High & Dry:
Medical Cannabis Oversight & New Mexico’s Public Water Systems

Submitted jointly by
Sile Mutual Domestic Water & Sewer Association, Peña Blanca Water & Sanitation District, and
New Mexico Rural Water Association, Source Water Protection Program

Executive Summary

The issue of water is completely lacking from New Mexico’s legislation and licensing requirements for medical cannabis. Current commercial cannabis producers use 463% more water than the average households in our communities. It is often grown in greenhouses that cannot use filtered surface irrigation water. Consequently, this commercial agricultural crop will often use water from municipal water supplies or domestic wells. This paper presents concerns of two public water systems, the Sile Mutual Domestic Water & Sewer Association (SMDWSA) and the Peña Blanca Water & Sanitation District (PBWSD), with medical cannabis farms in their communities. Their experience highlights several concerns that legislators and regulatory agencies should share with public water systems over the impacts that inadequately regulated medical cannabis production operations may have on the quantity and quality of rural New Mexico’s drinking water. Most significant of these impacts are:

- Unauthorized use of public water systems’ drinking water to irrigate medical cannabis crops
- Overage of the permitted amount of water allowed for a public water system
- Potential threats to current and future federal funding for necessary improvements and infrastructure.
- Mischaracterization of the water withdrawal
- Agricultural runoff and wastewater production that may be excessive and are not licensed or adequately monitored.

SMDWSA and PBWSD have identified actions that they must take to protect their members’ drinking water and the water systems’ water rights. Unfortunately, these efforts, while necessary, do not address the larger issues of inadequate oversight and regulation by the State.

While licensing of medical cannabis has been overseen by the Department of Health, the true impacts of the agricultural crop on surface and ground water have been overlooked. Medical cannabis is not chile, yet cannabis production (hemp and medical cannabis combined) seems to be overtaking that crop1 – but there are no guardrails for protecting the communities hosting LNPPs.

The legislature must move to protect New Mexico’s drinking water and the rural public water systems that serve most of the State. The Department of Health must coordinate with the Department of Agriculture, the Environment Department, the Office of the State Engineer, and other regulatory agencies to protect New Mexico’s rural communities and their most precious resource – safe drinking water.
Introduction

New Mexico’s licensing process for medical cannabis falls short of adequately addressing important aspects of the production process for these farms. In doing so, the law leaves public water systems and their communities vulnerable to consequences that could be costly for the systems and dangerous to human health.

The Sile Mutual Domestic Water & Sewer Association (SMDWSA) and Peña Blanca Water and Sanitation District (PBWSD) are public water systems in Northern New Mexico that face the negative impacts of the Medical Cannabis Program (MCP). This report is an initial identification of the most critical negative impacts to PBWSD and SMDWSA and their communities. Other communities and other public water systems face similar consequences under New Mexico’s current medical cannabis licensing process. While other states have encountered similar issues and taken measures to address them, based on our discussions with various New Mexico regulatory agencies, New Mexico has not. Consequently, New Mexico also is not seeking possible solutions to the issues.

The concerns that we raised here are not about medical cannabis per se, which we know provides important benefits to suffering people. The concerns that we identify in this report are about the possible inappropriate and unauthorized use of drinking water and ground water designated for domestic use only to grow medical cannabis and other effects that medical cannabis production could have on the quality and quantity of New Mexico’s drinking water.

Background

New Mexico recognized the benefits of medical cannabis to its citizens long before other states did. In February 1978, New Mexico passed the Controlled Substances Therapeutic Research Act, the first state to pass a medical cannabis law\(^2\). In 2007, the Lynn and Erin Compassionate Use Act\(^3\) legalized medical cannabis access and state-grown marijuana and established New Mexico’s MCP, which the New Mexico Health Department oversees\(^4\). The MCP’s purpose is “to allow the beneficial use of medical cannabis in a regulated system for alleviating symptoms caused by debilitating medical conditions and their medical treatments\(^5\). As of March 1, 2019, the program served approximately 67,000 enrolled patients and licensed 35 licensed non-profit producers (LNPPs) statewide.

