Agenda

Humboldt River Stakeholder Working Group
Date: January 8, 2025
Time: 10 AM- 4 PM
Location: Lander County Building, 50 State Route 305, Battle Mountain, NV 89820.

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1. **Opening Remarks (10:00-10:20 AM)**

Presenter: Adam Sullivan
The State Engineer (S.E.) will provide opening remarks, outlining the Nevada Division of Water Resources' (NDWR) position, take-aways from previous meetings, key progress, and plans for the future.

2. Overview of the Group's Purpose and Meeting Objectives (10:20 – 10:30 AM)

Presenter: Kelly McGowan
A review of the group's purpose, objectives, and responsibilities outside the State Engineer's jurisdiction. The specific goals for this meeting will also be outlined.

3. Water Offsets Presentation and Initial Discussion (10:30 – 12:00 PM)

Presenter: Kip Allander
Kip Allander will provide an overview of water offsets, including their definition, role in water resource management, and potential applications within the Humboldt River region.

Lunch Break (Provided)

4. Continued Review and Discussion of Proposed Ideas for Offsets (1:00 – 2:30 PM)

Facilitator: Kelly McGowan
The group will review and assess the feasibility and impact of proposed offset ideas:

- *Use of Decree to Offset Capture*
- *Managed Recharge (MAR) as Offset*
- *Augmentation as Offset*

Discussion will address the following key questions:

- Practical implementation of the aforementioned ideas; What does it take to implement? Is it feasible? What are the key challenges? What are the guiding principles and exemptions? What is an acceptable right that can be used as an offset?

- Addressing potential implications (e.g., financial burden, technical capacity, inequities among users).
- What additional tools and information are needed to help the group make informed recommendations?

5. **Updates and Complementary Topics (2:30 – 3:30 PM)**

Presenter: NDWR Team and All Participants
Updates on relevant studies and implications (link provided in the email), followed by an update concerning the upper basin conceptual model development and the timeline for assessing capture impacts.

6. **Wrap-up and Next Meeting Agenda (3:30 –4:00 PM)**

Presenter: Adam Sullivan and Kelly McGowan
The group will discuss and determine agenda items for the next meeting, ensuring that priority topics are covered. The date and time of the next meeting will be confirmed.

Meeting Adjourned

HSWG Meeting 1/8/2025 Notes. Prepared by R. Rosenberg & C. Montoya

Topic one: Opening remarks, NDWR position on developing Conjunctive Management (CM), key progress & future plans

1. Pam, Lander County Natural Conservation representative opens the floor
2. Adam begins meeting. Third for the group.
    a. Requirement for good collab for a complex subject.
        i. 2 meetings so far, clear that we need to have more structure for this meeting so that we can get tangible results.
    b. An overview of the Scoping Document to focus the meeting.
        i. How we got to this working group, what is this group trying to accomplish. What's the approach for tenants and principals guiding what we can do.
    c. List of conjunctive management ideas, 19 actions - PowerPoint that shows each idea in one slide – Adam wants to discuss and refine this PowerPoint
    d. Followed by David Prudic study and then Andrew ayres/ Michael Taylor study
3. The Groups purpose is to focus on ideas and approaches to benefit the whole Humboldt.
    a. Groups like this have better success than Governmental / Top-down approach. This is due to a staff / legal authority shortage. We don't have legal or staff capacity to take a precision approach to managing the Humboldt.
    b. From a governmental standpoint any actionable progress would generally benefit a few as opposed to a whole.
    c. Top-down governance would be challenged, its expensive, more in the hands of courts than science. Collective action that includes the local level in conjunction with state action has been successful so far.
    d. Staged implementation is important moving forward. Offsets are key to move forward with change apps and more complex future discussions. We can discuss theory's and long-term ideas, but staged implementation is important so that we don't get lost in theory
4. Conjunctive Groundwater management has altered the hydrology across the world.
5. Takeaways from the previous meeting:
    a. Offsets are a great thing to do. They help curtail conflicts.
    b. Talks about a conservancy district. Could create opportunities for things we do not have and help the state at a local level.
    c. Possible issuance of a draft order for curtailment to help as a backstop for the State's position.
        i. Draft would provide an understanding of the Adam and the State's thought process of curtailment.
        ii. Help to clarify understanding of everyone's thought processes and act as a discussion point.

iii. Hope to get this going this year after legislative session is done
iv. Low precision type approach.
v. Sabrina states that a draft order feels like a scare tactic. Chris refers to it as a carrot and stick approach.
vi. Sam would argue that the state would be locked into a curtailment approach if order is issued. In case of Idaho it made users pay attention and "come to the table", including those that were fence-sitting. Draft orders would necessitate deep dives into the ramifications.

