NMWATER DIALOGUE TABLE TALK SUMMARIES 1-14-2021

TT#1-1 50 year water plan

3 Highlights:

1) For this table talk we asked participants to answer: What is your understanding of water planning that has taken place in the State?
Many folks in the break-out had experience with the regional water planning effort, the ABQ 100-year planning effort and felt that to achieve a successful plan, collaboration has to happen at many levels. Input from stakeholders is key to a successful plan as is being consistent with communications and ongoing communications. Policies and actions need to come out of the planning process.

2) I then asked participants: What would you like to see in the 50-Year Water Plan? (framed as a visionary question). Surprisingly, folks had a difficult time answering this question directly. No one jumped out with direct absolutes that need to be in the Plan. They did feel like conditions related to lesser valued resources (see 1 below) are important to highlight in the plan.

Conclusions/recommendations:

1) Lesser valued resources like instream flow, acequia and irrigated agriculture; NM culture, need to be elevated in the plan to demonstrate their resounding importance to stakeholders and New Mexicans. Collaborations need to be top down and bottom up-federal relationships are important. For our identified resources/uses, we want to learn how entities and individuals are being resilient to those changes in Temperature and variability now. Answering the following questions in the Plan will be important: explaining why water users believe they are resilient resources, solutions to problems, and what can we be doing going forward to ensure equity.

2) Engage and participate; reach out and make connections; people that plan together, stay together and engaged in the topic and process. Planning needs to be flexible. Policies need to produce actions and direction.

3) Share success stories-they educated and highlight implementation and accomplishments around the state that aren't necessarily that well known or publicized.

TT# 1-2 50 year water plan

3 highlights

1) Pueblo people used to be able to move to respond to changes in climate. Now stuck in one place.
2) How do you share water when some feel they have aboriginal rights, others pre-1907 rights, others domestic, etc?
3) What is 50-yr Water Plan trying to accomplish? Is that defined?

Conclusions/recommendations:

1) Having a seat at the table means equal footing.
2) Need to be approachable. Many people are not interested or care, but need to understand because it affects them.
3) Reach out to children, those who will be around in 50 years

TT# 1-3 50 year water plan

3 highlights:

1) What Planning Processes have worked: Previous water planning processes that have worked well take a lot of time to build trust and work through the problems (5-years for Jemez y Sangre). Public meetings need to make it clear what questions are being brought to the table. Tribes need to be engaged in a meaningful way. Developing stakeholder groups are important in addition to public meetings. In-person meetings allow for use of posters, where people can vote on issues, but the online platform results in more participation.

2) What should be in the 50-yr plan? A 50- year water plan should have substance in presenting and acknowledging the problems facing New Mexico but should also present solutions to the problems. While the state cannot solve all problems, they could present clear actions that need to be taken by the state. It is also important to present the legal, policy, and physical constraints to solving problems. Lay out a road map for how to solve the problems, including changing water laws or enacting other legislation, and outline the funding to achieve the goals.

3) Big Questions: Water planning efforts are not always as meaningful as desired because of the limitations placed by existing water laws. We cannot redistribute water to solve problems or establish priority of use because the water law does not allow for such creativity. How are we going to manage an over-allocated resource? How will the state track water put in the river just for the ecosystem? Water quality and quantity need to be addressed. How can citizens be engaged in the plan?

Conclusions/recommendations:

1) Create a robust public involvement process
2) Clearly present information (like water budgets) to highlight the problems facing NM.
3) Present a clear road map for how to solve problems.

TT# 1-4 50 year water plan

3 highlights

1) Data is critical – existing data needs to be more accessible (Water Data Act) and we need additional data, including more metering, monitoring, to inform forecasting.
2) Regional approaches and basin specific solutions needed. Solutions must be stakeholder driven
3) Need for collaboration – Example, OSE/ISC and NMED water quantity and quality nexus, across agencies and other entities

Conclusions/recommendations:

1) Creative solutions –
    a. Reuse – looking at how water gets to us, given less snowpack and more monsoons
    b. Regulatory – starting point, moving to more flexible solutions
2) Direction on how to do it – specific actions that could be taken, including constraining use
3) Worst case scenario – Do we have data, forecasting and manpower we need to tackle the challenges?

