agency should openly acknowledge basin yield increase as a timber management goal.

Complicating this goal is the location of most of these watersheds within the Pecos and
Sandia Wilderness Areas. Wilderness status requires the Forest Service to manage these watersheds pursuant to the Wilderness Act of 1964, which substantially limits the range of available timber management options. For instance, the Forest Service may not practice commercial timber harvesting within wilderness boundaries. However, explicit language in the Wilderness Act may nonetheless require the Forest Service to manage timber on the Santa Fe, Cibola, and Carson to increase water yield to downstream land grant communities, as well as other municipalities.

Section 1133(a)(1) of the Act dictates that wilderness status and its concomitant range of uses shall not interfere with the purpose for which national forests were established under the Organic Act of 1897. Read as whole, the Wilderness Act implicitly vitiates the Organic Act’s management directive for sustained yield timber harvesting on national forest lands redesignated as wilderness areas. However, the Wilderness Act does not address the Organic Act’s goal of securing favorable flows for downstream users. Accordingly, the Forest Service may be required to harmonize management of the Pecos and Sandia Wilderness Areas with this goal.

At a minimum, case law interpretation of the Act suggests that the Forest Service retains ample discretion to manage timber within these wilderness areas for the express purpose of increasing stream flow. At least one decision identifies the Wilderness Act’s grant of broad agency discretion to cut timber within a wilderness area if forest conditions in the wilderness pose a serious threat to adjacent private property. Similarly, the Act allows discretionary controlled burning and nonsuppression of natural fires.

The Forest Service has recently responded to concerns over declining forest health by developing Prescribed Fire Plans for the Pecos and Manzano Mountain Wilderness Areas, as
well as the Apache Kid Wilderness in the isolated San Mateo Range. No such plans presently exist for the Sandia Mountain Wilderness or the Wheeler and Latir Wilderness Areas within the Carson National Forest. The Forest Service has ignited a few small fires in the Manzano and Apache Kid Wilderness Areas, but none in the Pecos or Sandia Wilderness Areas. Unfortunately, acequia communities' access to surface water is most profoundly affected by forest overgrowth in these latter two areas.

Under the Wilderness Act, the Forest Service may implement fire management within wilderness areas when consistent with the nebulous goal of preserving their "wilderness character," and achieving the "...public purposes of recreational, scenic, scientific, educational, conservation, and historical use...." Accordingly, the Pecos Wilderness Prescribed Fire Plan presents a narrow list of ecological and recreation-oriented purposes for natural and controlled use of fire. Increasing surface water yield to acequia districts is not among those express purposes.

The Forest Service increasingly defers to recreational interests in the scope of National Forest and wilderness management in northern New Mexico, and heavy recreational use is the primary impediment to prescribed burning in the Pecos and Sandias. In the wake of prescribed or natural fires in upland watersheds, soil instability and vegetation recharge require the closure of those areas to recreational access; sometimes for several years. Rivers like the Rio de las Truchas which supply downstream acequias arise in upland basins also receive substantial recreational use. Thus, burning in these watersheds pits irrigators' interests directly against those of hikers and campers.

However, case law and broad judicial deference to Forest Service discretion suggest that
the agency can harmonize downstream land grant communities' irrigation needs with the prevailing non-economic goals for timber or fire management in the Sandia and Pecos Wilderness Areas. Nonlegal considerations also support this balance. From both a historical and ecological perspective, the Wilderness Act's management directives for the Pecos Wilderness Fire Plan appear ambiguous, if not absurd. In northern New Mexico, the concept of "wilderness management" is utterly oxymoronic when contrasted with the Act's definition of wilderness as an area "retaining its primeval character...with the imprint of man's work substantially unnoticeable...." By this definition no wilderness area in northern New Mexico should qualify for protection under the Act. On the contrary, these areas demand intensive management precisely because of man's indelible imprint upon forest ecosystems within their boundaries, whether from overgrazing during the nineteenth century or fire suppression since long before--and after--wilderness designation. In light of these historical and environmental ironies of wilderness management in New Mexico, the notion of controlled burning for the express purpose of increasing basin yield appears much less contentious.

Regardless of whether managing timber within a wilderness area for the benefit of land grant communities comports with a prima facie interpretation of the Wilderness Act, these communities may retain certain nineteenth-century rights of access to watershed resources within wilderness areas. These rights are vestigial and inchoate at best. Yet, they nonetheless provide a precedent for a unique locally focused approach to wilderness management in northern New Mexico which recognizes both the grants' historic connection to upland watersheds and their equitable right to a sustained yield of surface water for traditional acequia-based agriculture.
First, the federal government should recognize its obligation to respect in some manner the community land grants’ pre-territorial Spanish and Mexican water rights. The origins of such an obligation reside primarily in the language of the Treaty of Guadalupe-Hidalgo between the United States and Mexico which provided that property belonging to Mexican citizens (both Pueblo and non-Indian) in New Mexico would be “inviolably respected” by the new sovereign, and that these citizens would be “maintained and protected in the free enjoyment of their liberty and property.” The United States never imposed the organic treaty as a self-executing political document upon its existing body of law. Consequently, Mexican property rights were not ratified by the treaty but by subsequent Congressional action.

