

From your perspective as a community leader in Northern Colorado, what is your key takeaway from today's session?

- € My takeaway is that our complex water system is getting more complex as the resource becomes more sparse. The overview of ditches was extremely helpful as in our community discussions it is often lost or dismissed due to lack of understanding. The link between ditches (conveyance) and the future development of our municipalities deserves more attention to really understand the impacts not only to agriculture from a production standpoint but from a community standpoint as well.
- € We need to keep an open mind to lots of ways to “skin a cat” in the water acquisition world.
- € Unfortunately, I missed most of Jeni Arndt’s presentation. I felt everyone did a great job, but was thought Emily Hunt provided some interesting information on the history behind Thornton’s acquisition of their land and water holdings and the stewardship of those assets. It still is amazing how complicated water is in Colorado and the amount of time and energy that goes into managing it. It will be very interesting to see if and when Thornton’s pipeline gains approval due to the complexity and how much of it will pass through Larimer County.
- € I am once again impressed by the diversity of stakeholders in Colorado water issues. This agriculture session included speakers from ditch companies, research institutions, and municipalities. I feel like the agricultural-municipal relationships in Colorado are often contentious and unfortunately continue to be, though perhaps more subtly than historically.
- € Our area is a patchworked network of water systems, water supply, and water storage that has evolved over time from various sources, for varying purposes. To be water resilient in the future, these partners and systems have to work together to ensure residents, businesses, and the environment survive and thrive.
- € The need for municipal and regional cooperation could not be more apparent. The breadth of many water suppliers across multiple jurisdictions virtually forces cooperation to manage their systems. Small municipalities like mine (Windsor) have water rights but no sources of our own. We buy water from Greeley, Fort-Collins Loveland, and Northern Weld. To manage our NISP resources we will need to work, and are working, w/ surrounding municipalities and systems, all the way back to the source at Glade Reservoir. \
- € It was interesting to hear Emily Hunt provide some Thornton history about the water quality issues they experienced being downstream of Denver and that being a primary reason they looked for cleaner water in Northern Colorado in the 1980s. While it is a complicated conversation, it makes me better appreciate Thornton’s position regarding water quality if they were to take their water out of the river below Fort Collins.

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- € Communication is the key. After hearing from the City of Thornton speaker I gained a new perspective on their water rights in Northern Colorado. After years of hearing the Thornton is trying to steal water that is not in their area. I realize that they are acting in their best interest. Numerous cities in northern Colorado including Fort Collins and Greeley have also acted in their best interests. Both have dried up farmland for municipal water and transported water over long distances to serve city needs.
- € The timing of this was perfect, since prior sessions briefly talked about ag, which was a great preamble. This was a great session focused specifically on Agriculture.
- € I feel like I repeat myself every month, but I am constantly amazed by the complexity of the topic and the willingness of everyone to share knowledge and ideas. I was excited to learn more about ditches and their operations, and I appreciated the movement that Colorado is making towards having more flexibility in the water system.
- € How complex Colorado's irrigation and ditch systems are, and how crucially important economically they are to our state.
- € My key takeaway from January's session was from Mayor Arndt and the importance of empathy in water conversations. In my experience, listening with empathy on controversial and challenging issues such as water is critical to problem solving solutions. Otherwise, we are in a vacuum and fellow stakeholders shutdown.
- € I really enjoyed Jeni Arndt's presentation and particularly the tone she strikes about hearing people out and focusing on what is possible with the coalitions you can form. That seems very true for water issues, but there other others, like affordable housing, that require a similar focus on what is possible.
- € There is often a lot of discussion around regionalism in Northern Colorado, however, given the fear of water scarcity it seems to increase pressure to protect everyone's own best interest. Piggybacking a bit from December's class, I find organizations which can act on behalf of several smaller municipalities interesting. It would likely be impossible for smaller communities to achieve much in the water arena when having to navigate/work with larger municipalities and districts. For example, municipalities such as Eaton, Evans, Severance, Fort Lupton, etc.... would likely have never been able to create such a large storage project, like NSIP, on their own.
- € There was so much covered from the book reports and presenters my key takeaway was just a reminder of how complex water is – distribution, storage, equity, quality, etc. – and how it literally is the fabric of our lives.