TT# 2 Water Data Act

1) We need good quality water data.
    - Data need to stay informed, modeling and decision making
    - Metadata are needed to know about the nature of the data

2) Data can be used to promote education.
    - Need to go back to the basics
    - There can be a profound shift when we have a common understanding

3) Data should be used for water sustainability and management
    - NM can / should be leaders in water management
    - Need to consider our neighbors as we manage our water

Conclusions/recommendations: who can do what? [none]

TT# 3-1 Ag and Rangeland

We structured our group discussion as a round-robin style dialogue. We started with an overview of rangelands/grasslands as that is the principle focus of restoration and conservation in agricultural communities, so that we were all thinking about the same topic with the same definitions. Discussion as it flowed from person to person is below:

- Xxxx kicked it off with a description of work on the lower Pecos with grazing leases and thoughts on restoring a healthy landscape with a focus on grasslands. Powerful comments: "The land wants to heal" and "Let's decrease the E in evapotranspiration".
- xxxx: if we were to develop perfect methods of range management to restore soil and watershed health, what kind of multiplier to we get when we scale this up beyond the individual pasture, ranch, small watershed? And how to we dovetail ongoing grassroots efforts to heal the grasslands with a policy like the 50 year water plan?
- xxxx: observations of restoration work show that increased soil health decreases erosion. This is good in that is preserves soil, but is it potentially also bad in that it limits surface water runoff into drainages? If there's less runoff, does this impact recharge to shallow groundwater systems?
- xxxx: New Mexico has a huge proportion of rangeland with diverse ownership, so how to we tackle grassland health with so many different people, agencies, entities doing different things? If we take grasslands out of agriculture (e.g., urban development), what impact does this have? For the 50 year plan, as climate changes, what are the impacts of ecosystem restoration – e.g., are we restoring for what climate was like 20 years ago and not restoring for what it seems to be shifting towards. What data do we need to try to understand how all these systems change as climate changes and how to we create policy for that when we don't know what we're looking towards in the future?
- xxxx: When we think about irrigators, especially in terms of the acequia systems, runoff is now entering those surface irrigation systems at a different time and in different amounts than it used to. The thinking used to be to retain water for use using infrastructure – dams, diversions, holding ponds, etc. But it is intriguing to consider storing water in the grasslands, soils, etc. instead of via human engineering.
- xxxx: Coming at this from the US Forest Service perspective, they are working to update forest planning protocols for targeted rangeland improvement. Their focus is primarily on protecting riparian areas and springs in order to restore them so the water flows again. There are many interesting small scale projects the USFS uses in concert with grazing allottees such as exclosures from riparian areas to keep cattle out, beaver dam analogs to recreate a natural pool and riffle sequence in streams, etc. But, again, how do we scale up these small successes to big watersheds, different ecosystems and can we scale up fast enough to keep pace with (or ahead of) climate change?
- xxxx: from an education perspective, how to we address cultural changes in the agricultural realm within the constraints of a 50 year water plan? Are we shifting back to or maintaining native plant communities? Are we considering moving towards livestock

like bison as opposed to cattle? How to we educate and discuss to move a very altered landscape back towards what it used to be like pre-homesteader time?

- xxxx: as a small-scale urban farmer, how can conservation easements be utilized to preserve landscapes and create a permanence to restored areas? Is this a tool that needs to be brought more to the forefront in these discussions and in policy?
- xxxx: some agricultural producers have shifted towards using bison, but they are difficult to manage compared to cattle. The "big wheel" is broken in terms of how Native American hunters and other predation would influence how bison use their landscape. Now they tend to bunch up on a water source similar to cattle. In addition, plants termed "invasives" by many of us, such as juniper, are in fact native, but are out of balance in this ecosystem as it stands now. All of our natural cycles and thus natural controls on species encroachment, are out of whack now. But livestock can be used as a tool to manage a vast landscape like the grasslands.
- xxxx: It's important to work with the world that's around us and not just the mountains. Much of the discussion about recharge to surface water sources centers on rain and snow in the high country and how that moves down through watersheds. But proportionately, the grasslands are a much larger piece of the picture for New Mexico and need to be forefront in discussions about hydrologic cycle health.
- xxxx: Decreasing runoff via healthier plant communities and healthier soils does change stream hydrographs. A healthy watershed in a time of surface runoff will show a slow rise in stream levels as that water enters, a steady high flow, then a slow decline. Now, all of our watersheds exhibit dramatic, flashy flow that is very fast and intense – does this provide any possibility for recharge? Unlikely. Also increased headcutting in watersheds.
- xxxx: In taking into account all of these ideas about grasslands, what data do we need to go with the 50 year water plan? What are useful indicators of rangeland health? Where is this data, if it exists at all? How can we consider federal economic incentives for agriculture to help with this?
- xxxx: There is plenty of rangeland health data available (NRCS ecological site descriptions being the primary one), but it may not have all been adequately analyzed or all in one easy-to-access place. Folks like K. Gadzia help landowners assess rangeland health, but this information usually remains in the hands of the individual stakeholder.
- xxxx: It's important for groups to be flexible in our thinking about these challenges and be open-minded as we look for solutions. It's also important for the academic institutions, such as NMSU, that serve the agricultural population, to be a foundation for this flexibility and open-mindedness.
- xxxx: in something like a 50 year water plan, what is the desire/plan for communication between policy makers and stakeholders and educational institutions? And where is the money to craft suitable projects/data gathering missions to assist in all of this?