6. Handful of recent events happening in the system regarding decree management.
    a. First, work on Iron Point. Effort with PCWCD, NGM, DWR to improve efficiencies.
    b. Offsets, active proposals to offsets to support groundwater (GW) right changes.
    c. Engineer order 1286 (2016) requiring surface water (SW) users to install headgates / measuring system. Colton has installed 14 Measuring devices in the past year.
    d. Mining and Milling (MM) MOU permits are by nature temporary and intermittent usage. The temporary verbiage in permits was added in the 80s and 90s and now contributes to confusion regarding CM. Working with NGM to clear up understanding by lessening ambiguous language.
        i. Permit currently states how issuance is temp in closed basins. Idea is to create new language that makes it more explicit the nature of MM permits.
    e. The Nov 14 meeting in Spring Creek to answer local questions concerning water supply was informative.
    f. New gages at South Fork, Rye Patch for level of reservoirs. New funding for Rose Creek & Stonehouse sites.
    g. Continue Funding for installment of Gages like at Round Chimney.
7. Sam Asks: Status on Model of Mid-Section of Humboldt.
    a. Kip-Work has been done. Waiting on USGS. Expectancy in next 3-4 months.

Topic two: Kelly Opening Remarks - Reviewing purpose, objectives and responsibilities outside of the State Engineer's jurisdiction.

Key Message:	Review of group purpose and responsibilities outside of office's jurisdiction. DWR will facilitate comparative perspective from other states. Develop tracking tools for measuring outputs. There should not be simple solutions to complex issues.

1. DWR serves as a convener of this HSWG to share information and knowledge and bring collective effort and additional expertise to resolve water conflicts. Our role is to help take the brainstorming efforts from this group into performing actions.
    a. Idea is that any efforts made are resilient and are conducive to hydrology health.
    b. Experience shows that these groups are generally beneficial.
        i. There are growing pains, especially concerning such large groups.
        ii. Formation of groups does have setbacks.
2. HSWG is to help figure out the best way to adopt resilient, obtainable and reliable solutions to the managing the Humboldt.
3. HSWG is addressing complex issues. HSWG needs to be flexible. Over time it is important to revisit concepts such as the scope of HSWG, data and science changes.
    a. An adaptive approach is critical to the group.
    b. Collaborative effort can lead to mutually beneficial concepts.
        i. Consequences of inaction can lead to economic downturn, resource depletion and missed opportunities.
    c. Provide Collective recommendations to assist Adam in making decisions regarding the Humboldt River.
    d. Objectives for this meeting - clarifications of offsets, tracking tools for measuring outputs, we don't want to force simple solutions to a complex issue.

Topic three : Kip: Water offsets presentation and initial discussion

Topic:	Overview of water offsets, including definition, role in water management and potential applications
Key Message:	Offsets in CM– what are they how do they work. How do we formalize mine discharge and wastewater augmentation?
Important vocabulary:	Offset – quantity of water or credit that can be used to mitigate the portion of a groundwater right that conflicts with senior surface water right. Augmentation of streamflow - increasing streamflow through direct addition of water. Source of water could be: GW with low to no stream capture. Imported from other surface water/stream. Wastewater discharge. Instream replacement of Humboldt Decreed water Managed aquifer recharge (MAR)

Previous meeting included lot of talk on offset. Offsets were not really understood at the time. Important for all to have a better understanding.

1. When you first pump a well, it comes from storage. Over time a cone of depression starts to affect streams and water table.
2. ET capture = lowering of groundwater. Immediate ramification of Well drilling is the cone of depression which increases overtime eventually leading to stream capture. Math works out to every wells pumping adds to a 100% combo of all three captures.
3. Hypothetical well model demos impact of a 35AFA well over 50 yrs
4. Current conflict criteria on order 1329
    a. < 5AF after 50 yrs considered exempt, same for less than 10% of capture. Exceeding this requires offset.
    b. Successful offset criteria – equal or exceed cumulative vol of cap within 50 yrs or exceed annual cap in 40 out of 50 yrs.
5. Chris - offsetting capture based on full duty use after 50 years. Is this fair, because there is a number of years when you may not use the full duty? Seems like over

penalty for GW users because they aren't pumping full duty at the beginning of the permit.

   a. Kip - it will be too much for our office to collect data annually and offset it annually. This would require a conservation district to manage and adjust offsets on a yearly basis. Potential to mitigate more than they are capturing.
   b. Sabrina - what are the effects of pumping from a further source to augment at the well where the offset is required.