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€ I also appreciated the brief tangent discussion on PFAs. It reminded me of a quote from Sylvia Earle that says something like, we cannot solve the climate crisis without solving the ocean pollution crisis. Likewise, we cannot solve the climate crisis without solving our fresh water crisis. All that we do to Mother Earth, our fellow beings on the planet and ourselves is linked.

€ Emily Hunt's presentation was enlightening in that I did not understand the history behind this activity. I was disappointed that she didn't discuss the pipeline issue from their perspective, but because of the political sensitivity I am not surprised. The name "Thornton Agricultural Water Stewardship Program" I find a bit misleading...

2) I enjoyed Brett Bovee's talk on ATM because (yet again) I didn't know anything about the topic. Great to learn about the innovative approaches being used as alternatives to simply selling the water rights.

3) Mayor Arndt's observations were interesting, and it was a pleasure to learn more about her background and perspective on leadership and water issues.

4) While I appreciate the quick work of the WLL leadership to make the January class available virtually, I do find that the information is more impactful when delivered in person. This is not a criticism, but a reflection I had not considered until experiencing the class remotely.

€ Understanding the tension that exists in communities with projected max growth caps (like Boulder and Fort Collins) and how their new residents support these growth constraints. I wonder how other fast growing pockets/cities (esp in Weld County) may be influenced by these same demographic and political changes in the years ahead.

€ Key takeaway: according to Brett Bovee the five ATM examples have been around since 2004. It does not seem that they have taken off as a widespread way to prevent buy and dry. To my understanding the Aurora deal seems the most successful.

€ Development, city planning, resource management all requires a great deal of understanding the challenges of today and the anticipated changes and challenges of the future and what it takes to incrementally get there over time. I enjoyed Mayor Arndt's example of adjusting the junior bill to bring more people into the conversation (that had been previously opposed) but flipping the discussion and asking questions, ultimately landing in an adjusted, relevant solution that increased support from a spectrum of stakeholders. It also shows forward thinking of applying incremental gains in policy or planning to get closer to being able to deliver on larger/more complex future needs ie) 250k population capacity threshold in Fort Collins.

What did you learn today that encouraged you, discouraged you, or captured your attention to the extent that you could see yourself engaging in it further?

- Exploration of the myriad of impacts when we change land uses is very interesting and would be helpful to understand as we plan forward to our future built out conditions. If there was more understanding of these impacts, trying to mitigate unintended consequences for the communities of the future might be better attained. The "rural lifestyle" values and desires are in jeopardy if we continue to develop toward an eastern USA lifestyle.

Also... I very much dislike the terminology of "non-beneficial use" ... all uses are beneficial to someone or something! Would love to change this terminology to be more accurately descriptive.

- I was encouraged by Jeni – made me remember not to stereotype people based on their chosen occupation. She was smart, funny & very dedicated. I was discouraged by the thought of FTC at 250,000 people!
- The thing that continues to encourage me is how many intelligent and hardworking people are tackling the water issues not just in Colorado, but the southwestern part of the United States.

The amount of water it takes to produce food in the US is amazing and is probably the thing that discourages me most. If I heard it correctly Tim Gates stated the latest estimate is 91% of water usage in Colorado is for agricultural purposes and believe most folks thought it was closer 80%??

- It frustrates me to see land being purchased from alternative regions solely for the water. For instance, Thornton owning land in northern Colorado and working to ensure that appropriate land uses are developed on their land per northern Colorado's vision. It just feels like too many cooks in the kitchen. There is no guarantee that distanced landowners will be as selective or strategic with their land as local landowners. Additionally, a classmate asked an excellent question about where water for development on that land would then have to come from since it was being bought for the water alone. So ultimately, while I am thankful Thornton has a plan for how to involve northern Colorado in their land use planning, having gotten into that situation to begin with feels suboptimal. It also seems increasingly difficult to get ourselves out of this situation as now it's just an ongoing cycle of land being purchased for water use elsewhere, then land must be purchased elsewhere for water for that land and so on. I'm not sure how to best break that cycle.
- The conversations around ditches, irrigation, and Thornton's water assets have me wondering about the variety of ownership and priorities. I really hope partnerships continue to grow to ensure our Northern Colorado area has what it needs to survive and thrive.