Some final thoughts summed up by xxxx

- Rangeland is a huge part of the NM landscape and it cannot be forgotten. As we work to understand this complicated landscape and heal it, what data do we need? How do we scale small-scale successes into such a vast geography?
- For a 50 year water plan, what now? It's important to not just go with a top-down policy-driven approach as this method rarely works. We should consider coupling bottom-up grass-roots efforts already rolling along with top-down policy implementation so the policy matches reality.
- We need openness, communication and flexibility on all fronts to manage our resources through the climate changes we're confronting. And we're in a race against time into an unknown climate regime. Cultural change and relief of economic pressures are essential along with data gathering, interpretation and education.

TT# 3-2 Ag and Rangeland

Notes are all together here (see longer notes below) Innovation in agriculture is needed to preserve our agricultural lands, development is a dominant impact on our farm- and range-lands, we are seeing the gentrification of our rural lands. This is an issue of social justice, which is highlighted by looking at who is being impacted. Two most important resources for the middle Rio grande are quality of life issues: agricultural lands in the acequias and trees in the Bosque, how do we do protect those. Our aquifers are dropping, particularly in the Ogalala, but throughout NM. Water banking and agricultural fallowing is seen as a catchall solution, that water shortages will be answered simply by water coming from agriculture without considering the implications of fallowed fields, particularly land management. To support our farmers and ranchers, our uplands and valleys throughout our watersheds, we will need however, multiple menu items and solutions, not one-size-fits-all. We will need to bring partners together in the issue of water banking and agricultural fallowing to support innovative uses of low or no water-use fields, such as the use of cover crops, high water-efficient, extreme drought-resilient crops, which can include high-value niche crops, flood/stormwater flow onto fields. Drought has brought on some significant dust storm issues. Flexibility in water use and storage will be key, and collaboration across the watershed will be needed. Forest management and adaptation is critical, including Bosque forests along the Rio Grande. Aquifer recharge is going to play an important factor in refilling our aquifers and reducing our evaporative losses. We have seen successional models and support for younger farmers – we have seen organizations like Agricultura that trains young farmers, seen some leasing programs, one of the biggest challenges is markets.

Conclusions/recommendations:

[none]

Longer notes

xxxx – conservation district, broad mandate combine with sustainable use with all uses, how those resources can be used for humans and to sustain the environment, how can we balance as water supply declines, as our snowpack shrinks every year, we will be tremendously challenged, contradictions between law and shortage sharing, voluntary fallow program, all will help us be more resilient, synthesize all of that, matter of communication, and collaborative solutions, a wicked problem

xxxx – about adaptability, can take a lot of different shapes, new ways to improve cover cropping, a lot of juice that can be squeezed out of that lemon, just starting to get momentum and funding, enhancing the adaptability

xxxx – born and raised on a ranch in NM, moved back as a range conservationist, gentrification of our landscapes, non-native animals, primarily livestock grazing, caution environmental group, once you plant a house, it is there forever, plus all the habitat fragmentation, important not to vilify our agricultural partners, some of those that have some of the best habitat, most threatened from development, Chama north…, new trophy home that pulls down a lot water, honestly E. coli from effluent from sewage systems, won't glorify agriculture uses, at least those limited landscapes are most threatened, notion of climate change, its happening, we will probably see more forested lands converted, urban use and big industrial uses, conversion of Chihuahuan desert, won't make any more water, love the quote from Cochiti, not a matter that we live in a land of abundance, but that we are given enough, people are not living within their means

xxxx – great points and ideas, in talking about conservation program, water leasing has been circulating for many decades as a catchall, with the conservation program not to remove them from production, build in adapatability including to farms and farmers that need a little more water, also to look how do we provide cover so that , innovation crops for niche markets higher value crops, a lot of possibilities, difficult to transition away from predominant crops, easier to grow when you have a lot of water variability and have full time jobs

xxxx – touch base, couldn't agree more that temporary leasing a bandaid for a larger problem, a way to get through, should be multiple menu items, first pilot program won't do it when have just seeded, find lots of ways to meets the needs of various irrigators,

xxxx – changing laws, hemp is already legal, from an ecological standpoint could be a significant impact

xxxx – I have seen in places, using drip systems, not using acequia, forest service, talking about the bosque, District is such a landowner of Bosque, opportunities, we have a little more habitat, similar aged forest that is declinging, reshape the Bosque, less water intensive and more diverse, a little more fire resistant, what is the bosque likely to look like if we do nothing, similar

situation with our mountain forests, meeting the needs of our communities, safety, recreation, access, emergency

xxxx – we are seeing a higher frequency of fires, we are just going to have get used to more smoke, mortality rate is phenomenal, mortality is out the door, landscape changing, whether we get those forests back, likely a conversion, pinon to ponderosa, span of time or history, fragmentation, economically, who is going to pay for that.

