

# [Acequias, GMOs and bioregional autonomy | Report on the condition of agriculture in Costilla County, Colorado](#)

*With special reference to center of origin land race cultivars and GMO crops*  
PART 1 | ECOLOGICAL, CULTURAL & HISTORICAL BACKGROUND

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*Moderator's Note:* This is the first in a three part series plus a source bibliography. The author is Co-Founder and President of The Acequia Institute and prepared this report during August-September 2015. The report is intended as a contribution to local agricultural, scientific, and environmental education for Costilla County residents, farmers, and public officials. The information or views presented in this report do not reflect the official views or policies of The Acequia Institute or its Board of Directors and Officers or the University of Washington.

## *Geographical, Ecological, and Historical Context*

Costilla County is in south central Colorado in an alpine desert steppe region known as the San Luis Valley (SLV); *Figure 1* below. The county seat of San Luis is 60 miles north of Taos, New Mexico. Average annual rainfall is the same as California's Death Valley (about 6 to 7 inches). The SLV steppe is ringed by the Sangre de Cristo Mountains (east) and the San Juan Mountains (west). The high country sustains deep snow pack used by farmers during the spring and summer snowmelt runoff season.

Emerging abruptly from the Valley floor, the frontal edge of the mountains presents dozens of peaks exceeding 3962 meters (13,000 ft) and 10 exceeding 4267 meters (14,000 ft) above sea level. The SLV intermountain 'park' itself has an average elevation of 2,407 meters (7,900 ft).