In adjudicating the real property rights of Hispanic New Mexicans, in particular those of the land grant communities, the Surveyor General and the Court of Private Land Claims purported respect for the rights accorded the former Mexican citizens by the Treaty of Guadalupe-Hidalgo. Yet, these congressional instruments ignored the United States’ obligation under the acquired rights doctrine of international law. As a result, imposition of the common law framework over the panoply of Spanish and Mexican property rights effected the eventual alienation of most land grant lands. Ultimately, Congress only confirmed and patented the individual grantees’ irrigable, stream side strips of land, or “varas,” and added all communal “ejido” land to the federal public domain. These ejidos now comprise many upland watersheds in the Carson, Santa Fe and parts of the Cibola National Forest.

The Treaty of Guadalupe-Hidalgo and subsequent enabling legislation made no explicit provision for the transfer of Spanish or Mexican water rights into territorial New Mexico. Consequently, the Supreme Court held in Boquillas Land and Cattle Company v. J.N. Curtis that
Congressional patents granted pursuant to the Treaty created no new water right. Thus, confirmed land grants acquired water rights under territorial law, or retained water rights granted by the laws of the antecedent sovereigns. Justice Holmes explained in *Boquillas* that the existence of an Arizona territorial water code required the plaintiff to acquire water rights for the confirmed grant under the territorial law of prior appropriation. In reaching this conclusion, Justice Holmes superficially touched upon Spanish and Mexican law in order to establish a pre-territorial precedent for the application of the prior appropriation doctrine. However, he failed to discern those features which distinguished pre-territorial water rights from prior appropriation rights. Ironically, New Mexico courts' recent attempts to respect these rights in some form have spawned substantial historical scholarship in this area.

Legal historians split over the nature of water rights created by Spanish and Mexican law, with the scholarly debate focused on whether water rights inhered by virtue of either grant or use. Scholars generally agree that Justice Holmes was at least correct in his conclusion that under both Spanish and Mexican law, riparian rights to surface water did not automatically attach to ownership of the adjacent land. Rather, as an estate separate from title to the land, water rights required some separate conveyance by the sovereign. One group of legal historians argue that the law of the antecedent sovereigns required an explicit grant in order to transfer these water rights to private ownership concomitant with title to land. A second group suggests that lands granted for a particular purpose, notably agriculture, carried an implied right to use sufficient quantity of water to meet that purpose. Finally, a third group of historians lobby for the proposition that water rights bestowed by the antecedent sovereigns derived not from explicit or implied governmental grant, but from customary use.
In any case, most scholars agree on one critical characteristic of pre-treaty water use in preterritorial New Mexico: equitable or proportionate distribution of water was the principle objective of Spanish and Mexican water law. Accordingly, the preservation of community water supplies presented the major consideration in allowing a specific diversion. Any user’s priority right to water under an explicit grant was tempered by the potential harm or inequitable distribution in the community affected by that user’s diversion. This policy adhered within communities—Pueblo or Mexican—and between separate communities on the same river system. Thus, despite the existence of water rights inhering in privately owned lands, Spanish and Mexican law essentially rendered these rights usufructuary. They were usufructuary in the sense that though granted appurtenant to land for the purpose of irrigation, they remained non-vested to protect an equitable share for the community at large.

This form of non-fixed water right based on equitable apportionment found its common law analog in the “Winters Doctrine” of federal reserved Indian water rights. Because the Pueblos received title to their lands under Spanish and Mexican law, Congress patented existing Pueblo titles pursuant to the Treaty of Guadalupe-Hidalgo. Thus, Congress never reserved Pueblo lands like other Indian reservations, and the Winters Doctrine never governed Pueblo water rights. However, during the 1970s and 1980s, the Tenth Circuit Aamodt decisions created the functional equivalent of Winters by retroactively construing a federal reserved Pueblo water right.

The Aamodt court modeled this federal reserved Pueblo water right after the Pueblos’ pre-territorial Spanish and Mexican water rights. The court’s reasoning focused on federal obligations to the Pueblos under the 1851 Non-Intercourse Act, but its searching inquiry into the
nature of the Pueblo water rights under Spanish and Mexican unwittingly illuminated the virtually identical status of community land grants’ pre-territorial water rights. Thus, the Aamodt decisions are intriguing for the questions they raise about a federal obligation to respect non-Indian water rights granted under Spanish and Mexican law.

The Aamodt litigation revolved around an adjudication of Pueblo and non-Indian water rights on the ephemeral Tesuque, Pojoaque and Nambe Rivers. In New Mexico v. Aamodt, the Tenth Circuit Court of Appeals rejected the State of New Mexico’s argument that the state law of prior appropriation attached to Pueblo lands. The court then remanded to the district court the task of determining what law did apply. Before remanding the case, the Court of Appeals also ruled that pursuant to the Treaty of Guadalupe-Hidalgo the United States agreed to protect rights recognized by the prior sovereigns, “whatever those rights may have been.” Furthermore, the court explained that these rights were validated by the 1858 Act confirming the Pueblos’ land claims in fee. By this narrow reasoning, the United States retains the same obligation to protect non-Indian grantees’ pre-territorial property rights confirmed by the same Act as the Pueblo lands.