xxxx – a lot water reclamation, turning sewer water into uses to replace fresh water supply, wondering if other urban areas such as Albuquerque. On the east side, we have challenges on the depleting aquifer, not a lot of discussion on the Oglala, lead agency to pay farmers not to irrigation, a way to move water out of agriculture, will take some money.

xxxx – congressional representatives to build in flexibility for storage purposes

TT#4 City County water systems

3 Highlights

1) We had a very broad range of backgrounds including UNM, Santa Fe County, ABCWUA, Bloomfield, the State and an Acequia. All had different perspectives.
2) Because the overall subject was innovation, the team started with discussions of water reuse. The team discussed treating produced water near Bloomfield, stormwater harvesting in Satna Fe and Albuquerque, and Aquifer Storage and Recovery. This led to a discussion of how return flow credits for reused water site are very specific. Smaller isolated communities with limited water supplies may reuse water with fewer regional impacts. And there was a concern expressed that the bigger cities could make unilateral decisions on these types of issues and impact agricultural water users and smaller communities in the basin.
3) In every innovation that the group discussed it become apparent that things become complicated very quickly. We spent some time discussing Santa Fe's plans to reclaim water. That project was described as a microcosm of the entire State. Santa Fe will get some return flow credit for implementing the plan, but many in the group worry that the impacts of that plan will not be fully accounted for. One groups storm water harvesting, may be impacting another groups water supply.

Conclusions/recommendations:

1) None of the innovations are Silver Bullets. I used the expression that we are all "Buzz Kills" because all our good ideas become very complicated very quickly.
2) We need many answers and many policies. Not just one answer.
3) We need to try to optimize things incrementally. That conclusion was a surprise to me. This group was not advocating enormous jumps in any direction. But a step-by-step approach to weigh alternatives and get the needed input.

TT# 5 Environmental flows, ESA, conservation

3 Highlights

1) Need to expand and scale-up leasing programs for environmental flows.. How do water users feel about this? Is it the right time? An example: Navajo Nation has been willing to participate. Big question: how to value the water/compensate people? Leasing programs can be constructed to be useful for farmers, esp. during drought. Have SWR, San Juan/Chama water. To build out, need a concerted state effort. Need agency staff working on it. Look at TX instream flow program, or CO. These states put resources toward it. This idea has not been promoted.

Seems like the State has a suite of tools for environmental flows/endangered species/conservation

Current Administration (MLG) is supportive of staffing water mgmt. agencies

2) Opportunities for environmental benefits when 1) move where water is stored (higher elevation) and 2), strategically move water downstream at the right time, Look at timing of flow releases too.

3) Given overall reduction in flows: how do rivers get water?

How to navigate compact compliance? They need to change. They're meant for wet years, not dry years. CO doesn't stand to benefit. NM doesn't have leverage. The 3 states will have to come together to find a solution. Need institutional change, but there's not a lot of political will.

Opportunity: Basin Study. 50 year water plan. People seeing dry rivers. Low flows / no flows create will for change

Conclusions/recommendations:

1) Expand leasing programs statewide. Have dedicated water agency mgmt staff working on water leasing. And need resources to support it. Look at other western states for how they fund this. Advocate for federal funding too. Certainly if ESA involved. One fund per basin? This might be necessary.

e.g. San Juan. NFWF has $ to support infrastructure projects to support recovery. Examples: improved diversion. Feasibility of moving fish below waterfall to back upstream.

Expand SWR to be a water bank for environmental flows

2) Opportunities for environmental benefits when 1) move where water is stored (higher elevation) and 2), strategically move water downstream at the right time, Look at timing of flow releases too.

3) Look at opportunities for recurring funding to support environmental flows. Some municipalities could pass an "environmental tax" that could be used for water (and other thing). Could ask taxpayers to support this; add it to property taxes.

Need to make the economic case for healthy rivers with water.

Need help with marketing for an 'envr' tax.

