



1. PAWSD Conjures \$357 Million Project in Dry Gulch, Part One

Bill Hudson | 2/25/09

Many years ago in Alaska, I used to perform with my friend Jeff Brown in a music group called “The Wigglers.” Jeff and I were both amateur songwriters and fathers of young children, and The Wigglers specialized in performing so-called “children’s music” — songs like “On Top of Spaghetti” and “My Grampa’s Whiskers” — presented in elementary schools and churches, mostly for audiences of young children. Most of our songs were “sing-alongs” where we tried to get the kids to join in, and we quickly found out that children were, generally speaking, more than willing to lend their voices to the silly nonsense songs in which The Wigglers specialized.

One day, Jeff came to me and suggested that we add some “magic” to our performances — magic, as in conjuring tricks. Disappearing handkerchiefs, playing cards that changed color, milk poured into rolled paper cones, that kind of thing. Quite honestly, I wasn’t really all that interested in magic tricks that fooled people — I preferred the audience participation aspects of our current act. But Jeff was my partner, and I wanted to support him as a loyal friend, so we started learning how to perform magic tricks.

We quickly learned that almost every well-crafted magic trick relies on two key principles — hidden preparation, and misdirection.

The hidden preparation part consisted of a playing card hidden up your sleeve, for example, or a seemingly normal milk pitcher with a hidden compartment inside.

The misdirection part consisted of getting the audience to focus on your left hand — look over here, folks — instead of allowing them to notice what your right hand is doing, down there.

To really pull off a magic trick successfully, however, there was one more crucial element. The magician had to act like “real magic” was happening. You couldn’t give away the fact that what you were really doing was fooling people. This requires that the performer exude an air of confidence and sincerity.

Of course, there is always a fine line between fooling the audience, and making fools of them.

On Monday evening, February 23, the Pagosa Area Water and Sanitation District (PAWSD) put on a joint performance with the San Juan Water Conservancy District, to roll out a revised long-term water storage plan focused on a proposed \$357 million reservoir and water treatment complex utilizing the parched Dry Gulch valley and the nearby San Juan River.

As the reader has probably already guessed, the Monday night PAWSD performance had all the best qualities of polished and well-performed magic show, but with a slight twist. The audience was indeed treated to examples of carefully hidden preparation, masterful misdirection, and a line-up of three top performers — PAWSD Special Projects Manager Sheila Berger, Durango water engineer Steve Harris, and BBC Consultant Tom Phippen — all of whom exuded great sincerity and confidence.

The slight twist consisted of a brief “Question & Answer” session following the performance, where members of the audience were actually allowed to ask the performers how the tricks were done.

In any good magic show, the magician knows very well how the trick is going to finish — perhaps with a bouquet of flowers appearing out of nowhere, for example — and the PAWSD show demonstrated those qualities admirably. So to get a magic trick to finish correctly, you have to “reverse engineer” the process so everything leads up to the surprising flourish — with everything happening in the proper order.

A year ago, way back in the winter of 2008 when we were not yet sure whether a new Great Depression had begun, PAWSD was still planning for a 35,000 acre-foot reservoir in Dry Gulch with an estimated cost of \$65 million. That reservoir, way back in 2008, was scheduled to be serviced by a water treatment plant and related pipelines with an estimated cost of about \$33 million.

In order to pay for that proposed 35,000 acre-foot project, PAWSD was last year collecting an impact fee ranging from \$7,210 to \$18,025 on every new home built in Pagosa Springs — a fee which they claimed was “not an impact fee” but rather a “Water Resource Fee”.

The choice to pay for the proposed reservoir and treatment plant using impact fees rather than other financial instruments was based on a PAWSD board policy of “making growth pay for growth.” Way back in 2008, PAWSD was calculating that about 60,000 new residents would be moving into Archuleta County over the next 45 years — but the impact fees had been calculated so that PAWSD could collect the entire cost of the reservoir and treatment plant from the first 20,000 Equivalent Units — even though the total number of new homes ultimately benefiting from a 35,000 acre-foot reservoir would be much, much greater.

The 35,000 acre-foot reservoir project was justified using population figures calculated by professional water engineer (and amateur demographer) Steve Harris — figures which diverged sharply from population figures available through the Colorado State Demographer’s office.

Last September, Durango water court judge Greg Lyman revised his earlier 35,000 acre-foot decision and granted PAWSD and SJWCD only enough junior water rights to fill a 19,000 acre-foot reservoir.

So here we have the final flourish, that needed to be “reverse engineered.” PAWSD now needs to prove that the economic success of Pagosa Springs — based on its growth rate — requires a 19,000 acre-foot reservoir.

As a fellow magician, I regret to report that I was unable to catch all the acts of misdirection and hidden preparation that went into the Monday night performance at the Vista Clubhouse. But here are a few of the tricks I was able to catch.