On remand, the District Court of New Mexico held first that the Treaty of Guadalupe-Hidalgo specifically protected Pueblo acreage under irrigation in 1846. The court then followed Spanish and Mexican law to hold that water rights to this acreage were based upon equitable apportionment, and could expand in response to need. In reaching his decision, District Court Judge Mechem relied on conclusions of law provided by the Special Master. These conclusions illustrated the similitude of Pueblo and community land grant water rights under Spanish and Mexican law.
The Special Master determined that the Pueblos shared with community land grants the same status of municipalities under Spanish law. The Special Master determined that water disputes between Pueblos and non-Indians were settled no differently than between non-Indians. Finally, and perhaps most significantly, the Special Master determined that Mexican law afforded no preference or priority to Pueblo irrigation needs. Rather, the competing needs of all water users were considered and allocation made on the basis of relative need. In sum, the Special Master’s conclusions of law painted the entire scheme of Spanish and Mexican water law in New Mexico as one based on equitable apportionment between Pueblo and non-Indian land grant communities.

The District Court’s holding only spoke to the nature of Pueblo water rights derived from the antecedent sovereigns. Yet, the court’s conclusion that the Treaty of Guadalupe-Hidalgo reserved Pueblo water rights appurtenant to all acreage under irrigation in 1846 appears to contradict the Supreme Court’s holding in Boquillas that patents granted pursuant to the Treaty conveyed no water right. Indeed, if the Treaty’s broad language which merely purported to respect the property rights of “Mexican citizens” recognized a pre-territorial Pueblo water right, then should the federal government similarly respect pre-territorial water rights on non-Indian lands granted by the antecedent sovereigns?

If confronted with this issue today, a court would likely apply the body of federal-Indian trust jurisprudence to distinguish post-treaty Pueblo water rights from those of the land grants. Indeed, Aamodt marked the terminus of a line of cases, commencing with United States v. Sandoval, which brought the Pueblos under the cloak of federal Indian trust protection.
remand, the District Court explained that rights of occupancy to Pueblo lands derived initially from aboriginal title which preceded Spanish and Mexican law. Thus, the Treaty of Guadalupe-Hidalgo merely protected whatever Pueblo title had vested under the antecedent sovereigns. However, the District Court then retroactively construed the 1851 Trade and Intercourse Act to invoke federal protection of a water right subsumed within this Pueblo right of occupancy. However, the 1851 Act merely established federal trust protection for the water right which the Treaty of Guadalupe-Hidalgo already recognized, and as previously discussed, the court looked to Spanish and Mexican law to determine the nature of that protected water right. In the end, Aamodt invoked federal protection for one-half of a virtually co-equal Pueblo and Hispanic water right under the antecedent sovereigns. But because Aamodt supplemented federal treaty with Indian trust obligations to the Pueblos, citing Aamodt as support for a pre-treaty, land grant water right protected by Article VIII of the Treaty of Guadalupe-Hidalgo would likely fail.

Nonetheless, the court’s conclusion that the Treaty of Guadalupe-Hidalgo conveyed a pre-territorial water right to the Pueblos suggests, at a minimum, that the federal government has an equitable obligation to respect the land grants’ pre-territorial water rights in some manner. These rights buttress land grant communities’ historical claim to permanent use of upland resources ensconced within wilderness areas. A Forest Service commitment to manage upland watersheds for downstream land grants’ irrigation needs would provide a contemporary avatar and political acknowledgment of these communities’ pre-territorial right to an equitable share of water. Furthermore, including land grant communities within the decision making process for timber management in each watershed would further acknowledge their pre-territorial right of
access to watershed resources.

Assuming land grant water rights fall solely under the New Mexico law of prior appropriation, timber management-induced reductions in surface water to community acequias may vitiate another form of nineteenth century right. The grants’ ancient networks of ditches and headgates which capture streamflow on National Forest or Wilderness property may constitute rights-of-way under Section 9 of the 1866 Mining Act. As Section 9 rights-of-way, the acequias and headgates would, essentially, extend the reach of state water law into the National Forest coterminous with the physical structures themselves. However, the attenuated connection between timber management practices and incidental reductions in the volume of surface water flowing through these rights-of-way probably does not constitute water right impairment as contemplated by the New Mexico Surface Water Code and attendant case law. Rather, if the ditches are rights-of-way, the crucial inquiry is whether wilderness management rises to the level of regulation of the ditches in the manner of an instream flow requirement, and if so, whether this regulation is reasonable.