New Mexico’s medical cannabis production has been increasing steadily since 2013. Figure 1 shows the total number of marijuana plants reported to the MCP in the Third Quarters of 2013 to 2019 and in the Fourth Quarters of 2013 to 2018\(^6\). The number of plants reported for the first three quarters of 2019 already exceed the total number of plants in any other year. In fact, the Third Quarter of 2019 is nearly double the plants produced by the end of 2018. According to the Department of Health, “New Mexico LNNPs grossed approximately \$115\ million last year, and have the opportunity to make about 200% more in revenue than last year”\(^7\).
The 2019 amendment to the Lynn and Erin Compassionate Use Act increased the cannabis plant count for LNPPs from 450 to 1,750 (the April 2019 emergency order had set the increased plant count at 2,500). In May the MCP reported a Total Plant Count of 68,282 (Figure 2).
New Mexico Water Rights—What is a valid water right?

State law governs the appropriation of water in New Mexico. There are different laws governing surface water use and ground water use. A valid water right is a legal right to divert water for a specific beneficial use. A water right has multiple elements or conditions: a diversion amount, a point of diversion, a designated place of use, and a purpose of use. The willful misappropriation of water is not considered a beneficial use of water.

A private citizen in the state does not own water but has the right to use water. In general, a water right holder can change the point of diversion, place of use or purpose of use. To make such a change, the permit holder must apply to the OSE. According to the OSE Water Rights Division’s website:

- When evaluating an application to change the place and/or purpose of use of an existing water right, the State Engineer must:
  - Determine that water is available
  - The appropriation will not impair existing rights
  - The intended use meets state water conservation efforts, and that
  - The intended use is not detrimental to the public welfare.

The OSE also requires the applicant to publish the application in a newspaper and give anyone with a legitimate objection the opportunity to protest the application.

The ground water right associated with most of the wells in the Middle Rio Grande Valley is designated for domestic or livestock use. While domestic use allows for the irrigation of a lawn and garden, it disallows the irrigation of any commercial trees or produce. Commercial agriculture must be flood irrigated from water diverted from the Rio Grande via Cochiti Dam into the ditches maintained by the Middle Rio Grande Conservancy District (MRGCD). Irrigators must possess a pueblo water right, pre-1907 water right, or purchase a seasonal water right from the “water bank” to use the water for agricultural production.

It would seem that greenhouses producing medical cannabis in the Middle Rio Grande Valley would need to either flood irrigate via the MRGCD or apply and acquire a change in purpose of use for a permitted ground water right. Using MRGCD water for greenhouse production might not be feasible because the complexities of converting the flood irrigation delivery to serve the drip irrigation systems.

Another alternative would be to use the water provided by public water system. According to the OSE’s Water Rights Division (personal communication, August 2019), public water systems can be permitted for a variety of purposes of use, including agriculture. But if a public water system’s permit does not specify agriculture, and the water is used for medical cannabis production, then the water system could be in violation of its permit.
SMDWSA and PBWSD

The SMDWSA and PBWSD are small rural public water systems in Sandoval County serving unincorporated communities in the Middle Rio Grande Valley between Cochiti Pueblo and Kewa (Santo Domingo) Pueblo reservation lands. Each public water system relies on a single well to provide water to its community. Both Sile and Peña Blanca have households that rely on private wells, but the two water systems supply most of the drinking water to their respective community. The few commercial services in these communities also are served by their water system.

SMDWSA (Sile Mutual Domestic Water & Sanitation Association) is on the west side of the Rio Grande in a small triangle of land between the Pueblo de Cochiti and Kewa Pueblo. The SMDWSA serves the domestic water needs of a population of approximately 154 through 55 connections. The SMDWSA was established in July of 1975 under the New Mexico Sanitary Projects Act\(^\text{11}\) to serve the population of Sile for its domestic needs. The Sanitary Projects Act was passed with the intent to improve public health in rural areas by allowing for an entity to organize as a political subdivision of the State.

The SMDWCA does not have a purpose of use for agricultural irrigation in the Mutual Domestic Water Right that the Office of the State Engineer (OSE) issued. SMDWSA is permitted only 7.917 acre-feet of water/annum. In 2018, the OSE notified a SMDWCA Board member that the SMDWCA is in arrears to the Rio Grande for at least 90 acre-feet of water. This overage is due to over pumping for agricultural production and leaks from breakage of the outdated system.