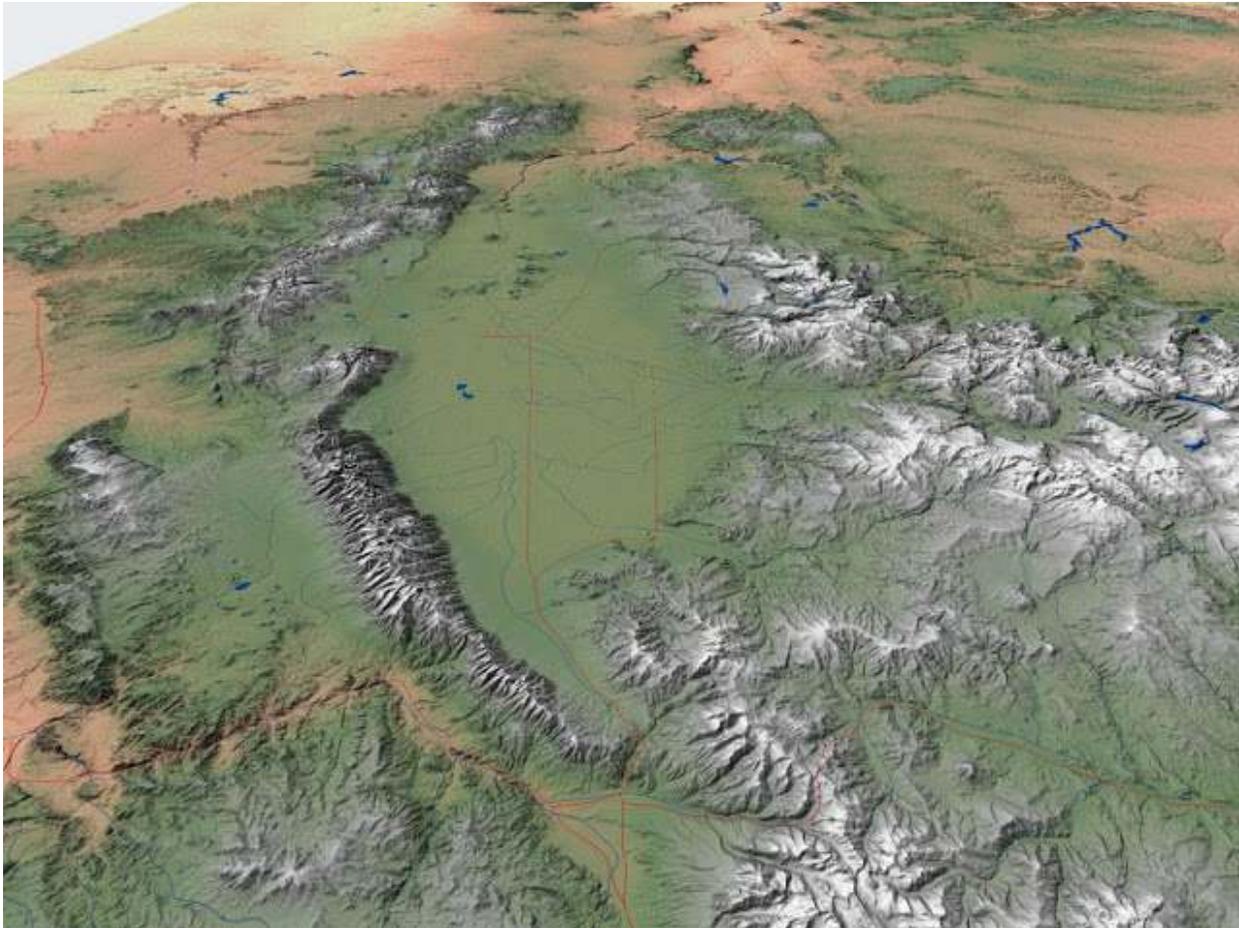


Fig. 1. **San Luis Valley**. In this perspective, S is on top. Costilla County is along the edge of the southeastern side of the Valley between the Sangre de Cristo sub-range known as the Culebra Mountains (on the E) and the Rio Grande (on the W); upper left quadrant within SLV on this map. Source: [geogdata.scsun.edu](http://geogdata.scsun.edu).

The rapid elevation gain means that nearly every major life zone in North America is represented within an average ten-mile walk from Upper Sonoran (or cold) Desert to alpine tundra above timberline. These environmental conditions result in an average growing season of 100 to 120 days but the region is home to a robust agricultural sector and also hosts a significant source of indigenous agrobiodiversity in the form of local land race cultivars including maize, bean, and pumpkin/squash varieties.

The SLV is within ancestral Ute first nation territory and members of the Capote bands hunted bison, mule deer, antelope, and elk across the high steppe well into the 1850s. Armed entry by white settler cavalry began during the same period with the establishment of Ft. Massachusetts (1852-58) near present day Ft. Garland and resulted in the permanent expulsion of the Ute people from the Valley.

Today, the Southern Ute tribal reservation is limited to 1059 square miles in an area centered around the vicinity of Ignacio, and due southeast of Durango, Colorado. This is about 181 miles due west from San Luis, Costilla County across the San Juan Mountains. Some descendants of Ute-Mexican marriages still reside in the Valley's diverse Indo-Hispano, Chicana/o and Mexicana/o rural villages and communities.

## *La merced*

The Mexican government issued the Sangre de Cristo Land Grant in 1844 as part of a decades-long, liberal inspired process to confirm and secure Native Pueblo and community land grant rights involving common lands and private *vara* strips. The Colorado section of the grant is just north of the New Mexico border at Amalia-Costilla but strong cross-border family, social, and cultural ties prevail. The 1 million-acre land grant includes what today constitutes the entirety of the Culebra Mountain Range and associated acequia-irrigated agricultural bottomlands within Costilla County; see *Figure 2* below.