Way back in 2008, before we had fully entered the Next Great Depression, PAWSD was justifying a 35,000 acre-foot reservoir using an average population growth rate, over the next 45 years, of 3 percent.

Now that the Depression is in full swing, PAWSD is using a 4 percent growth rate to justify a 19,000 acre-foot reservoir. (PAWSD Special Projects Manager Sheila Berger was apparently responsible for that clever sleight of hand.) The recently adopted PAWSD 2009 budget, however, is based on an expected growth rate of less than one-half percent.

Way back in 2008, PAWSD was estimating a cost of about \$33 million for a treatment plant and pumping system to distribute 35,000 acre-feet of water to water district customers. In their Monday night performance, PAWSD projected a water treatment plant and pumping system cost of \$140 million — to distribute only 19,000 acre-feet of water.

Way back in 2008, PAWSD was still calculating the cost of building the Dry Gulch dam and 35,000 acre-foot reservoir at about \$65 million. One year later, now that the Depression is in full swing, PAWSD has calculated

the cost of a 19,000 acre-foot reservoir at \$161 million.

Through careful preparation, misdirection and the projection of supreme confidence in their abilities, the PAWSD presenters on Monday night were able to make it appear that a reservoir project half the size of the one planned in 2008 would now cost us \$356 million — over twice the 2008 estimates.

Through these masterfully executed sleights of hand — plus others that I no doubt missed entirely — PAWSD was able to justify lowering its combined Capital Investment Fee and Water Resource Fee, charged to new home construction, by about \$600 — still weighing in a healthy \$9,195 per EU. While we weren't looking, however, they raised the Wastewater Capital Investment Fee by \$1,057 — thereby increasing the total fees for a new single family home by just over \$400.

Although it was not announced on Monday night, rumor has it that the name of the proposed reservoir has been changed from “Dry Gulch Reservoir” to “The David Copperfield Reservoir.”

You can click here to [download the PAWSD summary](#) of the Monday night presentation — the PowerPoint portion — as a PDF file.

Tomorrow, I hope to report a bit more fully on the Question & Answer session which followed the stunning Monday night performance.

2. PAWSD Conjures \$357 Million Project in Dry Gulch, Part Two

Bill Hudson | 2/26/09

Following the presentation part of Pagosa Area Water and Sanitation District's new long range plans for a \$357 million reservoir in Dry Gulch, it appeared that perhaps a sense of shock and disbelief hung over the audience. When PAWSD President Karen Wessels announced that we still had about half an hour left and that a board of panelists would now take questions, only a handful of hearty souls were — myself, Post writer Glenn Walsh, developer JR Ford, Ski Club President John Ramberg and local attorney Mele Whiting — were able to stir themselves out of their stupor and stagger up to the guest microphone.

Apparently, not even PAWSD media mouthpiece Chuck McGuire was able to formulate a question for the panel.

One of the fascinating changes in the Monday night presentation, compared with previous PAWSD explanations of the Dry Gulch project, was the absence of any mention of a future bond issue. In all the other PAWSD presentations I've heard over the past two years, the project representatives have always asserted that the public would be allowed to vote on a bond issue to help fund the project — which was, way back then, only a \$150 million project. That bond approval, we were told, would be allowed to happen in about 2018, around the time that serious work on the proposed reservoir would begin.

On Monday night, PAWSD seemed to be representing a totally different approach, where massive and unstoppable growth would fund the project without any apparent need for a voters-approved general obligation bond.

One of the first PowerPoint slides displayed during Special Project Manager Sheila Berger's performance stated, in big bold letters:

Fact:

They are coming anyway!



And we need to be prepared....

Berger did in fact apologize for the photo included in the slide — which was intended to imply the future of Pagosa Springs, but was actually a photo of Las Vegas, Nevada, a city of about 1.8 million people.

One of the biggest problems with long term capital projects, such as the proposed Dry Gulch reservoir, has to do with money, or rather, the lack of money. PAWSD proposed in their Monday night presentation that PAWSD impact fees would be contributing \$5.2 million into the Dry Gulch building fund by the end of next year. Curiously, the PAWSD 2009 budget predicts only \$200,000 will be collected in 2009, so I guess we should expect an awful lot of development during 2010.

But assuming PAWSD does collect \$5.2 million by the end of 2010, we still have a bit of a problem. If PAWSD puts its annual impact fee collections into a bank account, the money actually loses value — in most economic situations — due to inflation. By collecting money year after year and stashing it away, PAWSD could conceivably collect \$357 million in impact fees by the year 2055. But by that time, the cost of the Dry Gulch reservoir would probably be up over \$1 billion.

So here in America, most government and private capital projects — from a residential garage remodel to a new rural hospital to Denver's new mass transit system — are funded by bonds. Bonding of capital projects allows the project to be built and then paid for over time, thereby avoiding to some degree the disappearing value of money kept in a savings account.

