

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

- There were comments around land and water use management plans not being integrated well, and I'm seeing some elements of this play out at municipal levels. Thinking about this, I'm really curious to how we go about altering these practices/policies/procedures at more of a regional scale so that we can think about water issues more holistically. I'm also thinking about these management plans and how they pertain to NISP. This is my biggest takeaway from this session.
- My key takeaway from the session is that there has been a large shift in water usage from ag to municipal over the last 30 years. Collaboration and communication again stood out as a main idea especially when it comes to municipalities purchasing ag land for water rights. Supporting methods that consider land use and water planning will make these shifts more successful for everyone.
- The stewardship of people in the water community. Their attention to more than water, to the health of the Communities (Thornton's efforts), attempts to form new methods to utilize water efficiently (ATMs) and the efforts of farmers to work near and within the confines of municipalities. What sticks with me: irrigation builds civilization.
- We think we have challenges with water today but there have been challenges with water since the beginning. They are nothing new, they are just different challenges. Leaders before us have risen to these challenges and we will have to do the same.
- A lot of different communities have different solutions to water problems. Whether it is Ag being more efficient in their water use or Thornton looking way out of their river basin to get water. We will need all solutions to work together.
- Alternative transfer methods were very educational. I had never heard of them before but I am skeptical about how much impact they can have.
- Brett Bovee touched on a great topic involving dry-up covenants and possible solutions to avoid this from happening. Although somewhat more difficult to manage and perhaps form, the idea that conservation easements could be used in place of dry-up covenants is interesting. The CE would have to be flexible enough to allow for continued farming/ranching which also involves modifying fences, etc. along with different potential farming techniques, outbuildings, etc.
- Effective and collaborative water land use planning is essential for communities, the region, and the State of Colorado to be successful to ensure water availability in the future. ATM's are an alternative to the future water "sharing", but not a solution for the long-term. It is critical in water discussions that we have broad representation to ensure all thoughts, perspectives, and ideas are shared and considered.
- My key takeaways are that Agriculture has continued to adapt and partner with communities to overcome water issues. As stated a few times when CBT initially started 80% was owned by ag and 20% owned by municipalities. That number has now reversed. Agriculture producers are continuing to adapt and overcome challenges of sprawling communities. It is important to have open lines of communication and relationships with all parties so that good solutions can be found.

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- My key takeaway from this session is the recurring theme of the importance of effective communication, which allows diverse interests to understand each other's water needs. This, in turn, can lead to collaboration that can produce potential solutions to what might otherwise appear to be competing or mutually exclusive interests in the same water resource. (Collaboration is really hard work. It can be much easier to just say no. Effective communication is essential, and this requires listening.)
- Colorado's agriculture sector, currently with over \$7.5B in annual cash receipts, will be severely challenged to remain a strong, viable entity in Colorado's economy in the future as rapid population growth takes a larger and larger amount of the state's water supply away from agriculture. Less water means less agricultural contribution to the state's food supply and economy. Overall, from what I heard in this session it certainly seems inevitable that Colorado's agricultural contribution will shrink significantly. The future timeline is all that is not known.
- I liked the juxtaposition of the Ag Needs, vs water needs.
- My key takeaway from today was that as a collective (Northern Colorado), we must work together and have the vision, and political will to do things like Thornton did in the 80's or our issues will only compound exponentially in the very near future. Additionally, I really enjoyed hearing from Mr. Graves as we seem to be so focused on the needs of our growing community that we are not focused enough on the AG side and all the positive improvements and ongoing impacts that they bring to our society. For example, I recently heard an elected official in a Board meeting make comments about the need to eat greens and stop eating beef due to the amount of water that it takes to grow cattle. This mentality quite frankly is BS, and one I think we need to discuss further as a group and community.
- There are so many facets of water regionally. We have had great speakers rounding out our knowledge of the infrastructure systems (canals, dams, reservoirs) and all the people who are responsible for managing this resource for the users. I am amazed that the system works as well as it does. I did enjoy Andy Pineda's talk about the Larimer and Weld Irrigation Comp history and their reservoir system. It might have something to do with one of their ditches running through my shop property.

2. 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?

- I would say that the Alternative Transfer Methods discussed by Brett Bovee with WestWater Research captured my attention the most. I didn't realize that they were just a Colorado term/practice, and that there were only between 10-15 of them in Colorado. I appreciated Brett's point that ATMs are just one tool and not an end all solution to the water issues in Colorado. This in tandem to the point he was making about development happening on some of the best ag lands in the state. Although it makes sense how and why this is playing out, it hasn't been something I've thought about or implications that this can and will have on the future economic drivers. Better understanding ATMs and their potential impacts is something I would like to further engage and learn about.