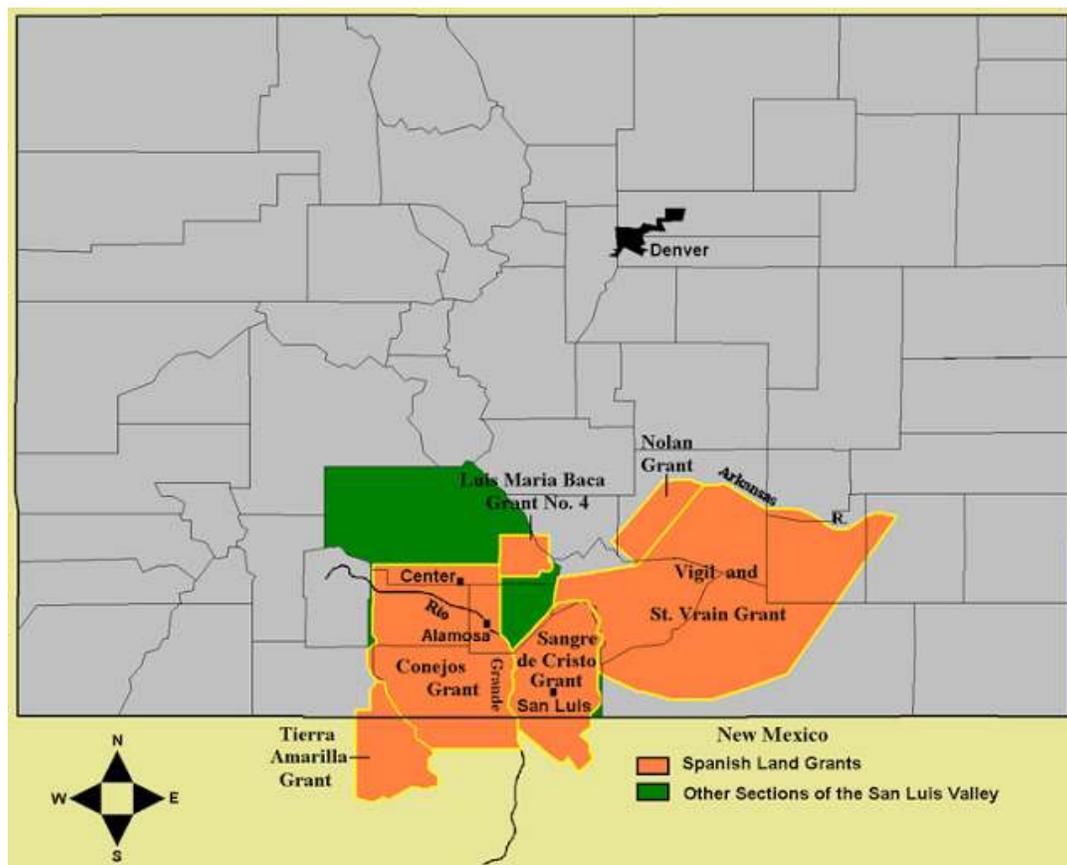


Fig. 2. **Mexican Land Grants in Colorado and New Mexico.** The Baumann map depicted here mislabels these Mexican land grants as “Spanish”. *Source:* Paul R. Baumann 2001. SUNY-Oneonta.

The land grant (*merced*) led to the establishment of a diverse community of people whose ancestry can be traced to a bewildering amalgamation comprised of a minority of Spanish (mostly Mexican- or New Mexican-born Spaniards, or *criollos*) and a majority comprised of P'urhépecha, Tlaxcalteca, and Mestiza/o (Native Mexicans); Pueblo, Diné, and Jicarilla Apache (Native Americans); and Sephardic and other Mediterranean peoples; all of whom moved up from Mexico and New Mexico to permanently settle in the area comprising today's Costilla and Conejos County in Colorado as part of a combined native settler and indigenous diaspora.

These are deeply rooted place-based communities and many acequia farm families hail from mixed mestizo/o and genizaro (qua Christianized Indian) communities like Abiquiú which were established as ‘frontier border’ outposts when the area was still part of hotly contested New Mexico Territory prior to the U.S. invasion and usurpation of 1848. Pueblo intermarriages also run deep across the history of these families.

The 1848 Treaty of Guadalupe Hidalgo essentially defined Mexicans that chose to remain north of the new border *as part of a pre-existing indigenous population with distinct rights*. This included rights to common and private property in land and water, preservation of native language(s) and dialects, and full U.S. citizenship status.

The customary laws associated with the exercise of these rights, many of which were actually rooted in Pueblo Indian and other indigenous cultural traditions, were abrogated and systematically violated during one of the most scandalous episodes in the history of colonial dispossession and enclosure of Native Pueblo and Chicana/o land grants (Ebright 1994). Northern New Mexicans faced the notorious Santa Fe Ring and San Luis Valley *acequeros* had the U.S. Freehold Land and Immigration Co. as principal interloping usurper.

This was all part of a violent process of illegal expropriation and appropriation of Mexican land grants, in violation of Treaty rights, and reshaped the political geography of land tenure in what are now the U.S. Southwestern states of Colorado, New Mexico, and Arizona in addition to parts of the adjacent states of California, Texas, and Utah.

Despite cycles of enclosure and dispossession, the mostly mestiza/o and indigenous Culebra acequia villages established the first community irrigation ditch systems — or acequias — in the what is now the State of Colorado and did so well before the establishment of Colorado Territory (1861). The acequias are sustained to this day in part because of the power vested in militant attachment to the first 23 adjudicated water rights in the State, beginning with the San Luis Peoples Ditch which was dug by hand and draught animals in 1852.