PAWSD can fund — and has funded — projects with revenue bonds, which do not require voter approval. But to acquire revenue bonds, PAWSD must demonstrate the existence of those ongoing revenues. In the case of the Dry Gulch land purchase a little more than one year ago, PAWSD promised to pay back that \$12 million Colorado Water Conservancy Board loan using the Water Resource Fees they claimed they would collect. But they backed up that promise with a clarification: if growth does not occur and impact fees don't suffice, PAWSD will pay back the loan from increased user fees.

As local realtor Mike Heraty has argued in numerous PAWSD meetings, the PAWSD board is, in fact, obligating current residents to pay the full cost of any Dry Gulch project — be it \$357 million or \$1 billion by the time it's built — through user fees levied on existing residents, if for any reason growth does not occur as projected by PAWSD's fanciful imagination.

The Monday night presentation was well publicized, but although the Vista Clubhouse was well-stocked with chairs, the audience was in fact only about half full. Considering that PAWSD is proposing to shackle the community to a \$357 million water project which no current residents have approved and no current residents can afford, one might think the presentation would be well attended — and that perhaps several dozen people would have questions about the evening's roll-out of new fees.

It appears, however, that the PAWSD board and staff have pretty much isolated themselves from entire Pagosa Springs community by seeking no public input or approval of their fantasy Dry Gulch project. By continually focusing on fees the board can levy without any voter approval, the PAWSD board is digging itself further and further into a hole of revenue debt from which there may be no relief, except to bankrupt the area's water users.

Nevertheless, a few hearty souls were willing to step up to the microphone during the brief Question & Answer portion of the Monday night presentation, to ask about information missing in the presentation. I'm including myself in that group of hearty souls — not because I consider myself especially hearty, but because I did have to overcome a growing sense of despondency to step up to the microphone and face a panel of experts whom I expected to evade answering my questions with all the skill they could muster.

But we asked them anyway.

3. PAWSD Conjures \$357 Million Project in Dry Gulch, Part Three

Bill Hudson | 2/27/09

I love a good debate. I was raised in a family that treated rational argument and analytical wrangling as high art — and as one of our family's favorite forms of game playing. We entertained ourselves by discussing the proper solutions to insoluble social questions, the meaning of poetry, the differences between men and women, the existence of God.

A good healthy debate, as I was taught as a child, does not necessarily require you to believe the side you are advocating. Give me a good debating partner and I will gladly advocate for, or against, the benefits of fluoride in the public water supply. But a few rules must be observed. The debate must strive to be rational — based on reason rather than idle whim. You must back up any facts you assert with reasonable evidence. You can attack your opponent's logic, but you are not allowed to attack his personal character; no name-calling is allowed.

As a result of growing up in such a family, I'm prone to get excited and even emotional when involving myself in a debate — be it private or public. I try my best to remain calm, but when I witness an advocate of some position bending the limits of rational thought, or offering as evidence some possibly false information, I confess I struggle to keep my tone civil.

I had a bit of a problem controlling myself during the PAWSD Question & Answer session following the roll-out of a proposed \$357 million Dry Gulch Reservoir project last Monday night, February 23 at the Vista Clubhouse. After spending half a year working with a range of consultants on a revised Dry Gulch proposal, PAWSD officially threw out their former plans for a 35,000 acre-foot reservoir project, priced at \$150 million — and appears to have replaced it with a reservoir project half that size priced at \$357 million. PAWSD Special Projects Manager Sheila Berger, Durango water engineer Steve Harris and BBC consultant Tom Phippen

took turns explaining how PAWSD, through careful study, had come up with a water storage proposal priced at over four times the per gallon price of last year's proposed project. *Continued...*



Following that fascinating presentation, PAWSD gave members of the audience about 30 minutes to address questions about the \$357 million proposal to a panel of experts, including Berger, Harris and Pippen as well as PAWSD Manager Carrie Weiss, PAWSD attorney Evan Ela, PAWSD water conservation consultant Denise Rue-Pastin, San Juan Water Conservancy Chair Ernie Amos and PAWSD Finance Manager Shellie Tressler.

I had a couple of questions. I tried to ask them in a civil tone.

“This might be a legal question for Mr. Ela, or perhaps for Mr. Pippen. It’s my understanding that, according to Colorado state law, a water district [like PAWSD] is not allowed to charge impact fees. Am I correct in that?”

Attorney Evan Ela, to whom PAWSD has paid many thousands of dollars over the past three years to defend the proposed Dry Gulch reservoir project, responded.

“Well, there is an impact fee statute on the books in Colorado, and it does not allow water districts to impose impact fees. It reserves that right to counties and municipalities.”