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- I wonder about the future of Colorado ag and if it will become unsustainable at some point with climate change and population growth. It seems like we are having to move water farther and that it is only going to get more cost prohibitive to purchase and move water. And even though this wasn't mentioned as much, I think that tribal rights will be considered more in the future and potentially be used to modify the Colorado Water Plan to recognize different water rights.
- How slowly the processes evolve. Water needs to be a more front burner item not just another topic to discuss in an emergency. Encouraged that states are talking in the Colorado Water Basin. Fourteen senators sitting together is progress. Also, how important it is to keep water as non-political as possible. Patience is sound advice, but need is impatient.
- Graves Dairy is a prime example of how a family business can survive through the good and the bad for generations. I was encouraged to see that they have evolved and expanded their business over the years to capitalize on opportunities as they rise and have had to work with their neighbors to keep things moving forward to the benefit of all parties. I am interested to see what the next generations will do.
- Everyone is looking to work together and communicate for solutions. While it may be hard to keep everyone happy there will be compromise and I think everyone is aware that it will be needed.
- Encouraged – Graves Dairy is an absolute inspiration in resiliency, innovation and looking to the future for water and the environment. Plus seems like a very savvy business owner!
- Rob Graves discussion involving adding value to agricultural products was a key point. As the agricultural nation continues to follow more of a corporate approach, i.e large farms, high output, there is potentially room for smaller growers and producers to offer a service not typically available from larger operations. Delivery, custom products, on-site purchases are examples of what people may potentially value and be willing to pay for. This creates opportunity for smaller operators.
- As a municipal water leader, we need to be more receptive to ATM water agreements. How do we close the financial gap to make them more attractive though to towns and cities? I was encouraged to see Thornton is trying to be more collaborative in the area where they have applied "buy and dry" applications versus where they are arbitrarily condemning land to install their pipeline without listening to impacted property owners and communities.
- I heard the story of how sterling was able to complete a pipeline from ROW acquisition to permitting and finally construction in 2 years. Hearing this success story continues to frustrate me on the actions some communities have taken toward water and essentially halting access to it. These projects have been in the works for many years and those actions have real consequences for communities that have been planning on projects such as NISP. I look at the Thornton pipeline situation and they should have been acquiring ROW for several years, instead they wait till the last minute and abuse condemnation in my opinion. Healthy lines of communication are needed so that people can work together to come up with real reasonable solutions.
- Something that captured my attention in the session was John Stulp's admonition regarding the importance of building relationships -- before you get to court.

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- Encouraged: Unfortunately, I didn't hear very much from this session to be encouraged about agriculture's long-term prosperity in Colorado. Discouraged: Emily Hunt's presentation on Thornton's Agriculture Water Stewardship Program (involving 18,000 acres) was interesting. However, I kept waiting and hoping that she would say that Thornton would invest part of its water holdings back into the high priority "green areas" on the maps she displayed to reinvigorate those areas. That was never mentioned as a part of the stewardship program. Without water, substantive stewardship and reinvigoration is not possible, and the program seems mainly to be platitudes to appease public concern in dried-up areas north of Thornton (e.g., the area surrounding Ault). Captured my attention: I learned a lot from Brett Bovee's presentation on Alternative Transfer Methods (ATMs). Unfortunately, much presented was not very encouraging. Bovee seemed very candid in his characterization of ATMs. But, there were just a very few examples of how ATMs actually have been implemented. Unfortunately, the adoption rate is very low and ATMs seem to have limited promise to help agriculture optimize efficient water use to economize and support business survival for the long-term. Surprisingly and unfortunately, the Colorado Water Plan stipulates 50,000 acre-feet of water to be "shared" by agriculture through ATMs by 2030. Recent poor adoption of ATMs suggests that this is very unlikely. Better methods/policies must be developed, probably at the state level, or perhaps also at regional levels (e.g., Northern Colorado) as part of an ACTUAL planned development strategy (e.g., a truly integrated plan which incorporates both land development and water needs simultaneously). Although \$6M of state funding (grants) over 15 years for ATMs was touted as exciting progress, that's really a drop in the bucket if agriculture is to remain a viable segment of Colorado's future economy and still "share" (e.g., transfer to other uses) 50,000 acre-feet in the next 8 years.
- I found it interesting that Thornton felt Weld County maybe should find a new way of changing industry (if water starts being more scarce, it is interesting we may have others choosing to put a value proposition on how others do business) not a good trend in my opinion. The integrity of communities sharing their next moves does impact trust. However everyone is trying to get ahead; so much of what is being done has not been shared. That can cause distrust before we get started. I enjoyed hearing the innovation of the dairy
- I was encouraged with the ATM discussions in that I know folks are working to develop alternative solutions to the water crisis. My disappointment is growing in terms of I feel like there is a growing target on AG and the farming lifestyle / history along with what products they provide to our world. I fear they will soon get outvoted and city folk will get their way. I am not a farmer, but I enjoy the outdoors, harvesting my own meat (hunting), and truly respect what they (farmers) provide. As I sit in this class and listen, I now feel the need to become active and advocate much more for the AG industry, lifestyle and heritage.
- Encouraged: It was great to hear from Rob Graves about the history of his dairy and the innovations they are employing to stay in business and add value to their product. They grow their own silage to control quality, bottling in glass bottles and starting a delivery service to differentiate their product. Creating Noosa Yogurt to add value to their product and diversify their holdings. It was also good to hear about their

