



The 12th Annual Water Assembly  
June 14, 2008



## Subprime Water Crisis

### Setting the Stage: Background, Pressures & Examples

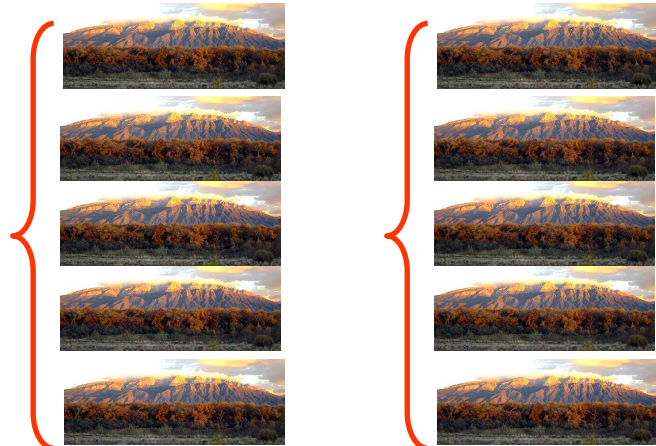
Elaine Hebard  
Water Assembly Volunteer

Good morning. I'm Elaine Hebard and I'm treasurer of the Water Assembly. I wanted to give a little bit of background to the 'subprime water crisis.' I'm going to briefly review the background, pressures and some examples, setting the stage for our presenters.

How much is the gap between renewable supply and demand?

55,000 acre feet = approximately 10  
Sandia Mountains rising above the  
valley floor in Albuquerque

... every year for at least the past ten  
years



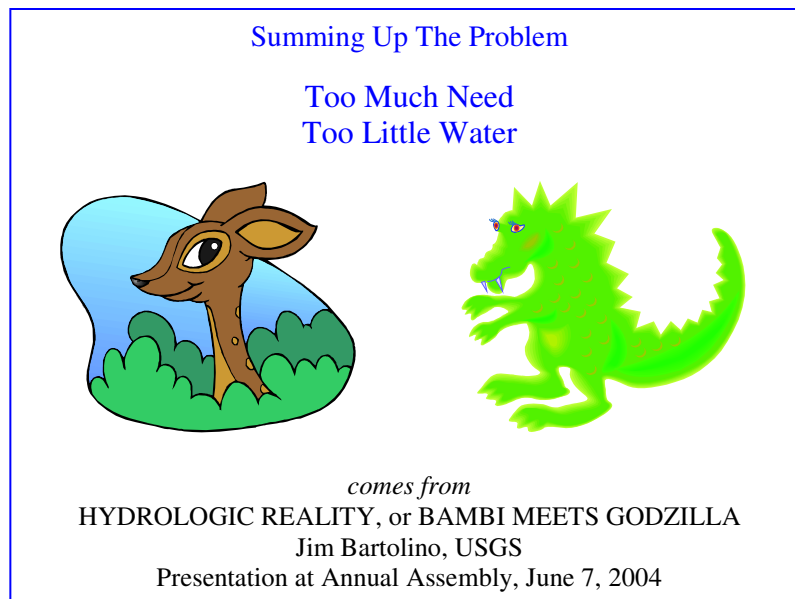
Ed talked about the 'gap' between renewable supply and demand and I was trying to figure out how to show that. These are the Sandia mountains behind the city, with an elevation of about 10,000 feet. The annual gap is equal to about five mountains of that height, or, if you only consider the 5,000 feet from the river in Albuquerque to the top of the Sandias --what we look at every day--, the gap would be about ten mountains. Another way to look at it is that our use exceeds our renewable supply by approximately ten miles *every year*.

- Growing and increasingly diverse demands for water in the Middle Rio Grande region—including the State's needs for water supply for about half its population and economy, and for wildlife and ecological uses—cannot all be met.
- Current water consumption exceeds the long-term average supply that is legally available for use in the Middle Rio Grande.

- Since the surface-water system is closely interconnected with groundwater, pumping more groundwater does not solve the problem.