“So if PAWSD wanted to collect an impact fee,” I asked, “they would have to work through the Town or the County, is that correct?”

“That’s correct,” said the attorney.

“So then, the [\$7,120 per EU] PAWSD Water Resource Fee is not an impact fee?”

“That’s correct.”

“So how is the Water Resource Fee different from an impact fee?”

Mr. Ela paused to think for a moment.

“Well, as I said, an impact fee as defined by our state legislature is set out in Title 29 of the Colorado Revised Statutes, and it specifies what it can be used for. The fee being imposed by this district is under its innate powers as a water and sewer district under Title 32. It has the power to assess fees as necessary to plan for growth.”

Translation: Colorado state law specifically specifically prohibits water districts like PAWSD from collecting impact fees. But Mr. Ela is asserting that under Title 32, PAWSD is allowed to collect fees as necessary to plan for growth, so long as they are not impact fees.

Well, then, what is an impact fee?

According to the Colorado Municipal League, “Planning literature generally defines an impact fee as a one-time charge assessed against new development that attempts to recover the cost incurred by a local government in providing the public facilities required to serve new development.”

Senate Bill 15, passed by the Colorado General Assembly in October, 2001, governing "impact fees and other similar development charges," does not precisely define the term “impact fee”, but the law does imply certain qualities unique to impact fees, such as the fact that impact fees — unlike administrative fees, special assessments, and other government fees — are levied only on new development. Existing residents do not pay impact fees.

I’ve been writing in the Post about impact fees for a couple of years, and, up until composing this article this morning, I truly thought I understood what the term ”impact fee” meant. But Mr. Ela’s response has challenged me on that point. It seems that Senate Bill 15, in legally outlining “impact fees and other similar fees,” intended to define the proper use of those fees only for cities and counties. Water districts are governed by a separate section of the Colorado Revised Statutes, and from what I can gather — as an amateur investigative writer — the laws are not all that clear but do suggest that water districts have more latitude than cities and counties with the types of fees they can levy.

The only thing that seems to be clear from my recent investigations is the difference between a “fee” and a “tax.” As the Colorado Municipal League states it, “A tax is a general revenue raising mechanism; a fee is charged to cover the cost of a specific activity, service or infrastructure.”

As Mr. Ela’s answer indicates, there is no clear distinction — in the way the fee is calculated or collected — between the PAWSD Water Resource Fee and your typical municipal impact fee, except that the water district is not allowed to collect impact fees and so does not call the WRF an “impact fee.” The PAWSD fee is quite simply collected using different legal powers from those granted to a town or county.

That thought frankly gives me the willies. The PAWSD Board of Directors — five volunteers duly elected or appointed to direct the policies of our local water district — apparently have the power to levy almost any fee they desire, without the slightest need for public approval, so long as they can justify it as necessary to any future water project.

And we seem to have a PAWSD Board and staff furiously planning a \$357 million reservoir complex — to be built in maybe 40 years and to be funded by growth — in a community where no apparent growth is occurring and where construction industry unemployment is over 20 percent.

One question that was not asked on Monday night: Does the PAWSD Board have any sense that putting a \$357 million project with no apparent revenue source into their official planning documents might have an effect on the number of people willing to invest in property in Pagosa Springs?

There were, however, a few other questions that did indeed get asked that night.

4. PAWSD Conjures \$357 Million Project in Dry Gulch, Part Four

Bill Hudson | 3/2/09

Local resident Mele Whiting stepped up to the microphone following last week's Pagosa Area Water and Sanitation District (PAWSD) rollout of a revised — and much more expensive — \$357 million Dry Gulch Reservoir proposal. Whiting and the rest of the half-full audience had just heard assertions — by PAWSD Special Projects Manager Sheila Berger, Durango water engineer Steve Harris financial consultant Tom Pippin — that Archuleta County ought to expect steady 4 percent growth in water demand for the next 50 years, and that this unstoppable growth justified a 19,000 acre-foot reservoir — and development fees levied on all new building projects, in the range of \$9,200 per Equivalent Unit.

An Equivalent Unit (EU) is approximately equal to the average water demand of a single family home.



Durango water engineer Steve Harris explains the financing for the revised 19,000 acre-foot Dry Gulch proposal — over twice the cost of the previous 35,000 acre-foot proposal.

Whiting was questioning the so-called “one year safety supply margin” built into a new 19,000 acre-foot reservoir being proposed that night for the parched Dry Gulch valley about two miles north of downtown Pagosa Springs.