Section 9 of the 1866 Mining Act provided for the construction of ditches, pipes and flumes upon the public domain for the purpose of diverting water for mining, agricultural, manufacturing or other beneficial uses. Ironically, Congress never intended Section 9’s application to New Mexico acequia districts, having passed the Act in an attempt to facilitate the diversion of water from the public domain for hydraulic mining in the nineteenth-century mining districts of California. The 1866 Act did not grant a federal water right, but rather recognized the application of customary, territorial or state water law to these rights-of-way created by Section 9. These rights were self-initiating. Thus, a right-of-way for irrigation works
constructed on the public domain vested when the user acquired a water right for any purpose recognized by the applicable local law.\textsuperscript{93} The Federal Land Use Policy Management Act\textsuperscript{94} (FLPMA) repealed the Act in 1976, but left intact rights previously vested under the Act.\textsuperscript{95} Whether these rights of way presently inhere in the acequias requires an inquiry into the nature of the acequia communities’ water rights under territorial law, as well as the history and use of the ditches and headgates since that time.

Contemporary acequia districts hold their water rights under the state law of prior appropriation.\textsuperscript{96} The General Laws of the New Mexico Territory never explicitly declared the territory’s adherence to the prior appropriation, or “Colorado Doctrine.” Yet, courts recognized prior appropriation as the settled law of the territory, and the General Laws of New Mexico codified some elements of the doctrine.\textsuperscript{97} For instance, the General Laws declared all rivers and streams public waters open to appropriation.\textsuperscript{98} The General Laws also allowed private parties or communities to construct acequias to divert these waters for beneficial use.\textsuperscript{99} The “first in time-first in right” tenet of the prior appropriation doctrine never explicitly entered the General Laws. Nonetheless, under the General Laws the act of appropriation imbued the appropriator with the right to that water. Thus, the land grant communities earned a water right under territorial law by using the acequias to irrigate their varas as they had under Spanish and Mexican sovereignty. In the case of a community acequia, the ditch itself, having been constructed by the joint labor of all the water users, became a co-tenancy,\textsuperscript{100} while the right to divert water vested in the several parties.\textsuperscript{101} The extremely early priority dates for most of the contemporary land grant acequia associations and their individual members validate the existence of these water rights under territorial law.\textsuperscript{102} These valid pre-1907 water rights likely fulfill the first requirement for a right-
of-way under the 1866 Mining Act by demonstrating a valid water right under local law or custom within the Act's temporal span.103

Several land grant communities have long maintained headgates and ditches within National Forest or Wilderness boundaries.104 These conduits may constitute rights-of-way under the Act if they predate the reservation of the National Forest, and have not deviated from their course since FLPMA's enactment in 1976.105 Courts narrowly construe the scope of a Section 9 right-of-way to determine whether the claimed right-of-way deviates from that which might have vested under the Act.106 So if, for instance, the acequia district rerouted the ditch's alignment after 1976 in order to improve water flow, the ditch may lie outside of the vested right-of-way, thereby falling solely under FLPMA regulation by the Forest Service.107 However, the right-of-way can only be eliminated through judicial proceedings.108 So, theoretically the acequia association could avoid FLPMA regulation by restoring the ditch to its original course.

Assuming compliance with the 1866 Act, what would these extant rights-of-way afford to the land grants? As noted previously, the acequia communities currently have no remedy under state law. However, to the extent that state water law attaches to these rights-of-way, the state legislature remains free to craft a specific statute addressing timber management-induced impairment of water rights which use these rights-of-way as diversions. Indeed, such a statute may currently be in the nascent stage.109 In the interim, the critical legal and political import of these rights-of-way may lie within the agency regulatory structure as a check on certain timber management practices.

The Forest Service may impose "reasonable regulations" on water users' pre-FLMPA rights-of-way in order to protect the public interest.110 Just what constitutes reasonable
regulation of these rights-of-way is abstruse. The Tenth Circuit has held that improvements to such rights of way may trigger the National Environmental Policy Act’s impact statement requirement.\textsuperscript{111} However, Department of Interior regulations prohibit agency administration of these rights-of-way from reducing the rights conferred by the original grant.\textsuperscript{112} The Forest Service must administer pre-FLPMA rights-of-way pursuant to these regulations.\textsuperscript{113} Accordingly, to the extent that acequia communities received these rights-of-way free of regulation, they might argue that significant regulation is prohibited. Timber management-induced reductions in stream flow may indeed rise to the level of unreasonable regulation. Yet, the presently ill-defined scope of Forest Service regulatory power over pre-FLPMA rights-of-way prevents any accurate prediction on this legal argument’s likelihood of success.

Nonetheless, the Forest Service must consider the possibility that these rights-of-way exist. Apparently in denial of this potential right, the agency currently requires acequia associations to obtain FLPMA special use permits for all ditches and headgates on National Forest and wilderness land.\textsuperscript{114} Valid rights of way under the 1866 Act would obviate the need for such permits. The agency should also consider that these rights-of-way create real property interests as well as water rights, and their impairment could conceivably rise to the level of a compensable taking.\textsuperscript{115}

Whether or not Section 9 rights-of-way provide any substantive restraint on timber management policy, they are nonetheless a legal—albeit inadvertent—acknowledgment of one facet of the land grants’ much broader connection to upland resources within the national forests. Like potential treaty rights, Section 9 rights-of-way are another fragment of the vestigial replica of these communities’ land use pattern. They provide an historical and equitable, if not
legal, foundation for the land grants' claim of permanent access to forest resources; in this case, a right to a sustained yield of surface water. Thus, such rights' greatest value may come from their reification within the bureaucratic forest management process. Minus their legal import, these ancient right retain political significance, and thus provide guideposts for an equitable forest management policy directed at rural Hispanic community stability.