*Framework For Public Input To A State Water Plan; Prepared By The New Mexico Office Of The State Engineer And The Interstate Stream Commission; December 2002*

The above summary points came from a 2002 report. While many of you have already seen them before, I think they're important to remember. Growing and increasing diverse demands for water in the Middle Rio Grande region, including the state's need for water supply for about half the population and economy right here, and wildlife and ecological uses, cannot all be met. Current water consumption exceeds the long-term average supply. And as we know, groundwater and surface water are connected. This is our House of Cards.



For those of you who remember the 2004 Assembly: 'Bambi Meets Godzilla.' Doesn't this say it all?

#### Water Rights

Water rights provide the means for our wet water use. But more rights have been issued in the MRG than there is wet water to cover them, even in a good year, and more uses are still being added.

*"Existing water rights, compact obligations, conservation efforts and public welfare might all be jeopardized unless sufficient valid surface water rights are obtained to offset effects on the Rio Grande prior to pumping ground water...It's similar to buying short on the stock market... the day to pay comes around and you better have the money, or in this case the water rights, to cover yourself."*

Tom Turney, former N.M. State Engineer, 2001

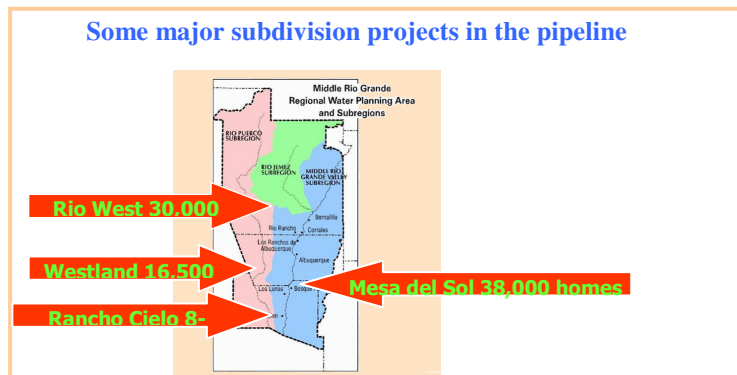
In the flyer that brought you here today, there was a quote from Tom Turney. I think it's useful to remember that while water rights provide the *means* for all that water, more rights have been

issued than there is wet water to meet them. It's similar to buying short on the stock market: the day to pay comes around and you'd better have the money—or in this case, the water rights—to cover yourself. Part of the House of Cards.

So that's the situation already, plus we have new things happening.

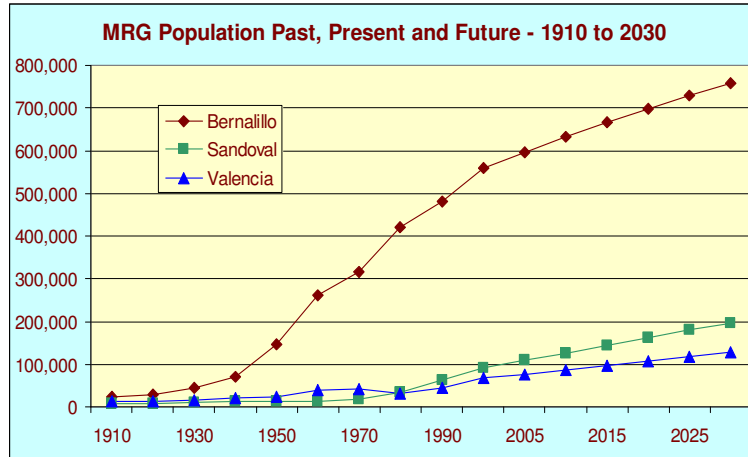


The Endangered Species Act will need more water, plus new houses, businesses and industry, and if we expand agriculture—well, all of those uses are going to be needing more water.



Above are some of the larger subdivision projects being planned in our region: Westland or Sun Cal, and Mesa del Sol in Bernalillo County; Rancho de Cielo down in Valencia County; and Rio West up in Sandoval County.

