ATTACHMENT 6

ADDITIONAL PUBLIC COMMENT

Hello Robert and Dunaways,

We just read a notice from Planning about the current application.

It looks like it is on the Fahler (sp?) property, which seems like a good location.

Preferring to communicate with you directly from the beginning, we have a question about water. Our understanding was that this site would be using collected rain and water pumped from the creek/river as allowed. That there would be no well water involved. That no longer seems the case. As previously stated, we are forever concerned about water. No surprise. Our primary interest is to protect the resources we have, not only for ourselves but the whole area, now and for the future.

We're sure you know that wells do not tap into individual pockets of water. So much of the underground sources are connected, and drawing from one well affects the water source of many others. The negative effects of over pumping are cumulative and lasting. When you over pump an aquifer the result can be land subsidence, the settling of ground. More than 80 percent of the subsidence in the United States is related to the withdrawal of ground water. When land subsides, it is compacting. Once those spaces disappear, the aquifer's ability to store water is reduced forever. A long rainy season or good snow melt is not going to recreate voids that have closed.

It is not just a here and now question. There are so many examples of overdrawing ground water around the world. Saudi Arabia has depleted their ground water. Oasises from Biblical times have dried up and are not recovering. You are probably aware; the Saudis have bought up huge amounts of farm land in our country, mostly Arizona and California, and are now draining the rural water resources there.
https://www.vox.com/2015/9/14/9323379/saudi-arabia-squandered-its-groundwater-and-agriculture-collapsed **Saudi Arabia squandered its groundwater; agriculture collapsed. California, take note.**
https://www.azcentral.com/story/opinion/op-ed/ej-montini/2019/12/16/why-arizona-water-drained-saudi-arabian-farmers/2659993001/ **Why are Saudi Arabian cows still eating Arizona's water?**

Over pumping groundwater in California has been a problem for decades. https://revealnews.org/article/9-sobering-facts-about-californias-groundwater-problem/ Southern Humboldt is already having repercussions from the drawing down of ground water because of the high well water use by growers.

The Groundwater Act was passed intending to support local management and use of groundwater in a manner that can be maintained without causing undesirable results. Undesirable results include:

1. Lowering of groundwater levels and depletion of supply;
2. Reduction of groundwater storage;
3. Seawater intrusion;
4. Degraded water quality;
5. Land subsidence; and
6. Depletions of interconnected surface waters with adverse impacts on beneficial uses of the surface water.

At the moment California is focusing on control of surface water, but we think the ground water issue will rise steadily and it is only a matter of time before wells will not be allowed for growers, whether they got permission previously or not. It therefore would be good to start growing without depending on well water. It would make sense to put in ponds or more water storage containers for catchment, and we hope you do that. You might think that as one little grower, you can't have that big of an effect. That is not true.

We do support your desire to grow, but are not supportive of any plan, anywhere, that involves aquifer well water use. Help us understand your goals regarding water. We would prefer to communicate with you directly vs. getting involved in future group discussions, trusting all interested parties will be informed by you as you see fit.

Safe journey,

Tony and Carlene

From: Carlene Cogliati
To: Johnson, Cliff
Cc: Antonio
Subject: Dunaway project & water concerns
Date: Friday, March 12, 2021 11:10:28 AM
Attachments: Dunaway letter.doc

Hello Cliff,

We are sending you a copy of the letter we sent to Dunaways. We hope you check out the links in it, as well as the letter.

There are some additional things we would like to say about the water issue and the protection of groundwater. Above ground water sources are carefully monitored. The below surface water is so very much harder to monitor – therefore should be even more protected.

We understand the laws about water usage for cannabis includes the use of well water – IF – the well is non-diversionary, unaffected by surface water. In reality such wells do not exist. We know firsthand that our well, although deep, is affected by rainfall. It is in the same aquifer as Dunaways'.

https://www.watereducation.org/general-information/surface-water-vs-groundwater "Groundwater is the part of **precipitation that seeps down through the soil** until it reaches rock material that is saturated with water."

https://www.sciencedirect.com/topics/earth-and-planetary-sciences/groundwater-surface-water-interaction "The hydrologic science dealing with groundwater-surface water interaction is quite well developed, as is evident from the 1980 publication of UNESCO that dealt with the subject (Wright, 1980)."

https://www.usgs.gov/mission-areas/water-resources/science/groundwatersurface-water-interaction?qt-science_center_objects=0#qt-science_center_objects
"The complex interaction of water above ground and below ground is a key element of the hydrologic cycle."

https://www.americangeosciences.org/critical-issues/faq/how-do-groundwater-and-surface-water-interact
"Streams interact with groundwater in three basic ways: streams gain water from inflow of groundwater through the streambed, streams lose water by outflow through the streambed, or they do both depending upon the location along the stream. It is the groundwater contribution that keeps streams flowing between precipitation events or after snowmelt."