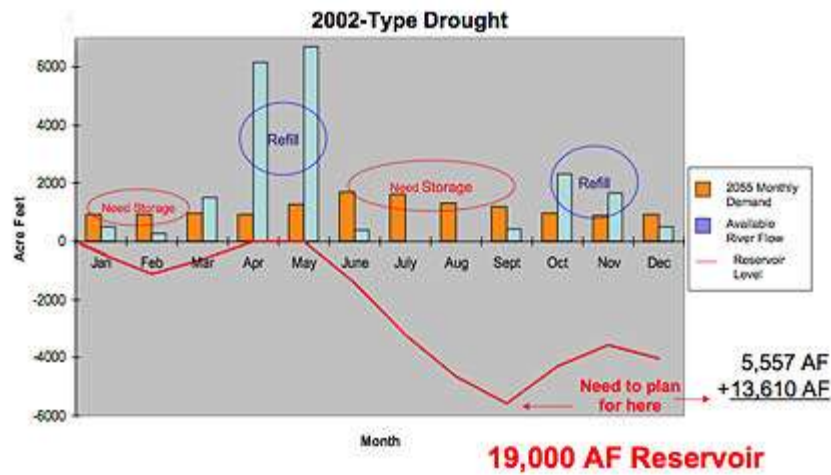
As Berger had explained earlier during her PowerPoint slide show, PAWSD adopted a “safety supply margin” policy a few years ago, requiring the PAWSD Board of Directors and PAWSD staff to plan for maintaining a one-year supply of water storage. In past PAWSD documents, this enigmatic and ever-changing “safety supply margin” seemed to be equivalent to one year of District-wide water demand.

At last week's presentation, however, the mysterious “safety supply margin” had inexplicably grown, to include not just a one-year supply but rather a one-year supply PLUS the amount of water needed to get through a 500-year drought such as the one the District experienced in 2002. Berger had presented this “new and improved” supply margin as totaling 19,000 acre-feet by the year 2055. Thus we have the proposal to build a 19,000 acre-foot reservoir.

“What percentage of your proposed 19,000 acre-foot reservoir goes toward your one-year safety supply margin?” Whiting asked the panel of experts assembled to field questions following the one-hour presentation.

Berger responded, “13,600 acre-feet of that 19,000 is the safety supply.”

Indeed, Berger had earlier displayed a PowerPoint slide that explained how the expected community-wide water shortage during a theoretical 2002-style drought — taking place in 2055 — plus the enigmatic 2055 one-year safety supply margin of 13,610 acre-feet, added up to the neatly rounded 19,000 acre-feet. *Continued...*



Whiting continued, “How does this compare to other municipalities? For example, I understand that Denver has a 450,000 acre-foot demand projected to the year 2050. And they are planning for a 30,000 acre-foot safety margin.”

The panel of PAWSD experts seemed somewhat confused by this assertion by Whiting, and generally responded that they knew nothing about the Denver Water district policies, or any other Colorado water district’s safety supply margin, for that matter.

This surprised me somewhat, because Colorado water districts often learn how to plan for their own future water needs by researching the policies of other Colorado water districts. So while writing this article, I decided that some independent research was in order.

I did an online search for “water safety supply margin Colorado” in Google.com and found out something quite interesting. In reviewing the top 100 websites resulting from that search, the term “safety supply margin” — one year or otherwise — appears on only three Colorado water websites. Two websites belonged to PAWSD and its collaborator on the proposed Dry Gulch project, the San Juan Water Conservancy District (SJWCD). The third was at the Great Western Institute website — and was a discussion of the proposed Dry Gulch Reservoir.

It seems that no other water district in Colorado has posted any information about any “safety supply margin” whatsoever on any of their websites.

Is it possible that this mysterious “one-year safety supply margin” idea is absolutely unique to PAWSD and SJWCD, among Colorado water districts?

Daily Post writer Glenn Walsh plans to discuss just how many years of drought the PAWSD “one-year safety supply margin” really accommodates, in a future article. After reading that article, our Post readers might have an idea why no other Colorado water district seems too concerned about a “one-year safety supply.”

PAWSD desperately needs a one-year safety supply margin, however, precisely because the proposed Dry Gulch Reservoir project has almost nothing to do with water storage — and everything to do with making new

growth pay for serious planning mistakes made by PAWSD over the past ten or twenty years.

But more about that later.

For now, let's look at our community's remarkable need for a brand new 19,000 acre-foot reservoir during a period of completely unremarkable growth.

When the Colorado Supreme Court rejected the PAWSD plan for a \$150 million, 35,000 acre-foot in October 2007, and remanded the case to water court judge Greg Lyman, PAWSD continued to collect the \$7,120 Water Resource Fee based on the rejected reservoir. A year later, Judge Lyman granted water rights sufficient for a 19,000 acre-foot reservoir, and PAWSD began researching new population projections and construction costs which would help justify just such a reduced project.

Here is where the year 2055 comes into play. The original 2004 application for PAWSD water rights used a 100-year planning period to justify the need for those water rights, but the Colorado Supreme Court insisted that the maximum planning period suitable for the PAWSD project was 50 years. Using the 100-year time span, PAWSD had been trying to base its reservoir plans on the Archuleta County population PAWSD was projecting for the year 2100.