TT# 6 Tribal Water Issues –

3 Highlights

1) The 50 year water plan is an opportunity to elevate sovereign nation to sovereign nation relations.

2) Using young people: many young people are getting degrees and learning the lingo to be able to take part in the conversations

3) Lack of resources being a major issue: more money needs to go to infrastructure to move water within the Pueblos, and the changing administration may offer opportunities to gain more funding for infrastructure projects and greater resource allocation.

Conclusions/recommendations:

1) Every Pueblo and Tribe is unique and the approaches of engagement and participation need to be tailored for each Pueblo. Pueblos can work with the state, other pueblos and tribes
The option was raised of having Pueblos work together to maintain water certainty.

2) Tribal sovereignty has to be recognized, and it is key to build the sovereign-to-sovereign relations between the tribes and the state.

3) There needs to be ongoing conversations or forums on water issues and tribal needs and rights. This can include engagement of youth to bring them into the conversations called "water protectors".

Notes:

- xxxx: tribal engagement and 50 year water plan, what does tribal engagement look like?
    - Given Deb Haaland, BLM, ect. makes this a good time to talk about where tribes fit in
    - Water is a great way to think about this
    - Issues of tribal sovereignty
    - Starts w building conv among tribal leadership and water dialogue like this.
    - Water policy with no consideration to tribal sovereignty
    - Look a broader vision for what 50 year water plan means for sovereign tribal relations, sovereign to sovereign nation relations

    - Jicarilla has leased water, settlements without infrastructure to access water
    - How to keep water in nm
    - Lease water in nm, not sovereign to sovereign relations in leasing water
    - Tribes translating values into language that others understand
    - Each tribe is a unique sovereign entity, there is no one tribe solution
    - River compacts all say they don't pertain to tribes
    - What is needed to forward joint visions of water in nm? Legislation, ect.?
    - Why include tribes? Include them from the beginning.
    - Water security and climate change, how to use a value system
- xxxx: 23 tribes in nm, they are different
    - Each pueblo is unique in their needs
    - Going to legislature for action, funding for projects, ect.
        - Infrastructure on tribal land needs to be updated, improve access to water
    - Gov Grisham's 3 pillars:
        - Stewardship
        - Sustainability
        - Equity- water serves all new Mexicans
- xxxx:
    - What is the structure of engaging tribes?
        - Ex: 29 sovereigns in co river basin
    - Indian gov's ass as the vehicle maybe?
    - Adding value and complimenting state efforts
    - Importance of CO river to nm: middle Rio Grande, Albuquerque, ect.
    - Most effective means to have these convos
- xxxx: other pueblos here in talk
    - Involved in negotiations
    - How to reach out to tribes/ pueblos involved in negotiations to engage them
    - Unique chance to bring everyone to the table to ensure sustainable water supply
- xxxx: Pueblo of Acoma
    - Chairman since 1985
    - Funding
    - Downstream pueblos
    - Can't get support from state/ local
    - pumping water from wells costs money fighting for the next generations
- xxxx:
    - Take advantage of the system today with elected officials
    - Talk about the past when settlement discussions, compacts written,
    - No link to these borders
    - Have to now make a claim/ boundary to water and settlement talks
    - No native water flow on Chama
    - Talk about future of people with water
    - Global conversations happening
    - Settlements as expensive as litigation

- xxxx: echoing global conversations
    - Main conclusions on how to go forward
- xxxx
    - Again, every Pueblo is unique
    - Young people getting degrees learning lingo, code switching
    - Idea of having water point person in the pueblo, not all of them have this person.
    - Remediation on Navajo land
- xxxx
    - Planning for Pueblo of Laguna
- xxxx
    - Working on giving tribal communities access to water
- xxxx
    - TNC hydrogeologist
    - TNC wants to elevate tribal voices and actions
- xxxx
    - Acoma water commission
- xxxx
    - Acoma water commission
- xxxx
    - Headwaters of Rio Grande
    - ISC water planning team
- xxxx
    - PhD at CU
    - environmental justice
- xxxx
    - Tribal liaison army corps of engineers
- xxxx
    - Table of water protectors
- xxxx
    - Supporting tribes in ongoing negotiations

TT# 7 Middle Rio Grande Basin Study

Recommendations:

- Understand the possible actions that can save water for the river. Determine the largest water losses. What are the possible water saving actions to keep water in the river
- Bracket the forecasts and strategies so that we can be informed of the range of water supply futures that may occur and plan for them.

- Put in place proactive, ongoing water supply planning and adaptive management program, including a robust water planning process to build on the basin study, since the Basin Study cannot, that will actually recommend actions that then can be implemented.