The SMDWCA is actively working to address this overage by developing governance documents to limit excessive and inappropriate water use (not just from cannabis production), investigating conservation measures for members, and identifying possible funding for infrastructure improvements including to replace old and leaking pipes. The SMDWCA has reached out to the OSE on the specific amount of water in arrears, and how to get back into compliance.

PBWDS (Peña Blanca Water & Sanitation District) is on the east side of the Rio Grande, also bordered by Pueblo de Cochiti and Kewa Pueblo lands. The PBWSD is organized under the Water and Sanitation District Act\(^\text{12}\). The purpose of Water and Sanitation Districts is to serve a public use and promote the health, safety, prosperity, security and general welfare of their inhabitants. PBWSD serves a population of approximately 448. In addition to providing drinking water through 160 service connections, the PBWSD coordinates septic cleanouts for the entire community.

PBWSD is permitted for 31.95 acre-feet/annum. The purpose of use for PBWSD's Mutual Domestic Water Right, issued by the OSE, is for domestic and small commercial. PBWSD does not have a purpose of use for commercial agricultural irrigation. The commercial purpose of use specified in Peña Blanca's water right is intended to support small commercial enterprises such as Romero's Grocery and the occasional restaurant. As in Sile, agriculture is supplied irrigation water via the MRGCD's ditch.
Medical Cannabis Production's Impacts on Public Water Systems

Growing medical cannabis has consequences for New Mexico's rural public water systems. It appears that the LNPP license process does not consider the water source that will be used to produce this crop. Current commercial cannabis producers use 463% more water than the average households in our communities. This puts public water systems in jeopardy in at least two ways – violating their permitted allotment of water and/or violating their purpose of use. These difficulties are already compounded by the 200% increase in plant count allowed by the 2019 amendment, which means a concomitant increase in water use.

Within the last few years, medical cannabis producers have established farms in Sile and Peña Blanca. Both water systems have seen substantial increases in metered water use, which could indicate that their treated drinking water is being used to irrigate the medical cannabis agricultural crop.

In 2008 Peña Blanca W&SD found itself in arrears for water usage by the OSE and was required to lease ten acre-feet/annum of San Juan Chama water to bring the system back into compliance. Increased usage by medical cannabis production could put either system out of compliance again with their permit. Moreover, the option to lease San Juan Chama water is unavailable to public water systems if an LNPP is using that system's water or infrastructure to grow its medical cannabis crop.

Although medical cannabis is legal in New Mexico, under Federal law, it is considered a controlled substance. The Controlled Substances Act (CSA) and its implementing regulations prohibit the cultivation of marijuana. It might be a violation of federal law to use federal funds for water system improvements that ultimately water New Mexico's medical marijuana crops. The Bureau of Reclamation “will not approve any use of Reclamation facilities or water in the cultivation of marijuana that is prohibited under the CSA and not within an exception or exemption established by Federal law”13. Water from the San Juan Chama Project cannot be used to water medical cannabis crops.

The water for growing medical cannabis should be recorded in general as commercial use or as irrigated agriculture rather than as drinking water. Despite LNPPs growing medical cannabis for over a decade in New Mexico, and the number of plants increasing significantly (Figures 1 and 2), the latest (2017) report on New Mexico’s agriculture is completely silent on cannabis as an agricultural crop14. Failure to recognize this water-intensive plant as an agricultural crop that is growing in significant quantities in New Mexico skews important calculations on water usage.

Both communities have concerns about possible impacts on water quality from increased agricultural runoff and pesticide use given the shallow ground water and shallow private domestic wells in this part of the Middle Rio Grande Valley. We do not know whether the LNPPs are required to improve or expand the septic systems to accommodate farm workers. It is unlikely that the rural residential septic systems are appropriate or adequate for the chemicals associated with agricultural runoff or the numbers of workers a large LNPPs might employ. The water table in this part of the Middle Rio Grande Valley is shallow, and several households in Peña Blanca still use
private domestic wells for their drinking water. While PBWSD and SMDWSA are required to test their drinking water regularly, there is no oversight for these private well owners whose water might be contaminated first if LNPPs are not disposing of agricultural and human wastewater properly.