Now, apparently as a result of the 2007 Supreme Court ruling, PAWSD is basing its Dry Gulch planning on the year 2055. So PAWSD needs to show a lot of people moving here over the next 45 years.

Perhaps that's why the new Dry Gulch plan is using a population growth factor of 3.9 percent per year through 2055 — even though the previous Dry Gulch studies used only a 3 percent growth rate, and even though PAWSD's own 2009 budget is predicting less than one-half percent growth for this year.

Because, if PAWSD uses the 3.9 percent growth estimate, the numbers work out very nicely — justifying a 19,000 acre-foot reservoir.

Except that, in order to make the numbers work, PAWSD must also assert the need for a “one-year safety supply margin” which appears to be unique among Colorado water districts. And they must also modify that “one-year safety supply margin” to include the estimated water shortage during a once-every-500-years drought.

But here's the curious part to all that. The PAWSD PowerPoint slide show included the following slide:



Financing

Sources of Capital From Future Development (CIF/WRF*)

Year	Growth Rate		
	3.9%	3.0%	2.0%
2010	\$5,284,351	\$2,065,000	\$1,376,000
2015	\$20,407,494	\$11,228,000	\$7,278,000
2020	\$38,718,821	\$24,316,000	\$15,344,000
2025	\$60,890,448	\$39,488,000	\$24,250,000
2030	\$87,736,182	\$57,077,000	\$34,083,000
2035	\$120,241,396	\$77,467,000	\$44,939,000
2040	\$190,599,192	\$101,105,000	\$58,925,000
2045	\$207,254,196	\$128,508,000	\$70,159,000
2050	\$264,955,581	\$160,276,000	\$84,770,000
2055	\$334,821,275	\$197,103,000	\$100,902,000

Bottom Line:

We will build what we can afford WHEN we can afford to and WHEN demand requires

Note the words: "Bottom Line: We will build what we can afford WHEN we can afford to and WHEN demand requires."

Aye, there's the rub. If indeed PAWSD growth is only the 2 percent shown in the right hand column — a growth rate that seems much more in line with current events, in my own opinion — then PAWSD will NOT need a 19,000 acre-foot reservoir in 2055. It will need something closer to a 6,000 acre-foot reservoir, costing about the \$100 million they will have collected collected by then.

But then the entire plan to collect \$9,200 in development fees from every new single-family home for the next 45 years would need to be totally recalculated.

So to make their whole financial plan work, PAWSD apparently feels they have to grossly overestimate growth and then add a uniquely ambiguous "one-year safety supply margin" into the mix. They can then collect the over-sized development fees which they might not actually need after all, when the growth never happens.

But wait? What about the water conservation estimates that the Supreme Court demanded PAWSD include in their calculations? What on earth happened to those?

5. PAWSD Conjures \$357 Million Project in Dry Gulch, Part Five

Bill Hudson | 3/3/09

When District 7 Water Court Judge Greg Lyman approved the water rights for a proposed 35,000 acre-foot reservoir in Dry Gulch in 2004, that decision was appealed to the Colorado Supreme Court, by national fishing organization Trout Unlimited. The Supreme Court objected to Lyman's decision and remanded the case back to him for additional "findings of fact." The Supreme Court's objections were based on three main issues.

In 2003, Pagosa Area Water and Sanitation District engineer Steve Harris had designed the Dry Gulch Reservoir at 35,000 acre-feet for one simple reason: that was the largest reservoir that would fit in Dry Gulch. Harris admitted this in court, and at public PAWSD meetings. In order to justify such a large reservoir — almost 18 times current Archuleta County use — Harris had used estimates of 100 years of astronomical community growth.

First off, the Supreme Court told Judge Lyman to limit the PAWSD water rights application to a more reasonable planning period — say, 50 years. Second, the Supreme Court had told the District 7 Water Court to use reasonable growth predictions. And third, the Supreme Court had instructed Lyman to consider future water conservation measures.

Water conservation is on the tip of every sensible community planner's tongue these days. Every community in the American West from Denver to Los Angeles knows that water supplies are daily becoming more precious — and water storage is becoming more controversial. Fortunately, huge strides have already been made, throughout the West, in the area of water conservation. *Continued...*



BBC Consultant explains the funding plan for a proposed \$357 Dry Gulch project. Did Pippen and the other PAWSD presenters simply forget to mention water conservation last week — or did they purposely avoid the subject?

According to the [City of Phoenix website](#), “The least expensive way to provide water for growth and to assure an adequate supply for the future is through wisely managing and carefully using (and reusing) supplies we already have.” Indeed, many communities throughout the West have embraced this same fact: that water conservation is a highly effective water planning tool, yet costs almost nothing to implement. No reservoir is required, no new pipelines need to be engineered, and in many cases, no new treatment plants need to be built.