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I didn't want to insult Emily Hunt, but I really don't understand how Thorton officials thought it was a good idea to buy water in Northern Colorado and use it for themselves – however, I guess that is exactly what Loveland/Fort Collins/Greeley and others have done to the Colorado River.

- I was particularly encouraged by the (apparent) change in approach to regional cooperation voiced by Mayor Jeni Arndt, long-time Fort Collins resident. She still has to persuade Council and staff that the effort is worth it, and that there are significant benefits for all involved. Inter-government cooperation is often hindered by bad blood that has developed over decades. She seems to have survived, and become interested in a more cooperative, instead of a combative, approach. The fact that Council withdrew their land use regulations last week speaks well for a new attitude in that area as well.

The interest of the Larimer and Weld Irrigation Company in non-pot water, presumably for non-ag uses, was also interesting. His discussion of ag water conservation resulting in less use but also less return flows makes it easy to reason that reduced diversions to water conservation (muni and ag) will keep more water in the streams in the first place, even after diversions.

- I was encouraged to hear Mayor Arndt's approach to getting the Ag Water Protection Act passed and the opportunities for alternative transfer methods it provides.
- I was encouraged by Mayor of Fort Collins emphasizing the following tenets: stop talking and listen; respect your elders; kindness goes a long way

Some area politicians have been successful in accomplishing great initiatives that are good for Northern Colorado. However, by not following the above tenets they have alienated other groups, citizens and government leaders. It is a shame because so much more could have been accomplished. We can only hope future leaders follow the above principles.

- Was very interesting to see how the agricultural landscape has changed how water is used, managed and still an important part of the overall balance of water use. Both municipal uses, and agricultural uses rely on one another to be successful. This is important in balancing the growth and demands of Colorado, whether population, farming, livestock, etc.
- There are a couple of items that I found particularly interesting. First, I really like the Colorado Agriculture Water Protection Act and the flexibility that it provides as opposed to the standard dry up. I think that flexibility such as this is going to be critical to our future. Also, I appreciate that the ditch companies are interested in looking into providing non-potable water to users – potentially for municipal use.

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- It was a disappointment to learn how much farmland will be dried up in Weld County due to the city of Thornton purchasing the extensive land and water rights they did. As water resources become even more scarce, what prevents other large, well resourced municipalities from continuing to buy Colorado farmland and dry it up?
- I was encouraged by Alternative Transfer Methods as a concept to learn more about and expand conversations with community stakeholders.
- I am glad Andy Pineda spoke about historic irrigation ditches and their role in the water system. I'm very deeply connected to those issues in my current role and they are complicated.
- It will be interesting to see how Thornton implements their Northern Properties Stewardship Plan given their strong presence in Northern Colorado.
- I was also highly encouraged by Mayor Arndt's sharing. I loved her approach to meeting people where they are at, wading in another's shoes, that results in a practical approach to leadership and governance.
- 1) I was encouraged to know that creative alternatives were being developed as alternatives to the outright sale of agricultural water rights.

2) Tim Gates did a nice job of summarizing a number of topics that have been covered elsewhere in the WLL series, as well as a couple that had not. They say that repetition is the key to learning ;-)

3) As usual, I enjoyed the book reports.
- I had greater respect and understanding (and thus encouraged) of Thornton's decades old water acquisition and transmission strategy and their stated intent to continue to honor the importance of agriculture on the state's economy.
- I could see myself helping to facilitate or design meetings for Thornton property planning project but I fail to see why I should lend my abilities to Thornton's effective land use of land here in northern Colorado. Yet water optimization and phased use of farm land according to its productivity might be a worthwhile effort. Any comment?
- The Water & Ag section – learning about the percentages of return backs was interesting and not a topic I know a lot about. It shows the complexity of interdependent plans or augmentations plans.

Of the water applied to fields from canals, about 10 to 20% runs off the surface, 20 - 30% percolates below the root zone, and 50 - 70% is consumed by crops (evapotranspiration and tissues)

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About 5 - 15% of the surface runoff, seepage, and deep percolation is consumed by weeds, phreatophytes, and evaporation

About 40 to 50% of water diverted from streams returns back, carrying solute mass loads

What information or calculations are used in augmentation plans? What pieces of the equation are most impactful?