LNPPs might be using domestic wells to water their medical cannabis. Some older permits allow for up to 3.0 acre-feet per annum. Generally, for 72-12-1.1 domestic permits –

> Drinking and sanitary uses that are incidental to the operations of a governmental, commercial, or non-profit facility: The maximum permitted diversion of water from a 72-12-1.1 domestic well permitted for drinking and sanitary uses that are incidental to the operations of a governmental, commercial, or non-profit facility shall not exceed 1.0 acre-foot per annum. .. [And the] water may not be used under this type of 72-12-1.1 domestic well permit for any commercial use such ... the irrigation of crops grown for commercial sale.\(^{15}\)

Moreover, the OSE allows for the use of ground water via domestic wells under a 72-12-1.1 permit, the it should enforce the metering provisions on a plant that is reported to require twice the amount of water as alfalfa. The metering provision reads, in part –

> The state engineer shall require a meter on each new 72-12-1.1 domestic well permit: ... (c) for drinking and sanitary domestic use that is incidental to the operations of a governmental, commercial, or non-profit facility.\(^{16}\)

Community members in both communities express concern over the potential depletion of the water table that long term cannabis production could cause, particularly if it draws on ground water, and even if the purpose of use allows for agricultural production at the scale of the LNPP greenhouse operations.

**Inadequate Planning & Oversight of New Mexico’s Medical Cannabis Production**

Board members of both PBW&SD and SMDWSA have expressed concern about these and other impacts that existing – and future – LNPPs could have on the water quality and quantity for which the public water systems are stewards. Finding answers to the questions and concerns they have raised have been limited.

It would be easy to lay SMDWSA’s or PBWSD’s experiences down to “one bad apple” and dismiss the communities’ concerns. But these communities are dealing with separate LNPPs. More importantly, based on our conversations with various entities, it appears that legislators and regulators have not considered critical aspects of water consumption and use in developing the LNPP licensure. Most obviously, there is no reference to “water” in the legislation relating to production. With a 200% increase in the number of plants that can be produced, the consequences for public water systems will be significant.

- **NM Department of Health’s MCP** issues licenses but does not concern itself with any aspect of the actual agricultural production of the crop. The MCP does not have its LNPP application on its website, and from our conversations with MCP staff, we confidently assume that it is silent.
on issues of water. The Medical Cannabis Program Law Enforcement Fact Sheet, dated June 14, 2019, addresses medical cannabis production only as far as to say that a patient has the right to purchase from an LNPP.

- **NM Department of Agriculture** regulates hemp but has no oversight role in the production of medical cannabis. It is not clear whether this Department would have enforcement over pesticide regulation, or by what means pesticides and herbicides are regulated currently.

- **NM Office of the State Engineer** oversees water rights and the purpose of water use, but its regulatory authority focuses on whether the public water systems holding the water right are in compliance.

- **NM Environment Department** oversees aspects of water quality, including drinking water quality, but appears not to be involved in considerations of medical cannabis production that could affect water quality. The Source Water Protection Specialist conducted a series of searches of the Environment Department’s website in September 2019. A search of the NM Environment Department’s website for “chile” yields at least 100 results. A search for “marijuana” yielded a single result, which did not actually discuss marijuana. A search for “cannabis” yielded 5 broken links, which appeared to be about hemp production, for which the Environment Department does have a regulatory role.

  - **NM Environment Department’s Drinking Water Bureau** has no oversight into the agricultural production of cannabis. They would get involved only if the groundwater quality was degraded such that the public water systems exceeded regulated levels of contaminants. (The NM Department of Health provides support for domestic well users, but these are not regulated.)

  - **NM Environment Department’s Ground Water Quality Bureau** issues discharge permits for agricultural compliance, but as of June 2019, it does not appear that any of the LNPP agencies has a permit. Information about Pollution Prevention Section permits was not available on the Bureau’s website to know whether LNPPs are applying for or receiving these permits.

Several other states have encountered many of the same issues and concerns identified here. Fortunately, they have also come up with solutions that New Mexico should consider adopting or modifying to protect our drinking water and address other aspects of water quality and quantity.

**Recommended Actions**

Legislators and permitting agencies need to work with public water systems to put in place safety measures that will establish LNPPs as good neighbors rather than as interlopers that violate and exploit long-standing communities and water systems and then move on.