Curiously, the words “water conservation” did not feature prominently in the PAWSD roll-out of their revised Dry Gulch proposal last week. In fact, I do not recall a single slide in the 90-minute-long, 40-page PowerPoint presentation that mentioned the word “conservation.”

So I took the opportunity to mention the word during the half-hour question and answer session following the slide show. I addressed my question to one of the panelists, Denise Rue-Pastin, the PAWSD water conservation expert and PR person. I asked Rue-Pastin how much water is used in the PAWSD district currently, on a per capita basis.

“About 165 gallons,” she replied.

“About 165 gallons per day, per person?”

“That’s right.”

“And there are some conservation measures being looked at by PAWSD, and you are going to be rolling those out in the next couple of months?”

“Yes.”

“According to the research that I’ve done,” I noted for the benefit of the audience, “the average per capita use, worldwide, is about 7 gallons per day. Here in Archuleta County, we use about 165 gallons per day. In your expert opinion, how much of a reduction could PAWSD residents make in their water use over the next 20 years? Could we possibly drop our water use in half, for example, and save ourselves \$150 million in reservoir costs?”

I was suggesting the \$150 million figure because the full proposed cost of the Dry Gulch project, as presented that night, was \$357 million. I was trying to suggest that aggressive water conservation would be a lot cheaper for area residents, and maybe the reservoir could be built smaller?

Rue-Pastin replied after a momentary pause.

“When you look at communities in the United States that have very aggressive conservation plans — say in New Mexico, or New York — bringing the water use down to half of where the levels are now is probably more aggressive than I imagine this community would be able to handle.”

Perhaps it’s easier for this community to handle paying for a \$357 million reservoir project? I wondered to myself.

“A 20 percent reduction is what a lot of other communities are looking at,” Rue-Pas continued. “We might be able to get our local water use down to maybe 120 gallons per day. 120 to 150 gallons. I think we would be doing pretty good to achieve those levels.”

“So you think we could cut our water usage by a third? Down to 120 gallons per day?”

“I’m not sure cutting our water usage down to 120 gallons, or 150 gallons, is exactly a third. But I think there is room for improvement.”

It put my mind at ease that the PAWSD water conservation expert thought there was room for improvement.

In fact, PAWSD customers have already made very significant reductions in their water usage — and water wasting — since PAWSD began promoting water conservation measures following the 2002 drought. According to PAWSD figures, a typical single family home was using about 420 gallons per day in the year 2000. By 2007, that usage had dropped to about 270 gallons per day.

Click here to view PAWSD's 95-page [October 2008 Water Conservation Plan](#), as a PDF file.

In other words, over a seven-year period, PAWSD customers reduced their average water usage by a third — the amount Rue-Pastin thought might not be achievable over the next 20 years. This was done without instituting any mandatory water usage restrictions, except during the 2002 drought.

Could Archuleta County, in fact, cut its per capita water demand in half over the next 20 years? Could we, as a community, decide to conserve enough water to save us from needing a \$357 million reservoir project — and still allow for growth? How much water does a single family home really need? How much will it need in 20 years? Continued...



- Without water, there will be no community economic prosperity
- All the water we have now is all we will ever have: a reservoir is necessary to provide what we need, when we need it
- We will build what we can afford when we can afford to and when demand requires us to
- CIF and WRF are vehicles to accumulate capital by growth, for needs of growth

The final slide in the PAWSD PowerPoint presentation last week made no mention of water conservation. Nor did any other of the 40 slides.

And perhaps even more important, how much water is PAWSD itself wasting — through an out-dated, leaking water system that PAWSD board member Bob Huff described on several occasions as “rotten”?

6. PAWSD Conjures \$357 Million Project in Dry Gulch, Part Six

Bill Hudson | 3/4/09

The City of Albuquerque, New Mexico — three and a half hours south of Pagosa Springs in a somewhat more arid part of the Southwest, established an ambitious goal in 1994. The Mayor and the City Council called for a 30 percent reduction in per capita water use by the year 2004 — a goal they in fact achieved — and then upped the ante, calling for a 40 percent reduction by 2014. The program involves cooperation from public housing projects, conversion of public and private landscaping to low-water-use designs, conversion to low-flow bathroom fixtures, installation of better metering systems, and experiments with recycled water for certain public uses, such as the Rio Grande Zoo.

So far, the city is on track to reach their goal: cutting per capita use to 150 gallons per day by 2014.

Pagosa Area Water and Sanitation District customers, meanwhile, cut their per capita use by about 30 percent between 2001 and 2007. Nearly all of that reduction happened quite suddenly in response to the 2002 drought — and those reductions have pretty much continued over the next six years, in spite of a somewhat modest effort by PAWSD to promote additional water conservation. PAWSD customer use is now at about 165 gallons per capita per day, according to PAWSD consultant Denise Rue-Pastin.

