October 11, 1996

Truckee River Operating Agreement

The Truckee River Operating Agreement (TROA) seems to want to return to original undisturbed conditions, while at the same time maintaining modern development. I don't believe you can have it both ways.

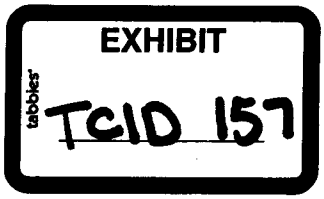
In my estimation, what happened was that very high snowfalls in the Donner Pass and Lake Tahoe areas fed Pyramid Lake with uncommonly pristine water since the end of the last ice age, about 10,000 years ago. Our ancestors, the Paiute and other Native American Nations, rightly took advantage of this fortuitous hydrologic and geologic circumstance to live in the relative warmth of the desert while still living on the edge of a marvelous clean lake filled with huge Lahontan cutthroat trout.

However, modern development has completely changed the picture. No longer does pristine water flow directly from the mountains to Pyramid Lake and the Lahontan Wetlands. In between are cities like Reno and Sparks dumping effluent into the river, as well as agricultural areas returning flows from their fields. I do not believe we can return to conditions of the past.

Let me cite a couple of examples. The Quinault Indian Nation on the Olympic Peninsula in Washington State had their reservation chopped up into little parcels, which eventually often ended up in the hands of outsiders. To get their reservation back as a whole, they logged as much as they could and used the money to buy back their land. Many of the trees they cut were 600 years old; they will essentially never come back. They cannot return to the original pristine conditions. Another example relates to a parallel in Nevada with the Columbia River. The plan for the Lahonton Wetlands seems to ask to dump 125,000 acre-feet per year of pristine water into this desert sink. The Nevada sinks are the equivalents of tiny inland oceans. To me, dumping this water in the desert would make about as much sense as saying that we could not use Columbia River water because we had to dump it in the Pacific Ocean. It does not seem at all consistent that at the same time we are quibbling over a few acre-feet that California might use. Any planning on hydrologic issues such as water rights, storage, use, and quality should always be done on a basin-wide, watershed scale.

While it might make sense to allow used water to run into these min-oceans, I do not see the purpose of reserving pristine water for the purpose. The California Central Valley near Sacramento is like Thailand and is where the real pacific flyway is. Even inland routes angle over to this area to take advantage of the abundant food in the rice fields, the warmth, and the moisture. I do not see the point of reserving much needed pristine water for this purpose. There are even nearby areas in Nevada itself that provide habitat: the Newlands project fields themselves, the Carson River Delta into the Lahontan Reservoir, and other nearby rivers and sinks. As I have mentioned, it seems particularly incongruous to reserve this much clean water to dump in the desert, while at the same time arguing that California cannot have an acre-foot here or there.





Neither do I believe that it makes sense to reserve pristine water for dumping into Pyramid Lake. As I have said, I believe Pyramid Lake benefited from very unusual hydrologic and geologic circumstances that existed since the last ice age. The Native Americans living on its shores took advantage of the fortuitous situation, and were able to subsist on the huge Lahonton cutthroat trout that inhabited the lake, as well as the cui-ui. When Europeans arrived, they prized the Lahonton cutthroat, but considered the cui-ui an ugly sucker and an inedible trash fish. The last original, huge Lahonton cutthroat was apparently taken in about 1945, and the species is now extinct. These were the real prize fish in the lake. The cui-ui suckers ran a distant last. I think that today the value of he cui-ui is principally for cultural purposes for the Paiute Tribe. I again do not think Nevada should try to afford to reserve pristine water for this purpose, but should only use water reclaimed from other uses.