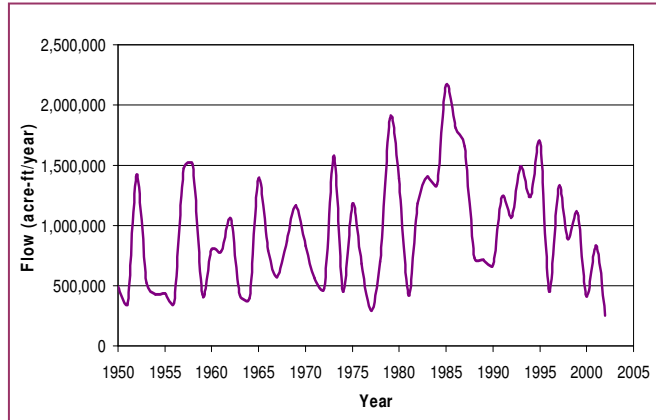
## Population From 1910 to 2030



Source: Bureau of Business and Economic Research, University of New Mexico.

Population projections are shown above. You can see what's happened population-wise from 1910 projected out to 2030. Especially for Bernalillo County, you can see we are expected to increase substantially in population. Where is the water going to come from?

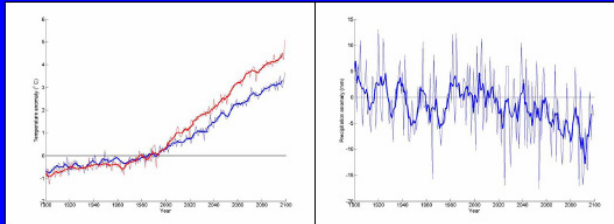
## Water supply is variable Annual Variability: Otowi Index Supply, 1950-2002



This year we've had about an inch of rain so far, which is actually normal, but we're not used to that. You can see from the chart that the only thing you can say is that the water supply is really variable.

## Climate Change Water Challenges in New Mexico

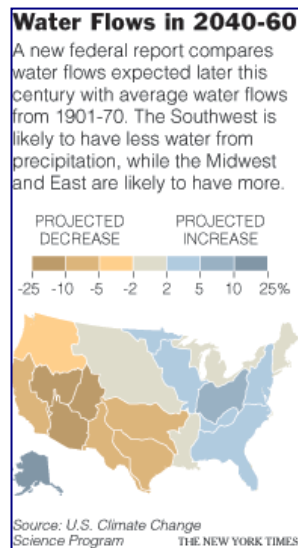
Increased temperatures: **very likely**  
Decreased precipitation: **likely**  
• NM: Drier in winter! ... Monsoon?



Data: Hoerling and Eischeid (NOAA-ESRL); PCMDI AR4

At the same time, climate change is likely going to result in less water supply. The above charts show what climate changes are anticipated to mean in the next century. You can see just a little bit of increase in temperature during the last century, but then both winter and summer temperatures increase dramatically in this next century. It appears as if precipitation is going to decrease during that same time period. So, hotter and less water.

### Effects of Climate Change on Water Resources in the US



#### Western states

From 2040 to 2060, anticipated water flows from rainfall are likely to approach a 20 percent decrease in the average from 1901 to 1970

The above clipping is from a brand new report that just came out, which concludes with the expectation that from 2040 to 2060 our water flows from rainfall will be 20% less.

## What do we mean by Subprime Water Crisis?

### Current subprime mortgage crisis

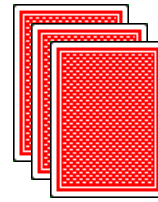
- Speculative betting was encouraged, based on the assumption that housing values would increase faster than risky loans might default.
- It was assumed there would be adequate returns to meet repayment promises.
- But the assumptions didn't hold true, with outstanding loans now sometimes worth more than the house.

So what did we mean by the 'subprime water crisis'? We thought about the current subprime mortgage crisis in that a lot of people went out and bought more house than they really could afford, which now they can't afford with their mortgages going up. A result is lots of foreclosures. People assumed—lenders and borrowers—there would be adequate returns to meet the repayment promises, but that assumption didn't hold true.