Beyond these rights, a series of land use "privileges" in the guise of regional agency policy point to an evolving agency commitment to community stability in northern New Mexico. Clearly, when pasted together, these policies represent the agency's attempt to preserve some simulacrum of the land grants' traditional, pre-territorial subsistence pattern. Some of these policies provide bureaucratic precedents for the implementation of a community-focused and community-inclusive timber management scheme for the Pecos and Sandia Wilderness Areas.

In 1972, the Regional Forester for the Southwestern Region, William D. Hurst issued a series of memoranda to forest managers on the Carson and Santa Fe National Forests. Hurst identified a crisis in Forest Service-Hispanic community relations generated by a legacy of cultural and political defeat, and ingrained local distrust of the agency. Hearst's memorandum was largely a response to the 1966 “occupation” of a Forest Service campground near Tierra Amarilla led by Reis Lopez de Tijerina and members of the Alianza Federal de Mercedes. However, the memoranda also voiced concern for these communities as threatened cultural and historical resources of great value. In response to this political and cultural debacle, Hurst urged forest managers to envision their mission in New Mexico as uniquely devoted to these land grant communities' economic and social needs. In the context of forest management, Hurst explained that this commitment required consideration of land grants as resources "in
much the same sense as Wilderness.”120 Thus, in following the multiple use balancing scheme, forest managers were to accord these communities substantial weight.

As a template for community-focused forest management, the Hurst memoranda have become an enduring policy statement. Hurst’s exhortation to weigh heavily toward land grant communities’ resource-related needs even permeates contemporary resource management on the Pecos Wilderness, though not in timber management. Since wilderness designation, the Forest Service has continued to balance grazing with non-economic uses and preservationist goals.

Today, community livestock associations still graze a small number of cattle on several allotments distributed throughout the wilderness.121 Though control over these allotments resides solely in federal hands, the Forest Service at least consults with the livestock associations in drawing up allotment plans.122 The Forest Service’s commitment to providing continued local access to wilderness range resources would seem to suggest a similar sense of agency commitment to these communities’ continued access to other resources, principally a sustained yield of water. Indeed, in the absence of sufficient water for irrigation, the traditional subsistence pattern breaks down, rendering moot the agency’s stated commitment to cultural preservation.

The Vallecitos Federal Sustained Yield Unit (VFSYU) presents the most obvious precedent for an interactive process of community and Forest Service timber management. Conceived as a lingering New Deal exercise in social engineering, the Forest Service sought by means of the Federal Sustained Yield Management Act of 1944123 to transform the languishing Hispanic villages of Vallecitos, Petaca and Canon Plaza into the functional equivalent of Oregon logging towns.124 Under the Act, the Forest Service established a “Sustained Yield Unit” on 73,400 acres in the San Juan Highlands of the Carson National Forest.125 Thereafter, the unit
evolved into a self-contained “salvage” bureaucracy within the local Forest Service management scheme. On the unit, the Forest Service hoped to apply intensive sustained yield management to provide year round timber-related employment and a consistent local supply of timber for the three communities. However, the environmental realities of a semi-arid climate converged with the Forest Service’s paternalistic, commercially-oriented mindset, as well as an entrenched local culture, to render the unit an functional failure throughout most of its history.

In retrospect, the history of the VFSYU may look like the chronicle of a failed Forest Service attempt at community focused timber management. Yet, the VFSYU’s turbulent history is germane to resolution of the present crisis in timber management and water yield reduction on the Pecos Wilderness. First, the monumental amount of time and money expended upon the VFSYU evinces an extraordinary Forest Service commitment--albeit largely misguided—to the economic stability of rural Hispanic communities. Similarly, the VFSYU is also structurally significant in a bureaucratic sense because the agency cannot abolish the unit without the consent of the local communities. Thus, the agency and the communities remain inexorably intertwined in a mutualistic timber management relationship. Indeed, community owned forest products cooperatives have recently demanded, and gained, economic control of the unit. Obviously, the specific timber management tenets of the VFSYU are inapplicable to either the Pecos or Sandia Wilderness. Furthermore, the statutory pastiche of the Multiple Use Sustained Yield Act, NFMA and the Wilderness Act preclude forest managers outside the VFSYU from such predominant emphasis on logging. Nonetheless, the VFSYU is a paragon of agency commitment and community involvement in timber management decisions.

The acequia communities downstream from the Pecos and Sandia Wilderness Areas

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want simultaneously much less and much more than what the Forest Service has delivered in Vallecitos. In Vallecitos, the agency has consistently conciliated locals in the face of incendiary community meetings, mill fires, strikes and virtual race wars, and ultimately acquiesced to essentially local co-management of the unit. In contrast, all the communities along the Pecos Wilderness boundary want is some manner of input into timber management decisions which affect their yield of surface water. However, because their request necessarily entails a realignment, however modest, in the particulars of wilderness management, it awakens other interests, regional and national, and is ultimately transmogrified into a politically contentious issue. It should not be.