In addition to the links in the Dunaway letter, the impacts of California's groundwater pumping are well-known: the dropping water levels, dried-up wells and slowly sinking farmland. Some areas in central California have sunk about 30 feet, and are predicted to sink another 30'. The pumping of groundwater has also led to the progressive salinization of groundwater in many parts of the world, particularly in coastal aquifers, which we are, (even the central valley has wells contaminated by sea water.) The impact of groundwater decline on wetland and dryland ecosystems is also well studied, understood and documented.

https://www.sciencemag.org/news/2020/04/droughts-exposed-california-s-thirst-groundwater-now-state-hopes-refill-its-aquifers

"Groundwater science is taking on a new urgency as California and other regions around the world face

growing threats from drought—and are increasingly drilling wells to make up for missing rain and snow.

Globally, aquifers are "highly stressed" in 17 countries that hold one-quarter of the

world's population,

according to the World Resources Institute. Water and food supplies for billions of people are under threat. . . .

Rates of groundwater extraction are unsustainable, says Jay Famiglietti, a hydrologist at the University of

Saskatchewan. During wet years, enough water from rain and gushing streams sinks into the ground to at least

partially refill aquifers, he says, but levels can fall even lower during the next drought. "It's like a tennis ball

bouncing down the stairs, it's just going in one direction," Famiglietti says." . . .

"Scientists use a banking analogy to explain groundwater's role: Surface water from rain and melted snowpack

should be the state's checking account, and groundwater its savings, used only when absolutely necessary." . . .

"And it has devastating environmental impacts. Because groundwater feeds rivers, depleted aquifers then

decimate aquatic ecosystems and habitat for endangered species." . . .

"Depleted aquifers also allow salt water to creep inland, rendering high value cropland — such as the Salinas

Valley near Monterey — useless. And winds whipping across dried landscapes fill the sky with toxic dust." . . .

https://www.usgs.gov/special-topic/water-science-school/science/land-subsidence?qt-science_center_objects=0#qt-science_center_objects "Excessive pumping of such aquifer systems has resulted in permanent subsidence and related ground failures. In some systems, when large amounts of water are pumped, the subsoil compacts, thus reducing in size and number the open pore spaces in the soil the previously held water. This can result in a permanent reduction in the total storage capacity of the aquifer system."

A very important thing we repeat from the Dunaway letter, and add to, is information on the 2014 **Groundwater Act.**

The Groundwater Act was passed intending to support local management and use of groundwater in a manner that can be maintained without causing undesirable results. Undesirable results include:

1. Lowering of groundwater levels and depletion of supply;
2. Reduction of groundwater storage;
3. Seawater intrusion;
4. Degraded water quality;
5. Land subsidence; and
6. Depletions of interconnected surface waters with adverse impacts on beneficial uses of the surface water.

* **https://ca.water.usgs.gov/sustainable-groundwater-management/**

We're sure you know, Humboldt is required by this legislation to develop a GSA for southern Humboldt, which must develop and implement Groundwater Sustainability Plans (GSPs) with the option of doing the same for the rest of the county; acting *before* it becomes critical in all of the area.

This legislation was intended, not only to help areas already damaged from overdrawing wells, but to give options to protect water *before* the loss occurs. But legislation is only as good as the follow-through and enforcement. Let Humboldt *lead* the way, instead of waiting to follow others' actions. Protect our most critical resource *now* please. A good place to start is with cannabis grow plans that are still in process. Rather than allowing wells, (which are *not* non-diversionary) it would be good to have growers spend their resources on ponds and

storage tanks. That water is much easier to monitor.

Most Sincerely, Tony & Carlene Cogliati