

**Public Comment from the Gila Conservation Coalition
Interstate Stream Commission Meeting
September 27, 2011**

Good morning, Commissioners. I am Allyson Siwik, Executive Director of the Gila Conservation Coalition. Founded in 1984, GCC is a partnership of 3 conservation organizations that work to protect the free-flow of the Gila River.

Thank you for the opportunity to make public comment here this morning.

As Deputy ISC Director Craig Roepke told the stakeholders at a public meeting in Silver City last week and said here this morning that he personally recommends to the ISC commissioners that agricultural conservation, along with municipal and industrial conservation, be given full consideration in the AWSA planning process.

We strongly agree with this recommendation, especially as it relates to the implementation of drip irrigation and high efficiency sprinkler systems in Luna and Hidalgo counties. According to the AMEC report to the AWSA stakeholders group, the agricultural sector accounts for 87% of the withdrawals and 76% of the depletions in southwestern NM. Looking just at Luna County, agriculture accounts for 95% of the withdrawals.¹

Despite indications that the agricultural sector is driving questionable 30,000 afy depletion in the Mimbres Basin, the evaluation panel failed the agricultural conservation proposal submitted for Tier 1 evaluation, citing lack of discussion of the negative environmental impacts of drip irrigation.

GCC's proposal laid out a different perspective than what ISC staff and evaluation panel is putting forth related to drip and improved irrigation efficiency. The panel in its comments on our proposal made the blanket statement that "drip irrigation has been shown to increase net depletions in New Mexico." This seems to be true at specific sites such as the Rio Grande basin as documented by Frank Ward and Samani and Skaggs at

¹ AMEC Report SWNM Regional Demand Study
http://www.awsaplanning.com/Studies_files/FINAL%20report%20SW%20Demand.pdf

NMSU. However, these results can NOT be extrapolated to all sites across New Mexico as implied by the evaluation panel's comments on our proposal.

ISC staff and the evaluation panel have inappropriately taken these research results from the Rio Grande Valley where farmers have switched from surface water flood irrigation to groundwater drip systems and applied them to the Mimbres Basin where farmers have switched from groundwater flood irrigation to groundwater drip irrigation. This methodology assumes that the water that is not consumed by evapotranspiration percolates down and recharges the aquifer in real time or human-scale time. This is an inappropriate assumption to make for the Mimbres Basin where the water level is 200 feet or more.

Drip irrigation has provided a benefit to the Lower Mimbres Basin aquifer based on the following information:

- Groundwater withdrawals from irrigated agriculture declined 55,000 acre-feet/year between 1995 – 2005 according to DB Stephens in a report to the AWSA stakeholders group from 2009.
- In the case of the Mimbres Basin (we are NOT talking about the Rio Grande valley here), we believe that less water pumped from groundwater indicates less water being depleted from the aquifer.
- Information from the field appears to support this.
- Farmers in the Deming area, such as Don Hartman of Hartman Farms and the Deming Soil and Water Conservation District, report that his wells have stabilized since installing drip. Elmer Veeder, retired NRCS employee from the Deming Office, who was involved in funding drip conversions through NRCS's EQIP program, reports the same information from the farmers he worked with. Don Hartman's deepest well is 600 feet deep and his shallowest is 200 feet. Don says that the 600 foot well has been holding at the same level during peak use, and recovering during the winter now that he has installed drip. His electricity bills show that he is pumping half the water for his cotton fields than he used to prior to installing drip. We have passed out an article from *Farm Press* (<http://westernfarmpress.com/management/subsurface-drip-solution-frugal-new-mexico-farmer?page=2#.ToDt9APFy5Y.email>) that

features Don Hartman and documents his accomplishments at Hartman Farms.

- It is questionable that flood irrigation is recharging in real time an aquifer that lies 200 or more feet below the surface. NRCS and others have also discussed a caliche layer that prevents water from penetrating into the aquifer, similar to what has been demonstrated over in the Las Uvas Valley and documented in Samani and Skaggs “The Unintended Consequences of Drip Irrigation.”² We need to understand better what is happening with recharge with flood irrigation vs. drip.
- In mined groundwater basins, such as the Mimbres and Animas Basins where there may be “weak or long term connection between surface and groundwater, the return flow efficiency is very small in human timescales,” says Phil King of NMSU and the Water Resources Research Institute. He says that the Ward, Samadi and Skaggs research doesn’t apply in these situations. “Maybe if we wait until the next ice age, things will be better; some of that water will work its way down, but I don’t think that is a functional business. Thus the reduction of these non-consumptive losses is generally less important. In other words, if you do improve your efficiency, and turn mined water straight into yield, that is a good thing. What you do in this example is a very different conceptual approach than from a riparian system.”³ In summary, you can’t make a blanket assumption that what happens in riparian irrigation systems like the Rio Grande Valley applies in all situations and in particular situations like the Mimbres.