Discussion, questions, and observation:

- What is the relationship between the 50 year water plan and the basin study?
- Discussion of all the government agencies that have a piece of water management and observation that the pieces do not add up to a whole. Programs are operating in a way that they are not tied to each other. Collaborative program is not tied in.
- How can it be that water planning and management in New Mexico is so poorly funded?
- Zoom has made this Water Dialogue more convenient and inclusive

TT# 8-1 Water Policy in Legislative Session

TT# 8-2 Water Policy in Legislative Session

3 Highlights

1) The 50 year water plan is crucial – the group is concerned that the effort is not being funded enough to get it completed.

2) Meter all wells/uses – this is a crucial piece of water data to aid in water management but it is not routinely collected. Are wells with 1907 (or prior) priority dates exempt for reporting usage (based on beneficial use – not metered flow)

3) Money to support water operators – rural communities often don't have the expertise to run sophisticated water filtration systems so they fall into disrepair. There is often money for new purchases, we need more money for operations support

Conclusions/recommendations:

1) The 50 year plan needs to be fully funded

2) Elephant Butte created an incentive program, allowing users to pay a lesser annual amount if they could prove they used less than the permitted amount. Not sure how can we get older priority (including tribal users) to share their usage.

3) We didn't have a clear solution for this – creating a pool of experts that operators can turn to?

----------**RAW NOTES**----------

50 year water plan – how is it being put together? Stewardship, sustainability, equity should be the cornerstone of the plan. Are we paying enough attention to the equity side? Q-Why does the LFC budget not include $$ for the 50 year water plan? A – LFC is not the final budget but yes, budget is not secured…..

Pg. 192 for 50 year water plan appropriation to state engineer: https://www.nmlegis.gov/Entity/LFC/Documents/Session_Publications/Budget_Recommendations/2022RecommendVolI.pdf

Watershed Management - Groundwater and surface water are truly one entity in this state. Emphasis tends to be on water use and not on the water source/water supply – which is the more important issue. Need to look at water use by vegetation – salt cedar, over crowded cottonwoods, over-dense forests. Improve watershed health. How do we improve the understanding in this area (workshops? Rely on experts?)

All new policies need to include protection for water – but to do this we need the data – ISC/OSE can't manage new and existing permits and transfers without good knowledge of the groundwater. Places outside the major alluvial aquifers (such as mountain aquifers) often have little data to assist with management.

Sharing Data discussion – Laila showed the data we have at the Bureau to the group – there was a request for our data to be also shown at the NM Drinking Water Safety page. Probably more important for that all to be shared by the Water Data Act and not on another agencies page.

Meter all wells/usage – how do you fund metering all wells? Elephant Butte created an incentive program (charge for max permitted use unless operator could prove they use less than that). Chatfield informed the group that OSE can't meter wells prior to 1907 – OSE doesn't have the authority to meter those uses. Beneficial use is the measure of the permit (based on original permitted acres). The group wasn't sure if that was 100% correct. Regardless, metered usage data is key to manage water and this data is crucial for the water data act.

Water Grid Modernization Bill being proposed by Stansbury – connecting mutual domestics to help alleviate water shortage. Comprehensive picture of where water is, who is using it, where it is flowing? Dagmar asked about this, but the group didn't have many details on how this will look.

Need more money for maintenance and running water systems – filtration systems in particular fall into disrepair due to lack of properly trained water operators. So the system falls into disrepair until a new one is installed and the cycle starts again. Subdivisions are required to prove they have at least 40 yrs of water and enough for fire flow, but that isn't always followed.

Some attendees were mostly interested in learning about water policy and legislation – didn't have a lot to add.

TT# 9 Groundwater Policy

What is your current perception of groundwater management / policy?

And then – what do you want groundwater management to look like in the future? What policies do you want to see change?