As vestiges of an ancient land use regime based on upland watershed resources, potentially inhering treaty rights and rights-of-way combine with existing Forest Service policies to evidence an ongoing pattern of federal recognition of this regime, piece by piece, through the unwieldy vehicle of federal public lands law. In the aggregate, these rights and privileges produce a conclusion which exceeds the sum of its parts: a Forest Service obligation, whether legal or political, to manage these wilderness watersheds, in part, for the resource needs of the land grant communities.

Any agency attempt to act upon this obligation must survive the politically charged arena of the forest management scoping process, where an identified local interest in wilderness timber management will no doubt trigger the argument that such a private interest clashes with the Wilderness Act’s designated public and conservation uses. In the rhetoric of public lands politics, every interest seeks to appropriate the term “public interest,” so as to convince others that they speak for the body politic. Yet the terminology belies the fact that every mode of land
use, whether grazing or recreation, constitutes a private right in the public lands. Thus, public lands politics is unavoidably about competing private interests.\textsuperscript{131} Today, the Forest Service manages the Pecos Wilderness with a substantial preference for recreational use. This preference should be appropriately recognized for what it is: a private bias in wilderness management. Ironically, this bias is so strong, that it eclipses equally catholic purposes for wilderness designation, such as conservation; thus, preventing prescribed burning to the ultimate detriment of wilderness ecosystems.

On both a political and aesthetic level, the ability to harmonize community-focused watershed management with the orthodox rubric of wilderness values will require forest managers, and those in opposition, to realign their conception of wilderness. They must understand that wilderness in northern New Mexico is no longer an ecological or geographic reality but a social and legal construct. They must also embrace a holism which acknowledges an omnipresent human role in shaping the uplands of northern New Mexico’s wilderness areas. This holism requires one to eschew the rigidly dualistic falsehood of viewing non-human nature as commencing on the other side of a fence. It also requires the ability to come upon a headgate high in the Pecos Wilderness and view it not as an intrusion into pristine nature by the temporal human world, but as a paragon of an enduring relationship between human communities and non-human nature. Finally, it requires acceptance of the historical reality that the headgate was probably there when the surrounding environs represented a true geography of solitude rather than an ersatz, paper wilderness.
NOTES


2. WORSTER, supra note 1, at 139.

3. See Id.

4. See Id. at 138-42.


8. 16 U.S.C. sec. 1604(I)


10. See USDA FOREST SERVICE, SANTA FE NATIONAL FOREST PLAN 1 (1986)[hereinafter Santa Fe Plan]; 16 U.S.C. sec 1604(I); 36 C.F.R. sec. 219.10(e), (g) (1994).

11. See WILLIAM DEBUYS, ENCHANTMENT AND EXPLOITATION: THE LIFE AND HARD TIMES OF A NEW MEXICO MOUNTAIN RANGE 226-234 (1985). By the early twentieth century, so much of the Sangre de Cristo high country had been burned, logged or overgrazed that snow melted earlier and more rapidly, discharging massive volumes of water and silt into the Rio Grande via mountain streams. Consequently, the upper and middle Rio Grande experienced numerous catastrophic floods throughout the first half of the twentieth century.

12. See SANTA FE PLAN, supra note 10, at 17.

13. Id.

15. Id.


18. Id.

19. UNIVERSITY OF NEW MEXICO DEPARTMENT OF PUBLIC ADMINISTRATION, LAS HUERTAS CREEK: EVALUATING A REQUEST TO TRANSFER WATER RIGHTS FROM THE MENAUL SCHOOL TO THE PRESBYTERY CONFERENCE CENTER 37 (1991) [hereinafter Las Huertas].

20. Id.

21. Id. The duty is the amount of water required to irrigate a particular crop within a specified time frame, usually a year. Thus, quantification of the duty is key to determination of beneficial use within the prior appropriation system of water rights. The Las Huertas-La Jara Association’s duty was determined using the Blaney-Criddle Formula for estimating consumptive use of irrigated crops in the semi-arid portions of the United States. See also GOULD GEORGE A. & DOUGLAS L. GRANT, CASES AND MATERIALS ON WATER LAW 32 (5th ed. 1995).

22. Las Huertas, supra note 19, at 37.

23. Id. at 38.

24. Id. at 37.

25. See Hall, supra note 14, at 93. Professor Hall’s historical overview of the relationship between the villagers of Cundiyo and the Forest Service on watershed resource issues presents anecdotal evidence of reduction in available surface water to Cundiyo irrigators.

26. See DEBUYS, supra note 11, at 289.

27. See Lee Wilson, Surface Water Inventory: Taos, San Juan and Santa Clara Pueblos 0-5 (April 1983)( On file with the Bureau of Indian Affairs, Contract No. M00C14203512) [hereinafter Wilson]. Wilson studied the historical water yields from the upper Rio Hondo watershed in the Carson National Forest.

28. See DEBUYS, supra note 11, at 290-92.

29. Id.

30. The basal area in the upper Rio Hondo watershed is estimated to have increased by 23 percent from 1973 to 1974. See Wilson, supra note 27, at 0-5.
31. Las Huertas, supra note 2, at 29.

