

Team Interviews Summary

Between 10 November and 8 December, Kristan and Lacy spoke with ten individuals who have participated in this modeling project. These discussions lasted between 40 minutes and an hour. Presented here are the questions asked and a summary of responses from team members.

What do you like about this region?

Responses to what people valued about the region were diverse and included:

- The region is home/family history
 - Several people have ties going back to the 1880s.
- Excellent climate
- Enjoy the open space and grand vistas
- Appreciate the diverse landscape and unique ecosystems
- Gila system still fairly well connected (floodplain, riparian, vegetation)
- Provides opportunities for outdoor life (fishing, birding, hunting, river-running)
- Connected to the people—sense of community, good place to raise a family, like the people
- Like the low population, the remoteness
- Appreciate the culture – small towns, agriculture/extraction communities

Where do you obtain data/information about water?

Most team members rely on a few key sources for information, but these key sources vary among individuals. Several people also mentioned the lack of data related to water in the southwest region.

Sources mentioned include:

- Southwest Regional Water Plan (DB Stephens)
- Municipalities/Counties
- State (OSE/ISC, DWR, Game and Fish Depts., universities)
- Federal (USGS, FWS, Forest Service, BLM, BoR, NRCS)
- Consulting companies
- The Nature Conservancy
- Original data/own knowledge

People were leery of saying they distrusted any source. The general sense was that all sources have a particular perspective and everyone should be aware of that. There were a few comments on specific sources:

- The Nature Conservancy database is a “snapshot” and cannot show trends
- Regional water plan has some omissions
- OSE database is outdated regarding well location and ownership.

What interests do you represent on the team?

The team reflects broad and diverse interests. In addition to the agencies/organizations that they work for, team members said that they represent:

- Private property owners, citizens, taxpayers, water rights owners and resource users
- People who live there because of the quality of life, including the small town, rural lifestyle

- Interests related to equity and who pays costs vs. who reaps benefits
- Communities – towns and farming/ranching
- People who are concerned with river ecology, habitat, and recreation.
- Both human and non-human needs
- Threatened and endangered species/all fish and wildlife resources
- The land and the people, which are interconnected

Describe the water budget in the region

Some team members focused on describing a water budget from a sub-regional perspective (e.g. county-level) while others looked more broadly than the four-county area. Several people referenced the Regional Water Plan (DB Stephens) as a source for the water budget.

Most people began by talking about water demand. All agreed on three key human-based water users: municipalities/domestic wells, agriculture, mining. Individual members differed on ranking these in terms of which activity uses the most water. Some differentiated among counties (e.g. in some counties agriculture is largest, in others it is mining). A couple of people mentioned the forest/watershed as a significant user as well. The power plant coming online was mentioned, as well as a general reference to industrial use.

Key water sources mentioned were: the Gila River, the San Francisco River, and the Mimbres and Lordsburg basins for groundwater. Again, individuals differed in their perspective of how each of these is used and in what relative proportion. Several people noted that we don't know much about the groundwater system in the region and don't know whether "we are draining the bathtub or just taking overflow". Others said that the aquifers are being mined.

Several people commented that there is plenty of water in the region to meet needs. Some mentioned that the constraints are legal (California v. Arizona Supreme Court ruling) rather than hydrologic.

Some specific comments on the water budget include:

- Maybe 30,000 af of groundwater move from Catron County into Arizona
- We have not gotten CAP water before now, because we couldn't justify the need
- Most of the ground water is in alluvium along tributaries
- If agriculture land is retired and converted to groundwater domestic permits, this results in a loss of recharge
- Don't see any desperation for water, but of course need conservation.
- Government boundaries don't give a good picture of the system, prefer to look at a watershed or aquifer basis
- Water budgets do not account for watershed conditions.

What is changing in this region – positive or negative?

People had quite similar responses to what is changing in the region, but differed on whether various changes are positive or negative.

Everyone mentioned something related to the population – either that it is growing or that demographics are changing or both. There is a sense that the population will grow in at least some areas in the region. People reported seeing new developments, housing prices rising, housing difficult to find. Some mentioned that there is an increase in non-resident land/home owners. Others noted that the news reports

and census data from the region shows growth for some areas and that some articles rank Silver City as a top area for retirement. In addition to the overall numbers of people, several team members said that the demographic mix is changing as retirement age folks move in, kids do not stay in the area because there are no jobs, and there is a shift from farming/ranching communities (ranchers are sub-dividing property) to retirement or government dependent communities. A couple of people mentioned that the new people moving in do not know anything about water conditions, water rights etc.

The group is divided on whether these are positive or negative changes. Several said that it is positive because of the economic advantages that growth can bring and that creating more diverse communities can be good. Some said these changes are negative because they disrupt traditional communities and growth has negative environmental impacts, including increased water demand. There is also the potential for conflict/tension as the new and historic communities interact. A couple of people noted the disparity in income levels, with one commenting that the income gap is increasing, along with class issues and inequities. Several people noted that growth is inevitable, but managing it appropriately is key to keeping it from being a significant negative.

Several people discussed mining activity and changes there. They noted that mining is an up and down endeavor, so water use changes with the markets. Folks also noted that changes in technology affect the mining activities, mine longevity and water use. Again, there were differences of opinion as to whether the changes in mining are positive or negative. On one hand, less mining means a depressed economy, but on the other, the water saving efforts are positive.