6. What does offset augmentation look like?
   a. Graphs showing capture v augmentation.
   b. Offsetting capture with full duty use over 50 yrs.
      i. Seems to penalize groundwater for full pumpage.
      ii. Would require a new entity to manage groundwater at this level. DWR cannot do this due to current personnel capacity.
   c. Potential ramification would require groundwater to mitigate more than the capture.
   d. At some point augmentation is considered by a case-by-case basis
7. How do we formalize mine discharge and wastewater augmentation?
8. In-stream offset using Humboldt Decree (HD) water
   a. Complex conversion calcs.
   b. Location upstream v downstream.
      i. Where it occurs…can take downstream and move upstream easy…very difficult to move upstream to offset downstream capture. Tributary stream decree can offset main, cannot use main decree to offset tributary impacts.
   c. Diff quantities over the season (priority, location, culture class)
9. Wetness factor computation
   a. Upstream basin has shorter season.
   b. Basins are differentiated by Palisade Gage.
   c. Period used is 1912 to 1965. **Gage has been operational continuously from 1912.**
   d. Priority date (percent served by seniority) x duty in AFA served of right = offset
      i. Offset shows actual water served is less than duty.
      ii. Decrees were massively over appropriated
      iii. Has the Division done any work to determine potential offset of surface water? In individual valleys, estimates of 1 in 3000 AF of offset – 1 in 7000 AF in offset.
      iv. For most priority dates, actual duty served is less than duty of water right. When doing offsets, calculations must take into account actual duty served. Offset from decree is compared with capture curve to create how much (water) offset must be performed.

v. Division has a calculator for determining value of a water right, with a factor for capture liability. Working on making this calculator accessible to water right professionals.
vi. Capture liability / wetness factor dependent of manner of consumptive use. All wells have a manner of return flow.

10. Wetness factor determined against capture liability curve.
    a. Cumulative volume criteria exceed the capture liability.
    b. Models show offset meeting the 40 out of 50 years successfully offset
    c. Wetness factor (priority, basin, culture) = 50yr capture liability / duty of offset
    d. Senior decrees are extremely successful to offset.
    e. Junior decrees require vastly more to exceed offset / offset at all.
11. Examples of permits 92433 & 90379 used where offset is built into permit by offsetting with proof 04446 off Rabbit Creek.
12. Managed Aquifer Recharge – The intentional recharging of Aquifers. RIBS or direct injection using wells.
    f. Direct injection is seen more in line with Geothermal uses.
    g. RIBS next to wells would show a neutralizing effect.
    h. Use of a RIB on the modeled 1921 lower harvest right shows that the wetness factor increases from 4.1% to 18% AKA reducing offset form 391 AF to 95 AF.
        i. Offsets to be used for the time the water is used consumptively.
        ii. Mines currently not getting credited for any RIBS.
        iii. Elko Wastewater system has RIBS, same with Spring Creek Domestic Systems(?)
13. Possibility of having a separate permit for offsetting.
14. Some priorities will gain a greater benefit from offsetting than others due to the factor of the priority date + time of season / years in which the permit is used. 80% surface / 20% groundwater split for beneficial.

Open Discussion:

1. How to manage offsets?
    a. Permits, conservation district.
    b. Sandra wants offsets defined before curtailment order.
    c. Create a new MOU for offsets if use permitting process.
    d. Jeff - How to combine domestic wells (de minimis usage) into one group?
    e. Sell offsets by creating a conservation district.
        i. Offsets are more efficient using a MAR, but requires the funding to build the MAR.
2. Michael? (Guy next to Sandra) – A lot of water is received at beginning of growing season, how to offset capture in the end of the growing season.
    a. Kip - Conflict is mostly with downstream irrigation. Offsets for downstream is mostly during summer. Capture makes up for storage during outside of irrigation season. Over augmenting balancing legacy capture. 80% rule benefits surface decree, 20% UG is benefited. If a decree right is to be used

as a offset, a change app must be filed to strip the decree right to offset instream flow.

b. Equivalent of relinquishment, right still exists, has to stay in stream.