Most of the upland common areas of the Sangre de Cristo Land Grant have been privatized. The one exception involves 80,000 acres in northeastern Taos County that are managed by land grant heirs as a common property in the New Mexico stretch of the merced. These heirs established the Rio Costilla Cooperative Livestock Association (RCCLA) and eventually purchased the acres in 1942. Livestock grazing (mostly cattle) was the primary focus at the start of this community-based cooperative endeavor but in the 1950’s the land began to be seen for its unique recreational values. In 1983, visitors were given the opportunity to hunt, fish and camp in designated portions of the ranch.

‘La Sierra’ portion of the land grant comprising originally all of what is now Costilla County, Colorado is the watershed that pertains to our struggles, and it also comprises approximately 80,000 acres (as seen in Appendix 1). This section has been the subject of a protracted land rights case that dates back to 1981 and is a response to violation of due process rights provoked during the violent 1960 enclosure by a North Carolina timber man and land speculator by the name of Jack T. Taylor.

Today, the heirs and successors of the Culebra acequia farm villages have access to La Sierra for the exercise of some of the original historic use rights (no subsistence hunting or fishing are allowed). But this instance of usufruct occurs within the enclosed boundaries of a ranch property that is still privately owned, now by wealthy billionaire investors from Texas.

In a historic 2002 ruling addressing the famous *Lobato v. Taylor* land rights case, the Colorado Supreme Court restored historic use rights to the heirs and successors to the 80,000-acre Colorado common lands of the Sangre de Cristo Land Grant (i.e., La Sierra). The veritable common lands of this merced, perhaps the largest to be restored in this manner anywhere in the world, are vital to the survival of the watershed-dependent acequia farmers and to the protection of the area residents' strong sense of place and bioregional values. Some 500 families comprised of heirs and successors have access to the mountain range to gather fuel wood and construction materials and to use as pasture for livestock grazing.

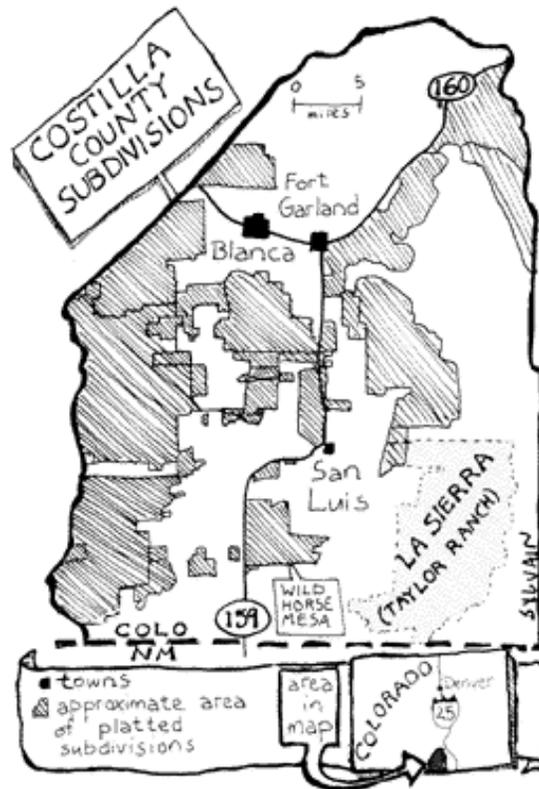


Fig. 3. **Sangre de Cristo Land Grant, La Sierra Common, and Subdivisions.** La Sierra is the 80,000-acre common land or ejido. Map courtesy of *High Country News* at URL: <https://www.hcn.org/issues/104/3250>.

Finally, absentee real estate speculators have ruthlessly subdivided the dry land llanos (prairies) of central and far western Costilla County and while most of these lots remain vacant, in 2015 conflicts arose over land use regulations governing permits for septic tanks and home construction, camping rights and other issues; see *Figure 3* above. These conflicts are the long shadow cast by the legacy of the enclosure of the common lands of the Sangre de Cristo land grant; under local customary law these lands were never intended or considered appropriate to permanent settlement by humans. Many of the inhabited lots are close to industrial monocultures

in center-pivot sprinkler circles, some sown with GMO crops that present a landscape of polka-dot uniformity (Peña 2005).