32. Id. This study estimated that a one percent increase in evaporation transpiration within the Las Huertas watershed could account for a reduction of more than ten acre feet of surface water in Las Huertas Creek.

33. See Wilson, supra note 27, at 0-7. Wilson's study found a thirty percent reduction in basin yield on the Rio Hondo over a forty-three year period. The Forest Service also conducted a similar study on the Santa Fe Municipal Watershed enclosed largely within the Pecos Wilderness on the Santa Fe National Forest. This study indicated an approximately thirty percent reduction in surface water yield from the Santa Fe River over a seventy-four year period. The author was unable to procure a copy of this report, but Forest Service related the results anecdotally. Interview with Steve McWilliams, Watershed Director of the Santa Fe National Forest (Mar. 31, 1997) [hereinafter McWilliams].

34. See, e.g., Symposium, Water Yield in Relation to Environment in the Southwestern United States, Southwestern and Rocky Mountain Division of the American Association for the Advancement of Sciences 6-14 (1960); USDA FOREST SERVICE, WATERSHED MANAGEMENT IN THE ROCKY MOUNTAIN SUBALPINE ZONE: THE STATUS OF OUR KNOWLEDGE 13-19 (1975).


37. USDA FOREST SERVICE, DECISION NOTICE: FINDING OF NO SIGNIFICANT IMPACT AND ENVIRONMENTAL ASSESSMENT OF THE PECOS WILDERNESS PRESCRIBED FIRE PLAN, CARSON AND SANTA FE NATIONAL FOREST (1988) [hereinafter Pecos Fire Plan]. Excepting a goal of increased basin yield, the Pecos fire plan states the ecological goals listed in the text as the primary purpose for controlled burning in the Wilderness Area.


41. 16 U.S.C. section 1133(b),(c).

42. Sierra Club v. Lyng, 694 F. Supp. 556 (D.D.C. 1987). Following the preparation of an EIS, the court construed section 1131(d) of the Wilderness Act to allow the minimal timber harvesting to control the spread of bark beetles from the area to the detriment of neighboring property.

43. 16 U.S.C. 11131(d)(1). See Minnesota Public Interest Research Group v. Butz, 401 F. Supp. 1276 (D.C. Minn. 1975), rev'd on other grounds, 541 F. 2d 1292, stay denied, 97 S.Ct. 347, 429 U.S. 935, 50 L.Ed.2d 304, cert. denied, 97 S.Ct. 1340, 430 U.S. 922, 51 L.Ed.2d 601 (Evidence that prescribed burning as method of replicating nature was consistent with the fact that Wilderness Area was a fire dependent ecosystem sufficient to show that use of prescribed burning did not violate Wilderness Act).


45. Interview with Doug Shaw, Director Watershed and Air Quality, USDA Forest Service Southwestern Region (Mar. 18, 1991)[hereinafter Shaw].

46. 16 U.S.C. section 1311(c). The Act recognizes ‘wilderness’ as

...[a]n area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain...[W]ilderness is further defined to mean...an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man’s work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation....


49. Id.

50. Id. See also DEBUYS, supra note 11, at 293-300. The Sandia Mountain unit of the Cibola National Forest is managed almost entirely for recreation.

52. 16 U.S.C. section 1131(c).


54. Id. at art. VIII-IX. Though removed prior to ratification, Article X of the Treaty stated in pertinent part, “All grants of land made by the Mexican government or by competent authorities...shall be respected as valid, to the same extent that the same grants would be valid if the said territories had remained within the limits of Mexico.” See Charles T. DuMars & Malcolm Ebright, Problems of Spanish and Mexican Land Grants in the Southwest: Their Origin and Extent 12, (197x)(on file with author)[hereinafter DuMars].


56. The acquired rights doctrine sets forth the obligation of a country to protect the property rights of citizens under the vanquished antecedent sovereign. See DuMars and Ebright, supra note 54, at 31. See also Ely v. United States, 171 U.S. 220, 223 (1898) (“[I]n harmony with the rules of international law, as well as with the terms of treaties of cession, the change of sovereignty should work no change in respect to rights and titles.”)

57. The Congressional grant confirmation process forced Mexican land owners to shoulder the burden of validating their title. See Klein, supra note 55, at 217. Furthermore, the Supreme Court’s common law construction of Mexican real property rights effected the loss of most land grant communal lands by returning these lands to the public domain. See United States v. Sandoval, 167 U.S. 278 (1897).