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engagement with the unspecified municipality, to understand the tensions between municipal growth and the impact on agriculture. Discouraged: “The Pillar of Sand” was a real eye opener for me. Stepping back to a global perspective makes the situation with a dwindling resource even more acute. Each of these basins is operating beyond their hydraulic capacities. Groundwater pumping does keep these systems productive. At some point the groundwater will run out and there could be serious consequences. For the last 50 years, Israel has invested in achieving a 100% increase in water productivity. They are a wealthy country. I do not believe these watersheds have 50 years to adapt. Captured my attention: Israel and the Texas High Plains Underwater Conservation District have made significant progress to reduce water and increase yields. This is great news.

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

- Based on the comments from Jennifer during Matt’s book report, I’m really curious to learn more about tribal treaties and their relationship in the Colorado River Compact pertaining to junior/senior water rights. How do conservation easements work with water rights? I’m thinking of this specifically for agricultural lands that are made into easements.
- Are there ways to make ATMs, conservation easements, and other alternative methods to drying farms more attractive to buyers or does this require a major policy shift? Even though CWCB is supporting the program with grants it still sounded like the dry up method is still preferred and easier overall.
- Why is the state providing money to develop an undefined, non-trackable process? Loose parameters for development of new processes are understandable but ATM’s seem a little wide ranging for so much funding.
- I would like to learn more about ATMs. It didn’t sound like they were viable options for municipalities, but I would like to explore other options that may make them available or more feasible for municipal use.
- What happens when ATMs shift all the way to the cities and aren't a temporary solution anymore?
- How like minded are farmers (similar to Rob) across the country to progressing the industry and is big ag ruining this effort?
- Ditch companies have rightfully or unrightfully been lumped in together as generally difficult to work with. As I was listening to Andy Pineda I wondered if the Larimer and Weld Irrigation Company had ever tried working with the governing body where their ditch is located to create an MOU whereby the government takes responsibility for public access in return for public access. We all are faced with growing populations and the complications that it presents. Learning to work together to consider different options is definitely needed.
- How can we better incentivize ATM’s to make them more attractive compared to buy and dry?

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- What are some of the current water cases right now in water court? What does that look like? With upper compact states agreeing to release 150,000 ac/ft of water to the lower compact states, where is that coming from and when are the lower states going to start reducing their consumption. They keep taking full allotment while the upper contributing states have continued to be well under their allotment. What impact does this and the recently announced negotiations with the tribal community have on these compacts? Is this going to be another situation where we dry up a reservoir?
- My main question is how did Rob Graves plan to embarrass me if I had been in attendance?
- How does Colorado and Northern Colorado plan forward to develop a long-term strategic path for the state's agriculture sector? The Colorado Water Plan does not do this very well, in my opinion. How are/can the increases in population growth, the state's need for agriculture and food, and use of available water be incorporated into the Plan? Or, will Colorado and Northern Colorado become examples of populations dependent on food production and supply principally from other states and countries? We've seen in recent times how well it works to rely on other countries to supply computer microchips, face masks and ventilators, Christmas toys, and many other goods almost exclusively sourced from foreign countries. Is it sustainable or even wise to be largely dependent on other countries and states for the majority of Colorado's food supply? Additionally, major reduction of the water supply for agriculture is not very reversible (e.g., the Thornton example) if food shortages happen in the future; agriculture is a major, long-term continuous investment by individuals and businesses. Careful planning for the future of agriculture in Colorado currently does not seem substantive and real.
- No Questions
- Not a question, rather a comment on Mr. Stulp. Maybe I missed it but his presentation lost me entirely. He seemed to be telling us about a who's who in terms of past leadership and I didn't gain much from him other than this one note "develop relationships before crisis". Wish there was more substance to his leadership chat. I mentioned this earlier when Attorney Brown spoke to class and I continue to want to debate this - I would like to discuss more the topic of special interest groups (Save the Poudre) for example and their role in ensuring what Attorney Brown called keeping water in "certain stretches of the river". I say this because while its apparent that we have created the Front Range out of the desert, the notion of special interest (in the Thornton discussion), of keeping water through the Fort Collins stretch and not worrying about the entire river is a continuation of what has occurred over the last 100 years.....creation of what we want "in my backyard", despite the ramifications that it has downstream to those who live there and the river itself.
- I would like to know more from local farmers in our area if these types of irrigation practices (cited above) are viable or cost effective from their perspective. I would also like to know what kind of support for these changes is available locally. I am also curious about the water rental program for C-BT shares.