Bottom line is that before the ISC discards agricultural conservation in the Mimbres and Animas basins, the commission needs to fully investigate in an unbiased manner the decreased depletions achieved from drip irrigation

² “For example, farmers in New Mexico’s Las Uvas Valley pump water from a deep aquifer to produce alfalfa with an irrigation efficiency of about 40 percent due to the area’s sandy soils. Water lost to deep percolation ends up in a saline clay formation and is not currently recoverable. In this case, drip irrigation would result in saving applied water even though the depletion impact is about the same. Generally, the link between increased irrigation efficiency and reduced return flow is most applicable to shallow, stream-connected aquifers.” **WATER RESOURCES OF THE MIDDLE RIO GRANDE The Unintended Consequences of Water Conservation** Zohrab Samani and Rhonda Skaggs, *New Mexico State University*

³ King, Phil “Return Flow Efficiency” Water Resources Research Institute October 2008. p. 6.

to date and the potential to realize additional progress in the Mimbres Basin where groundwater mining has been occurring.

20 – 25% of the irrigated acreage in Luna County could still be converted to drip irrigation even after factoring in the most recent AWEPP (Agricultural Water Enhancement Program) expenditure by NRCS. It has been said that there are still applications for drip that have not been fulfilled. So it appears there is still progress to be made in Luna County.

The Gila Conservation Coalition suggests the following to the ISC for consideration:

- Additional study of the groundwater deficit in the Lower Mimbres Basin is needed – There are three studies of the Mimbres Basin water budget. Two show negligible groundwater mining and one shows significant groundwater mining.⁴ More study is needed with more up-to-date information to adequately assess whether or not we have a water deficit and what cost-effective measures could be implemented to reduce it.

The SWNM Regional Water Plan used data from 2000 to estimate the water budget. Yet withdrawals from the mining sector in the Upper Mimbres Basin decreased by 6000 acre-feet/year by 2005. Agricultural conservation and the fallowing of 11,000 acres of irrigated land contributed to reduced groundwater withdrawals of approximately 55,000 acres/year in Luna County between 1995 and 2005. It is critical to understand the Mimbres Basin water budget and understand better if we do have a deficit. It is unclear that a deficit exists.

The Bureau of Reclamation advised in its Supply–Demand Correlation Report⁵ to stakeholders that a number of key data gaps be addressed in the short term. One of these data gaps identified was to “resolve the discrepancy between the previous Mimbres Basin studies. This could require conducting additional comprehensive Mimbres basin modeling to quantify the system imbalance and water budget. At the very least, data

⁴http://www.awsaplanning.com/Forum_reports_files/INTERA%20Mimbres%20Supply%20Technical%20Memorandum%20Final.pdf

⁵http://www.awsaplanning.com/Studies_files/Supply%20and%20Demand%20Correlation%20New%20Mexico-GilaBasin_AWSA.pdf

gathering and analysis of groundwater levels and groundwater trends for the entire basin is needed.”⁶

- Tier 1 evaluation criteria should be applied consistently across proposals- ISC staff did not apply evaluation criteria consistently across project proposals. Three proposals for main-stem dams on the Gila and San Francisco rivers and a tributary dam are recommended for additional study despite failing Criterion 3 for not adequately addressing environmental impact. Agricultural conservation received the same evaluation, yet has not been recommended for further study.

Mr. Roepke explained in an email yesterday, that dam proposals failed Tier 1 and thus will not be considered for Tier 2, but yet he is recommending that they still be studied for feasibility by the OSE. We are confused about what this means in the context of the planning process. Will dams be considered or not?

- Forward agricultural conservation to the Tier 2 evaluation phase for further study - There is reason to believe that agricultural conservation, including drip irrigation and high efficiency sprinkler systems like LEPA (Low Energy Precision Application) along with policy changes like not allowing additional acreage to be irrigated with saved water (something the NRCS AWEF program already requires) could be successful in reducing groundwater depletions in the Lower Mimbres Basin. The ISC should study the potential for agricultural conservation and gain a more complete understanding of this measure before dropping it from consideration.
- GCC strongly encourages improved transparency of the process – ISC told us in Silver City at their August meeting that they were committed to transparency of the AWSA process. Yet, GCC had to submit another IPRA request last week and put all of the preliminary proposals that we had gotten from a previous IPRA request on-line in order to force the ISC to make public the final Tier 1 submissions. ISC staff was soliciting public comment on proposals yet the public had no idea about the details of the projects. We encourage the ISC commissioners to take

⁶ Bureau of Reclamation, p. 23

http://www.awsaplanning.com/Studies_files/Supply%20and%20Demand%20Correlation%20New%20Mexico-GilaBasin_AWSA.pdf

this issue of transparency seriously and follow through on your promise to the stakeholders of southwestern New Mexico to have an open, transparent process. We interpret that to include releasing to the public all relevant documents with sufficient time for public review and comment.

Thank you for consideration of my input today.