New Mexico’s legislators and agencies need to address the consequences of legalizing medical cannabis production. It needs to normalize the agricultural production of this crop by enforcing the rules and regulations that normally apply to agricultural production. Medical cannabis is not a
“normal” crop, however, and it therefore requires additional oversight and explicit instruction for LNPPs.

1. The Legislature should pass legislation requiring all applicants for a medical cannabis license to demonstrate a valid water right for commercial agricultural production. The LNPP application should require that applicants specify where they will get agricultural production water and prove that they have are using the water legitimately.

2. The State of New Mexico should provide additional funding to the OSE to hire staff to review all applications submitted for a medical cannabis license, both existing and prospective. OSE should meter all new well permits. Perhaps these costs could be included in the LNPP licensing fee.

3. Current LNPPs using water from a domestic well for commercial cannabis production should apply to the OSE to change the purpose of use and go through the public process that allows affected communities and public water systems to weigh in on that application.

4. Any domestic permit issued by the OSE to a LNPP must be required to be metered in accordance with NMAC 19.27.5.13 C (1)(c). Any public water system affected by the over pumping of their domestic water for medical cannabis production should be reimbursed for twice (2 times) the over diversion amount during the following calendar year. Repayment should be made by acquiring or leasing a valid, existing water right for commercial agricultural production and submitting a plan for the proposed repayment to the State Engineer for approval. The OSE should enforce NMAC 19.27.5.15 C in all cases where an LNPP is not in compliance with its permit.

5. The Department of Agriculture should explicitly oversee LNPPs’ use of herbicides, pesticides, rodenticides, or other pest abatements that could impact drinking water quality.

6. The LNPP license should indicate the number of workers and demonstrate that there are appropriate sanitation facilities for these workers. The Environment Department should review applicants to address considerations that could affect surface and ground water quality.

SMDWSA and PBWSD are primarily concerned with water quality and quantity issues and have limited this discussion to those, although community members have identified other impacts not touched on here.

Conclusions

The promise of rural economic development from medical cannabis production seems to be a myth in the Middle Rio Grande Valley. No one from Sile or Peña Blanca has been hired by the LNPPs that have established farms in these communities. This may very well be the case in other communities as well. LNPPs’ use of municipal drinking water to irrigate medical cannabis crops can leave public water systems vulnerable to, and responsible for, abuses of their water rights. It impacts the effectiveness of these systems and potentially the quality of the water they provide. It has the potential to affect their ability to qualify for funding to repair and improve their infrastructure.
SMDWSA and PBWSD are taking action to address these issues to the extent that they can through their governing documents and public outreach.

Nevertheless, under the current licensing practices for medical cannabis in New Mexico, public water systems are vulnerable in a process that they cannot fully control. New Mexico’s public water systems provide *safe drinking water* to communities throughout the state. They need the help of legislators and regulators to protect this, New Mexico’s most precious resource.

We respectfully request that the concerns and experiences that we have shared with you in this document help guide your influence on future and current rulemaking and enforcement to provide appropriate safeguards for drinking and domestic water in our communities. We trust that you will make decisions to guide rulemaking and lawmaking to keep our communities safe for generations to come. We are available as a resource if you have questions or need additional information.

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1 Pat Davis, Presentation on the Economic Benefits of Legalization of Recreational Cannabis at the Fifth meeting of the Economic and Rural Development Committee November 13, 2019.
3 NMSA 1978, §26-2B-1 through 7
4 https://nmhealth.org/about/mcp/svcs/
5 https://nmhealth.org/publication/view/rules/4861/ (Kunkel letter to the State Records and Archives, March 1, 2019)
6 https://nmhealth.org/about/mcp/svcs/pdb/
7 Department of Health Responds to Statement by Licensed Non-Profit Producer, Press Release, October 18, 2019.
8 https://nmhealth.org/publication/view/general/4943/
9 https://www.ose.state.nm.us/WR/WRindex.php
10 While most commercial agriculture is flood irrigated, we recognize that some wells are used in a legal manner and applied for a commercial use, such as pecan orchards.
11 3-29-1 through 3-29-21 NMSA
12 73-21-1 through 73-21-55 NMSA
15 NMAC 19.27.5.9 D (3)
16 NMAC 19.27.5.13 C (1)(c)
17 https://nmhealth.org/publication/view/policy/126/
18 Links to some states’ solutions to water quality and quantity impacts of cannabis production.

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