PAWSD’s new \$357 million Dry Gulch proposal, presented to the community last week, was seemingly based on current water demand, without factoring in additional water conservation successes over the next 50 years. But is the Dry Gulch project really the best way to spend the community’s limited funds?

A recent water conservation project in Atlanta, GA used grants to provide 1,500 ultra-low-flush toilets and 3,000 low-flow showerheads to older homes in that city. Organizers of that project anticipate annual savings of 30 million gallons of water — and \$160,000 in annual water treatment costs. Instead of draining the

community's resources, the project actually saved money that could be used for other Atlanta improvement projects.

In Austin, TX, environmental groups are fighting the creation of a new \$495 million water treatment plant, claiming that the city's successful water conservation programs can delay that project for 20 years or more. But the water district has taken the position that the new — and more efficient — treatment plant will help save the environment by reducing the city's greenhouse gases and pollution.

Here in Pagosa Springs, the environmental consequences of the proposed Dry Gulch reservoir have yet to be discussed. What we do know is that Dry Gulch collects practically no water from its own watershed, so nearly every gallon of its proposed 19,000 acre-foot capacity will have to be pumped uphill into the reservoir. The water will then have to be pumped uphill again — for several miles — to serve the main population center of Archuleta County, about 500 feet higher than the proposed reservoir elevation.

That means PAWSD will be pumping several billion gallons of water per year — twice. A recent report released by PAWSD, however, shows that over 30 percent of the treated water created in the PAWSD treatment plants never makes it to any home of business — due to a rotten pipeline system that apparently leaks out about one in every three gallons.

Post reporter Glenn Walsh asked about those water losses during last week's Dry Gulch meeting.

“The Snowball pipeline and the Snowball water treatment plant, and the downtown infrastructure, seem to be the most pressing problem. So I guess I would ask the board also, since your growth estimates seem to be pretty aggressive in the Pagosa Lakes and District One — it looks like about 60 percent of the growth is forecast there — is there some concern about infilling in a district that seems to be losing 30 to 34 percent of its treated water.

“Is that a high priority as well, if most of the growth does take place in District One?”

PAWSD Finance manager Shellie Tressler took a shot at addressing Walsh's question, assuring him that the water district is making upgrades as needed throughout the district, and is not focused solely on the Snowball upgrades mentioned in the Dry Gulch financing. She also noted that the 34 percent “non-revenue water” loss includes a number of causes other than just leakage. She said PAWSD uses treated water for its own flushing processes and for cleaning its waste treatment facility. She suggested that the district is actually “losing” only about 28 percent of its treated water.

It appears, from those figures and from the water conservation programs in other communities, that PAWSD could easily delay the need for a new reservoir — possibly for decades — by repairing its existing pipelines and instituting aggressive water conservation programs, to promote water saving measures like xeriscaping and low-flow fixtures.

When I asked Rue-Pastin if Pagosa Springs could reasonably cut its water demand in half over the next 20 years, she expressed doubts that such a savings could be achieved. But what would be the result, one might ask, of a 30 percent reduction in community water use — a reduction less than that planned by Albuquerque, for example — combined with reducing water loss from leakage down to an typical standard of about 10 percent?

My pocket calculator adds those numbers this way: 20 percent reduction in lost water plus a 30 percent reduction through water conservation, equals — I believe — a 50 percent total reduction.

That's the reduction Rue-Pastin said was not attainable. But if it is, in fact, a reasonable and attainable goal,

Pagosa Springs would have reduced its water demand by 50 percent. Would these two steps cost the community \$357 million — the estimate for the proposed Dry Gulch reservoir? (Of course, if we add the interest on \$357 million in bonds, we are actually looking at a total bill of over \$1 billion for Dry Gulch.)

With no growth to support such a \$1 billion investment, can't PAWSD come up with a better option? Like fixing its broken existing system, and teaching us how to save water?

Then, perhaps we could put the proposed Dry Gulch project on the back burner for another ten to twenty years — and see if the impressive growth we saw prior to 2005 will in fact return to Pagosa Springs someday. Because without that growth, we will not need Dry Gulch — nor can we afford it.

But I suspect PAWSD will not take such an approach.

PAWSD will hold to its over-aggressive water demand projections and its over-aggressive impact fees on new development, I suspect, for one simple reason: the Dry Gulch proposal is actually aimed, not at a new reservoir, but rather as a way to raise money for the rebuilding of a neglected infrastructure — including the Snowball pipeline and treatment plant, and a desperately leaking community pipeline system.

Making new growth pay for repairs to an existing system is a clever approach. Unfortunately, it is also illegal, because it essentially taxes the newcomer for past neglect, under the pretense of raising funds for a future project.