I think the U.S. Geological Survey (USGS) needs to do an assessment of water quality in Pyramid Lake and the Newlands Wetlands, and project into the future what impact current development will have on the water quality. I think these should be done in back-of-the-envelope style, forgetting about 60,000-line models that nobody will be able to verify. A program of data collection for water quality and seepage should back up conclusions. One final note: as I've said, conditions today are much different than they were even 200 years ago. We cannot expect to maintain the pristine conditions of the past. The water quantity and quality of Pyramid Lake and the Lahonton Wetlands will probably continue to degrade. Question: Does it matter? For example, would Nevada be ahead to offer a generous settlement to buy the Paiute Tribe and its Pyramid Lake Reservation out? Why not just let the level of the lake drop (it has apparently dried up completely naturally within recent geologic times). Why not use only reclaimed water to feed it and the Lahonton Wetlands?

I believe the original intent of the Newlands project was right on track. It used the incredibly clear water from Donner Pass and Lake Tahoe for useful purposes, and sent the runoff to the Newlands/Wetlands and excess to Pyramid Lake. We now have more urban development using some of the water, but the principle is the same. I must say that I do not agree at all with the idea of recoupment. Those decisions were made at a different time, when people had a different mindset. An analogy: suppose your great-great grandfather participated in the Sand Creek Massacre in Colorado. How would it be if you got a knock on you door one day, and the policeman on the porch said that you were under arrest, would be tried, and probably hanged for the murders that day long ago. I think you have to deal with the times.

I believe that the present TROA is just too complicated, and that the complication arises because of trying to follow individual parcels of water around the system. This has proven impractical in modeling, and I'm pretty sure the same will hold true in the real world. To cite an example, when you deposit money in a bank, the bank doesn't keep track that it loans $2.56 of your money to Mr. Jones, $0.87 to Ace Hardware, $98.43 to Jim and Betty Penny, etc. It would just be totally impractical. The same is true of trying to follow individual water parcels around the reservoir system.

**The model gets so complex that you eventually just lose it. Besides, all the constraints on the system prevent optimizing the network for the most efficient capture, storage, and delivery of as much water as possible. Just as with a bank that pools its investors' money for lending to others, the reservoirs should be pooled and operated as an integrated network. Give the water master the freedom to turn the best valves to deliver the water, maintain required instream flows, and keep reservoir levels optimal. Everyone could have exactly the same diversion and storage amounts and priorities as now. We just wouldn't ask where the water is, but would, of course, just as with a bank, add up the total amounts so we were sure the total amount in the system as sufficient. For example, Sierra Pacific would still have a volume of storage equal to their privately owned stored water in Independence, but it might really be anywhere in the system.**

**In some sense, the convoluted exchanges that so complicate things are mini-attempts to do exactly this. They move parcels of water from one reservoir another, and use storage rights allocated to one reservoir to store in another. All of that complex, convoluted logic would disappear if we operated the reservoirs as an integrated unit. Probably the best way to think of it would be to just consider them all basically a single reservoir from which everyone draws according to their water-right amounts and priorities. This sort of a system could be optimized to capture, store, and deliver the best possible amounts of water, using off-the-shelf programs like that of Hydrosphere in Boulder, Colorado.**

**It is also simple enough that the water master may actually have a chance of running it, in contrast to the present scheme of trying to follow parcels of water around through all the reservoirs and river reaches. It is exactly the same mess for the models or for the operation of the real system by the water master, unless the operation stops trying to follow individual parcels of water around.**

**One more thing: We have to be careful not to make the system *too* efficient. One of the things that destroyed past cultures that relied on irrigation, was the buildup of salts that eventually precluded agriculture in their fields. We need to flush enough water through he agricultural fields so the salts are carried into the "mini-oceans"—the Lahontan Wetlands and Pyramid Lake, which will, just as the larger oceans, become enriched with these minerals. The added water will have the advantage of adding to the total volume entering the wetlands and the lake.**

**A final point: in contrast to what I heard at a recent meeting, water rises up (in the ground-water system) into the Wetlands and Pyramid Lake to the cause of loss in the water sink—the huge evaporation. It does not somehow "sink into the sink" and disappear into the ground, as I seemed to be hearing.**

**Best regards,**

Bill Sikonia

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