Topic four : After Lunch Discussion - Continued Review & discussion of proposed ideas for offsets

1. Laurel – Nature Conservancy
    a. Benefit to nature-based offset capture to reduce to evapotranspiration loss. This avenue could be open to funding as well possibly being less expensive .
    b. There is more that could be done with these projects than just conjunctive management.
    c. Adam - habit enrichment could be very useful as an offset for water users.
2. Benny's thoughts –
    a. State Engineer's office is in the right direction with court rulings and augmentation. He believes we are heading in the right direction.
    b. Trends in Humboldt river - GW affects flows at Comus gauge.
    c. Winnemucca, Grass Valley & Palisades over 100,000 AF over appropriation.
    d. No complaints about the flows above Battle Mountain. Let's focus on areas below Comus. Start with management issues in those 3 segments.
    e. Serving same priority's above and below Palisade. Not enough staff for the water commissioner above Palisade.
    f. Stahl dam, 17feet deep backup to push 25 cfs on the side into diversion.
        i. Recommends low volume – high lift pumps at the dam.
    g. State engineer is in possession of a legal tool the state engineer can use to enforce offset capture.
        i. Order 1329 only addresses new applications and change applications. It does address currently existing permits
        ii. The primary concern is not being over-appropriated it is more the drying out of domestic wells and drying out the river.
3. Chris - thinks Prudic work doesn't address the South Fork seepage.
    a. Kip - We don't know the level of offsets in the upper basin that aren't quantified. need to quantify the existing offsets in the upper basin. There are limitations, conceptualizing error in the model. Used for an estimate of overall capture but need to take a hard look at what is really being offset. Impacts from pumping as you move downstream are real, quantifiable, and bigger than what the models are indicating. The effects are cumulative as you move downstream.
4. Chris - is DRI going to do some seepage run, base flow study?
    a. Kip - Done in Oct as part of the NV basin initiative. We are seeing that during low flow during summer, UG is from hard rocks, not the stream. This is an error in the Humboldt model.
5. Discussion on possibility of moving forward with conservancy districts.

a. Would upper and lower Humboldt be two different districts?
b. Need some type of an organization to facilitate transactions to create the infrastructure for the offsets.
c. Define responsibilities of that entity.
d. Find a way to market the concept to people that will pay the fees.
e. There is a big difference between Lovelock and Elko.
f. A better understanding of offset captures is needed to quantify losses.
g. Through various studies and modelling, the effect pumping has on downstream flow is evident and alarming as the affect is larger than the models previously suggested.
h. During baseflow studies, evidence shows that water is coming from different aquifers than alluvial fans.
i. IF a conservation district will collect fees, is it going to manage the offsets as well? Or will DWR still manage the river?
j. Who is going to assess the fees and money to get all this done.
k. How will we bring all 5 counties together to create a district?

6. Perhaps a new organization is going to be needed to manage conservancy districts.
    a. Sandra - Curtailment would unnecessarily penalize users in the upper Humboldt who are still sending over an acre-foot until Winnemucca.
        i. Idea to bring another state's perspective into the discussion. I.E, Idaho has gone through the conservancy route. The Republican River conservancy.
        ii. Curtailment can start small, by defining curtailment and starting with certain stages of curtailment.
        iii. Curtailment would not help by reducing to perennial yield.
7. Dwight Smith, in case of a draft curtailment, is it along a corridor on the Humboldt, or will it be unique to basins in the Humboldt region? Will it only affect over-appropriated basins and critical management areas (CMA)?
    a. Not written yet, it would be applied to a portion to several basins along the main stem of the Humboldt River. Some basins in the Humboldt region would qualify as critical management areas by the strict wording in the statute.
    b. Is CMA the right answer?
        i. Adam: more of a river corridor issue than a basin issue. Order will apply to portion of several basins.
    c. Can the CMA statue apply to a portion of a basin?
    d. CMA is meant to provide a solution instead of direct curtailment.
8. James - 1329 should be used along the river? Benny thinks this is the tool the SE can use to deal with basins that are over appropriated.
    a. Chris - it doesn't do anything to address the current capture (existing rights) Only applies to new or change apps.
9. Benny - Big picture…is the state trying to get basins back from over appropriation?
    a. Kip - why is this a magic goal?