Are we living in a house of cards?

Like the housing market, are we gambling on the existence of sufficient water to meet our needs?

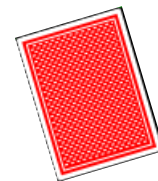
What might subprime water include? Have we factored in the costs?



So as far as the subprime water crisis, are we living in a house of cards? Are we gambling on the existence of sufficient water to meet our needs, and that might be water quality, or water quantity. What might 'subprime water' include, and have we factored in the cost? Here are just some ideas that I threw together.

### Water quality

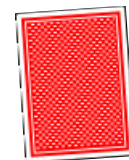
Removing contaminants from drinking water may require additional financial and energy resources.



Water quality: removing contaminants from the water we're about to be drinking. Is that going to run up the costs? Have we included those costs? We're going to need more energy and that's going to require water. Have we included that?

### Food Security

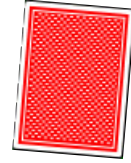
With oil prices escalating, local food production will increase in importance.



Food security: if we pave over the valley and transfer all the water rights at the same time as energy costs and oil costs are going up, how smart is that? Have we taken that into consideration?

## New Users

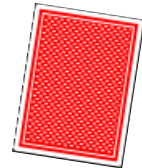
Water to supply new users has to come from existing users, another basin or be developed or recycled.



Like I said, we're going to need more water to supply new users and it's going to have to come from either existing users, transfers from another basin, developing desalinated water, or from recycling.

## Desalination

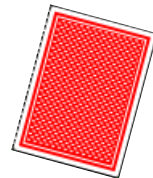
A potential source of water, will also require substantial amounts of capital and energy. Producing that energy also requires water.



Desalination is going to take a lot of energy—to pump it and desalinate it. Where's the water going to come from for the energy and how much is that going to cost in terms of our long-term growth strategies?

## Climate Change

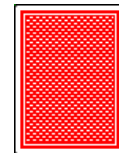
Current projections are that 20% reduction in water supply in both the Rio Grande and Colorado Basins will be seen by mid-century.



With climate change, we're looking at 20% reductions, so have we factored that in when we were thinking we could hand out all these water rights to new people?

## Paper Water Promises

Even without a clear understanding of how much wet water is backing paper claims, or what the future holds, plans are being pursued to generate growth.



We have issued permits in the past, and continue to do so. For example, Rio Rancho has a permit to double their pumping and they have, basically, fifty-five years to find the water rights that will cover that increase in pumping. We don't necessarily know how many of those promises are out there. Have we included those promises in calculating how much water is available for new growth?

*“Bucking the house odds is no way, in the long run, to get rich. It's the same thing with the printing of money and creation of easy credit: they won't produce prosperity.”*  
Doug French, *Liberty Watch Magazine*, April 28, 2008.

‘Bucking the house odds is in the long run no way to get rich.’ It's the same with printing money and the creation of easy credit—they won't produce prosperity. Try substituting the words "water rights".

## Some Consequences

Decisions based on subprime water have too often been made with little or no weighing of consequences. Those consequences include:

- unrealistic accounting practices
- nominal monitoring and administration
- increased energy needs
- incompatible land use practices
- emergent water quality issues
- speculative-based growth and probable supply reductions

The consequences listed above are also in the flyer, so it's not any surprise if you've seen them before. Unrealistic accounting practices are some of the consequences. Nominal monitoring and administration, increased energy needs, incompatible land use practices, emergent water quality issues like pharmaceuticals, and speculative-based growth are all consequences of our current activities regarding water.

## Results

As we consider the subprime water crisis, we could have foreclosure, we could have a solid house, or we could have a Joker.



Where Can We Be Most Effective?

After the presentations, please join in the plenary discussion!

Where can we be most effective? At the end of the day, we'll be talking, with the help of Carl, about what kinds of tools, what kinds of strategies we could actually pursue to avoid the crisis.



[www.WaterAssembly.org](http://www.WaterAssembly.org)