### *Acequia Systems*

The acequias are gravity driven snowmelt dependent community irrigation ditches. They are also among the oldest collective action institutions as constituted by the practices of local self-governance by tribal and non-tribal indigenous peoples in the U.S. Southwest. This is especially evident in the Rio Arriba or Upper Rio Grande watershed where Pueblo Indian and Chicana/o communities of northern New Mexico and south central Colorado sustain the acequia institution across a nine county area.

Acequia flood irrigated technology and the civic association of farmers for self government tied to water allocation practices both are rooted in antiquity with parallel and interlaced origins in the *kuhls* of Kangra (India), *as-Saquiyyas* of the Middle East (Yemen) and North Africa, *acequias* of Andalusia, Spain, *zanjas* of Mexico (and the Philippines), and *KwVo* of Native American ancestral civilizations including nearby historic Pueblo communities at Taos, Okay Owingeh (San Juan), and other northern Pueblos. Research scholars have long celebrated the acequia as a sustainable, equitable, and resilient irrigation technology and an effective institution of collective action for farmer-directed management of local water resources.



**Fig. 4. San Pedro Acequia.** The headgate of the second oldest acequia in Colorado. *Photo by Devon G. Peña*

The acequia association is a self-organized instance of political and legal autonomy; Rivera (1998) has noted how in some cases the acequia is the only daily form of local government present in more remote and isolated mountain villages of New Mexico and Colorado. Acequias are widely celebrated as deeply rooted, time-tested “water democracies” and are considered a significant national and world heritage resource (Rivera 1998; Peña 1999, 2003, 2005; Hicks and Peña 2003, 2010; Rodriguez 2007).

In Colorado context, the customary common law of the acequia is “prior” to the dominant settler doctrine of prior appropriation, which arrived with Anglo settlers and specifically the hard rock miners of the ‘59er ‘Pikes Peak or Bust’ gold and silver rush. Acequia customary law and the post-territorial settler legal regime of prior appropriation are distinct and in many ways incompatible. For example, under acequia law voting rights on a given community irrigation ditch are based on the principle of “one irrigator, one vote”, which is indicative of an indigenous preoccupation with governance through consensus and equity.

In contrast, under prior appropriation, voting rights are allocated on the basis of proportional shares in the ditch (company) and this means that larger landowners tend to dominate governance and decision-making processes. Another key difference is that acequia customary practices for water allocation respect the ancient principle of “shared scarcity” while the prior doctrine imposes a newer inequitable system of priority calls in which only senior water rights receive water in times of drought.

Given this cultural, ecological, historical, and legal context, the Costilla County Land Use Code and the Costilla County Comprehensive Plan prioritized the adoption of rules and regulations to protect acequia farms and associated watershed values which are therein broadly construed as matters of legitimate state interest in order to promote the preservation of acequias as significant state and national cultural heritage resources; see Costilla County Land Use Code at §1.20.A.2 and Costilla County Comprehensive Plan at Policy ENR-14 (p. 24), Policy ENR-16 and Policy ENR-17 (p. 25).

These differences, and especially the historical status of acequia law as older than prior appropriation, were to some extent recognized and codified in 2009 when the Colorado legislature approved and the governor signed HB 09-1233, the Colorado Acequia Recognition Law. One local consequence of this new law is that the acequias are now able to act as bona fide sub-county consulting authorities involved in the review of county land use planning and zoning actions and regulations, especially those that impact watershed functioning in acequia-dependent agricultural communities like the Culebra watershed in Costilla County.

Testimony in support of the 2009 law recognized the value of the “ecosystem services” provided by acequias including the production of wetlands, creation of wildlife habitat and migration corridors, regeneration of soil horizons, and preservation of native agricultural biodiversity through the seed saving and plant breeding practices of acequia farmers (Peña 1999, 2003, 2005:81-85, 2009; 2015; Hicks and Peña 2003; Fernald, et al 2014).

Today, there are an estimated 200 acequias irrigating approximately 5000 farms distributed across the four counties of southern Colorado designated as eligible for inclusion under the 2009 law (Costilla, Conejos, Huerfano, and Las Animas). These farmers collectively irrigate some 70,000 acres of prime farmlands with significant additional acreage in wetlands created by the subsurface flows associated with acequia flood irrigation methods. Costilla County, the heart of acequia farming in Colorado, hosts 73 acequias managed by more than 350 family farmers who sustain 23,000 acres of field and row crops and more than 10,000 acres of sub-irrigated wetlands (Peña 2003; acreage estimates are based on official Costilla County Clerk data).