People mentioned changes in agricultural practices with farmers moving from flood irrigation to drip systems as well as changes in the crops being grown. The people who mentioned this said that it is a positive change.

A couple of people mentioned drought as a change in the region and commented that there is uncertainty with how to address drought. This was considered both a positive and a negative change. Positive in the sense that drought helps raise awareness of water issues, but negative because of water stress.

A couple of people also mentioned border issues as something that is changing in the region that may have some indirect impact on water and direct negative impact on the local environment.

One person noted as a negative an increase in drug use, domestic violence, divorce, suicide, and juvenile delinquency, relating the last to school not meeting on Friday, leaving children without supervision.

One person said that a positive change has been that the river has improved in the past 20 years with better riparian habitat, improved grazing techniques. Another mentioned that Silver City has reduced per capita water consumption after implementing a use related fee schedule in 2000.

If you could decide what to do with the settlement, what would you do?

Team members generated numerous ideas for spending the money that is available. Suggestions included:

- Split equally or on a per capita basis among the four counties, which could spend as they wished
 - Ideas for counties included: support drip irrigation; water and soil conservation funds; infrastructure repair/improvement; xeriscaping; matching grants/loans for projects such as low flow toilets and showerheads
- All to Grant County
- Upland restoration/watershed improvement

- Buy/lease water rights (Phelps Dodge, agriculture) to be used for municipalities or for in-stream flow and use money to build structures to transport this water

Several people commented that dealing with the money is easy, it is the water that is tough. A couple of people simply stated that they did not know what to do with the water. Comments also included that it is the water that has value, not the money. Most people were tentative in making recommendations for how to capture and use the water.

Ideas for the water aspect of the settlement included:

- Using Phelps Dodge infrastructure to capture and use that water rather than groundwater (aquifer transfer) in mining operations
- Offset river water rights with groundwater
- Get more efficient with water use
- Leave water in the river
- Set aside areas of special concern with water in the river
- Set up storage facilities/recreational impoundments on the San Francisco – focus on riparian and water system function improvement by increasing flow
- Improve and expand recreation, bird watching, nature activities (often tourist related)
- Storage in Luna County
- Need to build a dam in order to get flows above and beyond normal
- Use technology to do high stage flow capture
- Give people in river communities opportunity to have stable, safe municipal water system
- Dissect the hydrograph to identify slices of water required for river health and those slices that are available for cultural (people) use.

Many team members noted that any major construction project is unlikely and that moving water from the Gila River to the southern part of the region is unrealistic. At the same time, several expressed a desire to use the water in New Mexico. There was also strong support for addressing both ecosystem functions and meeting people's needs. As one member noted, "the courts have made it clear that drinking water taps don't get turned off. But, with proactive effort, we can manage surface flow to be a natural system and meet needs."

Anything to contribute/add that we didn't cover in conversation?

In asking team members to add anything else they'd like to the discussion, a common response was to ask a question about the model – what it will include, exclude, be capable of etc. Kristan reminded team members that they are the model designers, so they will make these decisions as the project progresses.

A representative sample of other comments are noted here:

- Would love to have socioeconomic model to interface with the water model.
- Impressed with what Dick has done on CUFA already
- We need to ask at what point does surface diversion from the Gila make sense? Where is the financial breakpoint to where the Gila no longer makes sense?
- If ESA constraints cause water costs to go up, are people willing to pay? How much?
- As the model moves we need to keep our options open – the possibility of diverting should be part of this, but non-construction should also be part of the model.
- Hate to see all the water flow to Arizona – although some needs to go to maintain and improve ecology.

- No need to see a tradeoff between land and people, and it is a given that we have water in the stream for species.
- Models are a way of organizing data to get everyone to the table to look at and agree on data.
- We need a groundwater model for the Cliff-Gila Valley, eventually hooked to MODFLOW.
- Should be some sort of minimum base flow to move beyond “use it or lose it” mentality
- Any mainstem dam is a major issue
- One thing is becoming obvious, it is not realistic to change the river much; a dam is just not going to work.
- Where would the rest of the money for a construction project come from?
- BoR wants all the money, FWS would like at least half, Forest Service will take it.
- We need to get moving. We are hearing that there will be an ESA compliance process. If we have to have ESA compliance, why not get at it?
- Interesting little shred of statement in AWSA – says should CUFA fail to deliver water, then it can be modified – opens a modeling potential
- Being able to successfully model the forest use is a key to get at a feasible means to capture water
- The project is good to get everyone speaking same language about the data.

Observations:

Many team members seem to assume that others are pushing/recommending a major construction project, when in fact almost everyone said this would be problematic and many said it is impossible.

Most of the team members made comments that supported in-stream flow, riparian health, or balancing human with non-human interests.

Many team members commented that others want it all (money, water) for themselves – yet, many people suggested equally dividing the money among the counties and letting each decide how to spend its share.

There are clearly county-specific interests, with less emphasis on a regional approach. At the same time there is an interest in keeping water in New Mexico.

There seemed to be an assumption among many team members that SNL has a model design/data/frame already conceived, rather than seeing the team as model creators.