    b. Benny - We are worried that the over appropriation will cause domestic wells to run try and surface users won't get their water. Concerned with side affects of over appropriation.
    c. Benny's lawyer: Should we look at basins that are capturing river water for curtailment orders?
10. Discussion about Stahl Dam, who's responsible for adding in pumps (land owner).
    a. Quantify how much water is lost to wetlands when the water backs up behind the dam.
        i. Colton kind of committed to drawing that out for Benny.
    b. Boards are put in in June, taken out in July.
11. Discussion of evaporative loss on Rye Patch reservoir and why not use protective covering.
    a. Rebuttal is the evaporative loss is water lost by the system delivery, not water stored.
12. How to increase assessment to hire more staff.
    a. Assessment is capped by legislature, to increase assessment there would be a need to garner stakeholder support to increase assessment total.
    b. Manpower is a current issue needing returning seasonals to keep up on deliveries.
13. Is there a blatant disregard of breaking of water law?
    a. Yes, some areas require daily supervision.
    b. No, there are plenty areas that self-regulate effectively.
    c. Not a run-away train, its mainly manageable.
14. How do you deal with the issue when Palisade is in priority for a certain year, but Comus will not receive that priority.
    a. Benny - We feel we don't get the same priority rights before and below Palisade.
    b. Landon - I put in priority for above palisade, but the below priority at the same year can't get water because of loss along the river. There are very few tributaries that he can accumulate on.
        i. Shifting downstream where the priority is set from may work.
    c. An additional proponent to using Palisade as a gage is the difference in delivery. Upper Humboldt goes by continuous diversion, as opposed to the lower Humboldt which would go by accumulate and rotate.
    d. Stream reservoirs would have been a positive addition to the system.
        i. In the past, using slow control release created a false priority at Palisade, messing up all deliveries.
        ii. This coming season is going to be rough due to the lack of low-level snowpack.
    e. There is a model developed at CSU that can be used to predict priorities and delivery scheduled by using priority dates and snowpack. Riverware, ModSim. These are used in the Truckee and Carson systems. They take considerable effort and expense to build.

i. Do the models include loss rates by rate, including drought conditions.
ii. Adam - management and models have to be done concurrently. We can't wait for the models to be developed to issue orders to manage the water.
iii. Chris - Same point as Sabrina - if the models are to be used to determine capture they must be fixed.

15. Using conflict for curtailment instead of perennial yield. - Conflict between pumping and surface supply.
    a. Chris - senator stated we need to get back to equilibrium between GW and SW. Issue is that conflict will hurt getting back to equilibrium because conflict doesn't consider perennial yield.
16. What would a conservancy district accomplish that the division cannot do?
    a. The division cannot own and manage the water on a year-to-year basis. The division also cannot manage the market for the sell and offset of water rights.
    b. A conservancy district would be able to help with management and maintenance of the river system.
    c. They can build MARs.
    d. They can buy less desirable decrees to be used for offsets,
    e. Manage the market for sale and redistribution of water rights to be used for offsets.
    f. Landon - can help with channel maintenance and river clearing.

Topic five : Updates & complementary topics

1. A subgroup to focus on certain groups would be extremely beneficial to keep on task and continue progress in the meetings.
2. The value of a credit is individual dependent. There is a need to let the market settle itself. If DWR makes it clear how much decreed rights would be needed to offset then the market may be able to handle purchasing of offsets.
3. Will temp permits be available for offset?
    a. Offset will only be available for new and change apps as well as decreed water.
    b. Mines already have numerous options available for offsetting.
4. Models needed are account for when the mines no longer discharge.
    a. Yes, the impacts from mining are somewhat offset by discharge and will show impact after discharge ceases.
5. Creation of a conservancy focus group seems to be in the works.
6. Chris believes Municipalities should not be exempt from the offset criteria.
    a. Return flow credits deserve a better look into it.
7. James Eason proposes exemptions to existing wells and would still be held to offset liability in any new wells.

Topic six : Wrap-up & next meeting agenda

Concepts for the next meeting:

1. Proposal to bring Garret Baxter from Idaho to speak on Idaho Snake River Conjunctive Management
    a. Pros / cons of a conservancy district
2. Discuss water markets in the Humboldt
3. Opportunities and constraints
4. Nature based solutions. Conservation credits AKA conservation as offset
5. Middle section of the Humboldt
6. Deeper dive on legal tools and management tools Benny brought up.
    a. Insufficient data
    b. Middle Humboldt model
    c. Golconda stall dam is a low hanging fruit
        i. What's the consumptive loss on the stall dam
7. Gravel pits are an issue.
8. Identify the low hanging fruit
9. Consolidate today's discussion and the material covered.
    a. What created more discussion and how to solidify everything.
    b. A common issue is the revolving discussion of the same issues every meeting.
10. Some milestones and benchmarks should be laid out.
11. Define offset
12. Decide the type of credits for offset besides the purchase of decreed water.
13. Spend time on the Prudic Study
14. Ogallala aquifer discussion