1) ABQ - Groundwater management needs to be conjunctive with Surface water, would like to see more ASR, and more offsets for cities on Groundwater – water back in ground, how to keep rivers whole for communities – SW/ GW connection and using Glover Balmer / OSE says how much groundwater .
2) In Hillsboro area – very concerned about groundwater in Copper Flat Mine that has been proposed. Very large unique sycamore and water wells will be depleted. Water lease from Jicarilla Apache – this mine is claiming 6000 ac ft/ yr. Contamination issue.
3) Current situation – not cohesive or connected in management.
   Future goal – improve way to discuss levels of the aquifer, need more real time accounting of depletion of aquifers / surface water. Improve depletions accounting / perform a midyear accounting.
   Dealing with water permits vs water rights – fix the number of water permits
   OSE take back water permits.
4) Concern for future generations and aquifer depletion, water sales, improve for future – look to science; raise the urgency or educate
5) Future /now – focus attention on MRG from down south. Compact NM (to EB) and compact TX (below EB).
   a. GW Policy is ANTIQUATED.
   b. Priority administration fine –AS LONG AS WE ACTUALLY RESTRICT USE
   c. Future: Promote dialogue, discussion and EDUCATION – Admit our weaknesses, we are fully and over appropriated.
   d. Need funding!!!
   e. Water data essential for coming to that table for discussion. – seeing the water from the same starting point in understanding.
6) Upper Hondo in Lincoln Cty, groundwater dependent.
   a. Concerned about policy of issuing water rights. Buy /sell in different parts of county.
   b. Positive – talking more about SW and GW
   c. Policy – Open up reuse and alternative supply - need more studies on deep, brackish water.
   d. Create equitable policy that is equal between urban / rural.
7) Environmental policy / life all over nm. Seen a lot change.
   a. Plan for Groundwater shed planning – describe?
   b. Erase the lines that suggest GW and SW are managed separate.

Conclusions/recommendations:

1 ***Let's start erasing some of the lines.*** Manage water as one – SW / GW all water and between management agencies. Groundwater-shed view/focus.

- Ex. Copper Flat Mine – Hillsboro, NM Water Quality, DP before even acquiring water rights.
- Ex. Open options ASR and Reuse – need policy to open up options

2. ***Actively manage groundwater*** and evaluate how we do accounting and measure depletions. And perhaps update antiquated sections of policy–

- Implement prior appropriation or dump it? OSE Take back water permits
- Consider adjustments of water permits vs. rights. Vs wet water.
- Closely evaluate how we do our accounting. Metering or modeling request – regularly evaluate depletions with more accurate measurements.
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3. ***Build more dialogue to help break down barriers***, push political will and break down some of the barriers. Build more opportunities for these conversations.

- NM – has culture of being somewhat insular – agency through down to individuals -- I've got it, I've invested in it -- why should we give it back or share.
- Need push for political will – courage to develop a more collaborative culture. Likely to take a crisis.

TT# 10-1 Forests, Watersheds, Riparian Health

3 highlights:

1. Restoration or more important Resilience of riparian areas or habitat.

2. Restoration --- For what purpose? What are we restoring to? Not just for endangered species but to maintain diversity and long term stability. In depth discussion of microhabitats and projects on the Valles Calderas.

3. Thinning projects on National Forests or State Forest Lands. There has been a big change in approach and there is a need for studies and how do we create resiliency? How do we know actions are helping and how do we measure the benefit?

Conclusions/recommendations:

1. Need to focus and restore headwaters, anyone can spend endless amounts of money in restoration projects in the middle or lower part of the watershed, but true progress starts from top-down.

2. A goal would be to have a forum to continue discussion, dialogue and outreach on projects and case studies, local projects and perspectives about watershed resilience and riparian restoration areas.

3. Science based approach at watershed resilience. Many tools available and one approach is using water quality and the SSTemp model. The idea being to restore wetlands and riparian area to maintain water quality including temperatures for cold water aquatic life in headwater streams.

Random Notes:

- Create Wetlands- Issues are limited water; agriculture fields are connected to the riparian area. Climate change. Select species appropriate for future reduction of water. Extreme scenario next century.
- Which species - NM Game and Fish Department coming up with a plan/goals to create better habitat for species; not habitat based on landscape point of view.
- Increase diversity of plants. Xeriscape landscape close to riparatin reaches.
- USDA - Middle Rio Grande Assessment.
- Restoration- For what purpose? What are we restoring/what are our goals?
- Not every species or habitat is good for every species.
- Minimum processes- Must be included in the management plan.
- Suggest: SWQB, ISC - 50 year plan to include temperature which is leading water quality impairment. Cold water aquatic life, TMDL SSTemp(USGS) model. Set goals to increase canopy cover, air temperature is the biggest factor.
- Human perception of what it used to look like. Might not be very healthy.
- Patchwork Mosaic! Low flow events!
- What are our goals - What are we tring to restore for.
- Not just endangered species need to maintain diversity and long term stability.
- Adaption Restoration Program
- Mico Habitat
- Experiment: Valles Calderas - Plant willows and prevent grazing. Willow (debate) and had mixed results. Rehabilitation. Exclosures- Biggest issue, legacy grazing effects. Salad Bar for cows. Grazing is extremely costly; culture/historic trend. True cost without subsites is very large.
- Very hard to predict how restoration projects are going to react.