What questions do you have based on what you heard from today's speakers and group discussion?

- € Will future water use planning and water distribution and use be convincing and prioritized in a way that pivots from continued population growth? Are the land use changes and decisions that we are making today have to be undone in the future?
- € What will Thornton do if the pipeline is not approved? Also, meant to ask how many of their acres have been dried up to this point.
- € We heard a lot about alternative transfer methods. I am curious how widely adopted they are? There is clearly a wide variety of options for ATMs. I see how they could be less desirable to a municipality, more work for less water, but overall they do seem like a wholistically beneficial option in terms of regional planning and preservation.
- € I don't have any burning questions – it was a lot of new information for me and appreciated the speakers' time. I appreciated Mayor Arndt attending and sharing her leadership wisdom.
- € I would like to be involved with/review a summary of programs that are underway in NOCO based on several speakers over the last several months:
(1) Communities, municipalities, and water/irrigation districts that are involved in agricultural programs to protect agriculture while finding creative ways support municipal growth. Where are the other Fort Collins and Thornton programs?

(2) Communities that have entered into, or are considering the development of, cooperative arrangements to work together on similar water needs in their areas.
- € I don't have questions, but I did enjoy Andy Pineda's B.H. Eaton history. The BH Eaton ditch runs through my neighborhood and provides the water for the non-potable irrigation system, and the Town has preserved the Eaton House in Windsor's Boardwalk Park.
- € It would be great to have more discussion regarding the Thornton plan to keep more of the high-quality farm ground with high quality soils in production. For family farms it is a tough call, but at the end of the day water should be allocated in priority to the highest quality farms with the best soils. It will be a difficult process, but it will be beneficial to all future generations. We can have farming in Colorado but maybe not as many acres. Other climates with higher quality soil and more annual rain fall should be prioritized.
- € No additional questions at this time. Excited to look through the slides again when they are posted. (May facilitate additional questions).
- € I would be interested to know why municipalities typically don't pursue dual use in water change cases to allow for more flexibility?

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- € As water resources become even more scarce, what prevents other large, well-resourced municipalities from continuing to buy Colorado farmland and dry it up?
- € At what point will it be necessary for statewide legislation to protect and incentivize (i.e. converting to drip & sprinkler irrigation) CO farms to continue ag operations over lucrative offers to dry up their land? It seems like this will be inevitable to prevent significant ag loss in our state.
- € As the dialogue moves forward for the Northern Properties Stewardship Plan Steering Committee, I am interested in learning:
- € How the calls to action on maintaining agricultural culture, support for transitioning agricultural economies and economic diversification, population growth and regional approaches to land and water planning and management are implemented into a regional stability plan?
- € What happens to the Thornton water project because of the 1041 regulations in Larimer County? Could we talk through the various scenarios there? I also was a little bit familiar with how Thornton was trying to study quality farm soils and key farm placement, in terms of how the dry up affects the local economy. I'm encouraged that that work is going on, but I'd like to learn more about how that will be actualized.
- € Why is the City of Fort Collins proposing additional 1041 regulation on NISP? Would it be cheaper and more environmentally friendly to join NISP rather than expand Halligan?
- € I wonder how alternative transfer methods can be further promoted across the state and the potential positive ripple effect of them: crop rotation-necessary for healthy soil; more affordable development – industrial, commercial and residential, if water is shared, etc.
- € I wonder if the downside of leasing water at a higher cost in time outweighs the benefit of alternative transfer methods and if government incentives can help encourage more alternative transfer methods.
- € A. What are the next steps and expectations for the Thornton pipeline project?
- € B. Is abandoning the Halligan Reservoir expansion project in favor of utilizing Glade a realistic alternative that is being explored?
- € I still feel like I could use more naught on ATMs to fully understand them.
- € Why has atm not become more accepted? Is it lack of market information about the successful aTM examples? Or the high up front transaction costs to create them and structure them OR inadequate support for pilots from the CWCB over 15 years? Other?
- € I received questions on chemical parameters I was unfamiliar with which led me to do more research on Hach in that niche space that is becoming increasingly more visible and regulated. It led me to ask more questions to our Sr Production Application Mgrs as to need/demand/innovation road mapping.