59. Id.

60. Id. at 343.

61. New Mexico recognized the Mexican “Pueblo Rights” doctrine for over thirty years before determining that this municipal water right never existed under Spanish or Mexican law. Cartwright v. Public Service Co., 66 N.M. 64, 343 P.2d 654 (1958). The New Mexico Court of Appeals rejected the doctrine in State ex. rel. Martinez v. City of Las Vegas, 118 N.M. 257, 880 P.2d 868 (Ct. App. 1994)


63. Id.
64. Id. See also MICHAEL MEYER, WATER IN THE HISPANIC SOUTHWEST 115-31 (1983).

65. See Hall, supra note 62, at 32.

66. Id. at 33.


71. Id. at 996.

72. The origins of the Aamodt case lie in the State Engineer’s attempt to adjudicate the waters of the Tesuque stream system between Indian and non-Indian users. The Pueblos sought to intervene in their own right and to have their right of use determined under the law of the United States. The district court denied their right to intervene and determined that New Mexico law would establish their right. The Pueblos appealed to the Tenth Circuit Court of Appeals which held in State of New Mexico v. Aamodt, 537 F.2d 1102 (10th. Cir. 1976) that the Pueblos were entitled to intervene, and to have their water right determined under United States law. The case was then remanded to the district court.


74. 537 F.2d at 1116.

75. Id. at 1111.

76. Id.

77. Id.

78. 618 F. Supp. at 1009.

79. Id.

80. Id. at 997.

81. Id.

82. The Special Master concluded that:
Under Mexican law, repartimientos did not give any preference, or prior and paramount interest, to Indian irrigation needs; instead, the competing needs of all water users were taken into account and allocations made on the basis of relative needs. By definition, the repartimiento involved a balancing of need to achieve an equitable distribution of available water.

Id. at 998.

83. Id.

84. Id. at 1009. See 213 U.S. at 344.


86. 618 F. Supp. at 1000.

87. Id. at 1010.

88. Id. at 1007-10.


90. 43 U.S.C. sec. 661. See also California v. United States, 438 U.S. 645, 655, 98 S.Ct. 2985, 2991 (1978); California Oregon Power Co. v. Beaver Portland Cement Co., 295 U.S. 142, 154 (1935). Besides authorizing rights of way for future uses, the 1866 Act confirmed rights away for existing uses which comported with the Act’s requirements. Thus, existing acequias dating back to Spanish or Mexican sovereignty would be confirmed under the Act.


92. 438 US. at 655, 98 S.Ct. at 2991.


94. 43 U.S.C. sec. 1701.

95. 43 U.S.C. sec. 1770.


98. General Laws of New Mexico, Art.I, Ch. I, sec. 9 (1851).
99. Id., sec. 1.

100. 140 P. at 1048.

101. Id.

102. See Las Huertas, supra note 19, at 3. Members of the Las Huertas-La Jara Acequia Association claim priority dates as early as 1860. See also Hall, supra note 14, at 96. Water rights on the Santo Domingo de Cundiyo grant have a priority of 1743. See also, OFFICE OF THE STATE ENGINEER OF NEW MEXICO, RIO DE TRUCHAS HYDROGRAPHIC SURVEY (1970). Members of the Truchas grant have priority dates spanning the eighteenth century.

103. 43 U.S.C. sec. 661.

104. The Las Huertas-La Jara Acequia Association's ditches head on Las Huertas Creek near the Las Huertas Picnic Ground in the Sandia National Forest. Members of the Nuestra Senora del Rosario San Fernando y Santiago (Truchas) grant maintains headgates on the Santa Fe National Forest. The Truchas grant also utilizes a transmountain diversion constructed during the eighteenth century which lies on Forest Service land.

105. City and County of Denver v. Bergland, 695 F.2d 465 (10th Cir. 1982). Denver held a right of way across National Forest land under a statute functionally similar to the Mining Act of 1866. The Tenth Circuit held that Denver's resurveying of a waterworks project to a new alignment parallel to the right of way exceeded the scope of the initial grant. Id. at 480.

106. Id.

107. Id. See Fleming, supra note 93, at 83.

108. Fleming, supra note 93, at 84.

109. The Senate Conservation Committee recently drafted "a Joint Memorial Requesting the United States Forest Service to Implement Best Management Practices to Restore the Watersheds under its Jurisdiction." The draft identifies substantial reductions in basin yield due to past forest management practices, and requests that the agency ameliorate this reduction through "best management practices." As of this writing, the author has no further information on the status of the document.

110. Fleming, supra note 93, at 84. See United States v. Volger, 859 F.2d 638 (9th Cir. 1988); Grindstone Butte Project v. Kleppe, 638 F.2d 100, 103 (9th Cir. 1981) (in acknowledging Act of 1891 rights of way, the BLM may impose "reasonable regulations and terms designed to protect the public interest").

111. 695 F.2d 465 at 481.
112. See Fleming, supra note 93, at 84.

113. Id.

114. McWilliams, supra note 33.

115. See Teresa Rice, Beyond Reserved Rights: Water Resource Protection for the Public Lands, 28 Idaho L. Rev. 715. In Colorado, the Forest Service narrowly a skirted water rights takings claim based on water right impairment by agency instream flow requirements. Id. at 727.

116. Letter from William D. Hurst, Regional Forester, to Forest Supervisors and District Rangers 2 (Mar. 6, 1972) [hereinafter Hurst].


118. Id. at 3.

119. Id.

120. Id.

121. See Hall, supra note 14, at 98.

122. Id.


125. See Forrest, supra note 117, at 108.


127. Id. at 9.

128. See Forrest, supra note 117, at 112.

129. See Id.

130. See Id.