- Forest Thinning Projects - How far do we go? We don't know the original conditions.
- How do we know the benefit of thinning?
- Flow gages? Gages must be put or moved upstream after thinning projects.
- Fire Cycles - 5 to 7 years (ponderosa forest) for health and diversity. Society has eliminated natural fire cycles. (Conchas Fire).
- Forecasting and Planning - Climate change; How to manage all uses?

TT# 10-2 Forests, Watersheds, Riparian Health

3 Highlights

1) Important to involve community in any action taken to address environmental health and restoration issues.
2) Concern regarding efforts in Colorado to totally deplete (dry) river flows before NM state line.
3) Need for better funding opportunities for private land owners for riparian restoration.

Conclusions/recommendations:

1) For all efforts to restore system health there is a need to consider climate change in the section of replacement plant strains that are better adapted to warmer climate conditions. This means species strains from more southern parts of the species ranges, rather than restoring using those impacted strains from same area being restored or from the more northern parts of the species range. This is not saying to use different species, but different strains of the impacted species.
2) Riparian restoration should not just focus on downstream mainstem rivers but perhaps more so on upstream tributaries were benefits could help to increase watershed bank storage and help smooth the seasonal downstream hydrographs. Also, beavers have been shown to markedly aid restoration efforts and consideration of their use should be expanded.
3) Funding opportunities for restoration on private landowner needs to be increased. Suggestions included the needs to address limitation produced by "Anti-donation Clauses" and matching funds potentials provided by the NRCS, NM State Water Trust, NM Game and Fish, NM State Forestry, Conservation Easements, and US Army Corps of Engineer's assistance grants to native people.

TT# 11 Colorado River System Mgmt - Implications for NM

Summary

The session began with an overview of Colorado River system policy and management by xxxx, of the NM Interstate Stream Commission. xxxx provided an update on the Upper Colorado River Basin Drought Contingency Plan, including the two elements of the DCP that have the greatest implications for New Mexico: (1) the Demand Management Storage Agreement, which will, if all

of the Upper Basin states, the Upper Colorado River Commission, and the Secretary of the Interior agree to a demand management (consumptive water use reduction) program, authorize the storage of conserved water in Lake Powell and other Initial Units of the Colorado River Storage Project, including Navajo Reservoir, for the purpose of Colorado River Compact compliance, and (2) special drought operations of the Initial Units of the Colorado River Storage Project, including Navajo Reservoir. xxxx also described the drought and shortage management tools available to the Office of the State Engineer and Interstate Stream Commission, including Active Water Resources Management, the Strategic Water Reserve, and the current shortage-sharing agreement among major water users. Finally, he provided an update on the NM demand management stakeholder workgroup, which the ISC established to engage San Juan River stakeholders (including San Juan-Chama Project contractors) in discussions about the design of a future demand management program.

Following the presentation, the group engaged in a robust and wide-ranging dialogue that touches on issues of climate change and attendant aridification, water security, water transactions, tribal water rights and water development, environmental flows, the San Juan River Basin Recovery implementation Program, endangered species conservation, and equity, diversity, and inclusion in water management policy. Prompted by the facilitator, the group identified three principal findings:

Action is needed now to build the resilience of the San Juan River system. Climate change, drought, and aridification present challenges to interstate compact compliance; fish, wildlife (including the San Juan River's two federally listed endangered fish species), and habitats; and water security. We must act now to build the resilience of the San Juan River system, for New Mexico and for the entire Colorado River Basin. This should be supported by a democratic process that fosters equity, justice, food security, and river and community health while complying with the Law of the River. Potential tools and solutions include:

- The Upper Basin Drought Contingency Plan
- The new Colorado River operating rules whose negotiation began this month
- The current San Juan River shortage-sharing agreement
- The OSE's Active Water Resources Management program
- The ISC's Strategic Water Reserve
- The San Juan River Basin Recovery Implementation Program.

To implement these approaches effectively, additional OSE/ISC capacity is needed.

The fate of the Middle Rio Grande and the San Juan River are interconnected, as are the communities that rely on them for water. Both river systems are faced with shortages due to the ongoing drought, though the San Juan River has more water and more operational flexibility. The group agreed that both systems must be managed for resilience so that shortages in one basin do not compromise river health and water security in the other.

Universal access to clean and abundant drinking water should be a top priority for the San Juan River Basin and for New Mexico. For public health, we must extend basic drinking water delivery infrastructure to Tribal Nations. Far too many people in the San Juan River Basin – especially indigenous people – lack basic access to clean and abundant water. This water insecurity has been brought into focus during the pandemic; lack of access to clean running water exacerbated the viral contagion, resulting in an unconscionably high rate of infection, sickness, and death. Public investment in water infrastructure is critically important to health and well-being.