

TOWN OF SILVER CITY WATER NEEDS

Interim Water and Natural Resources sub-committee

August 31, 2015

Town of Silver City water needs

Background

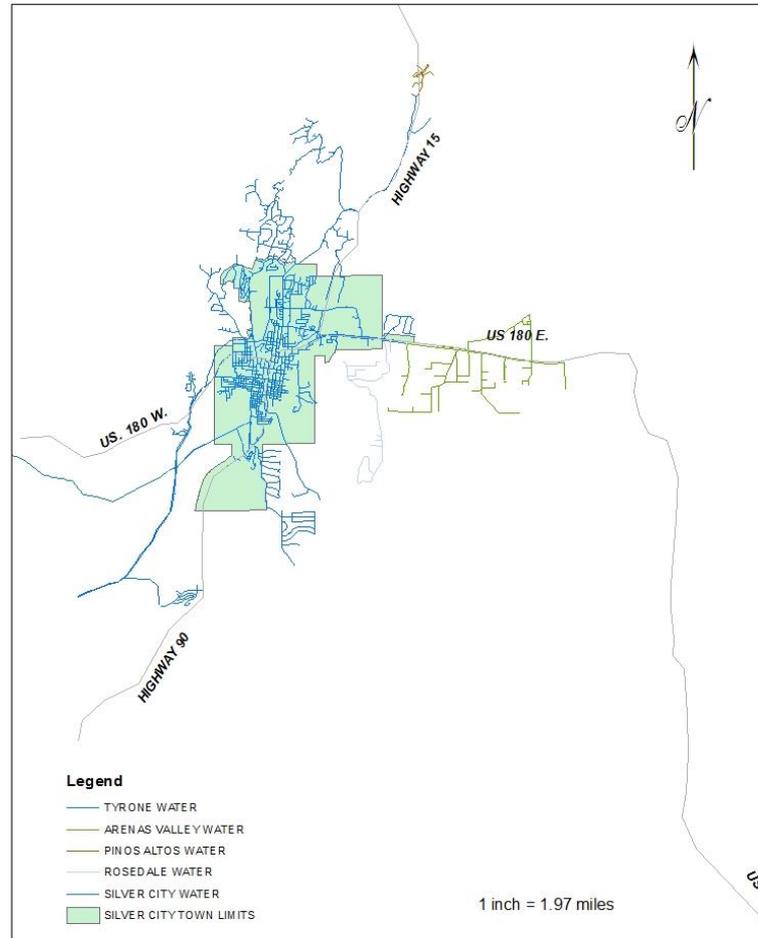
- The Town owns 4,834 ac-ft of water rights
- Of the total water rights owned, 4,567 ac-ft are located in the Town well fields.
- Of the 4,567 ac-ft located at the well fields the Town only has the capacity to transport 80% or 3,653 ac-ft of our water into the system.

Distribution system

- The Town distributes water within Town limits
- The Town also distributes directly to a large portion of the ETZ
- The Town also supplies water to four large water associations and numerous smaller associations.
- The Town supplies water to approximately 18,000 residents of Grant County

Town of Silver City Distribution System

SILVER CITY WATER SYSTEM 2015



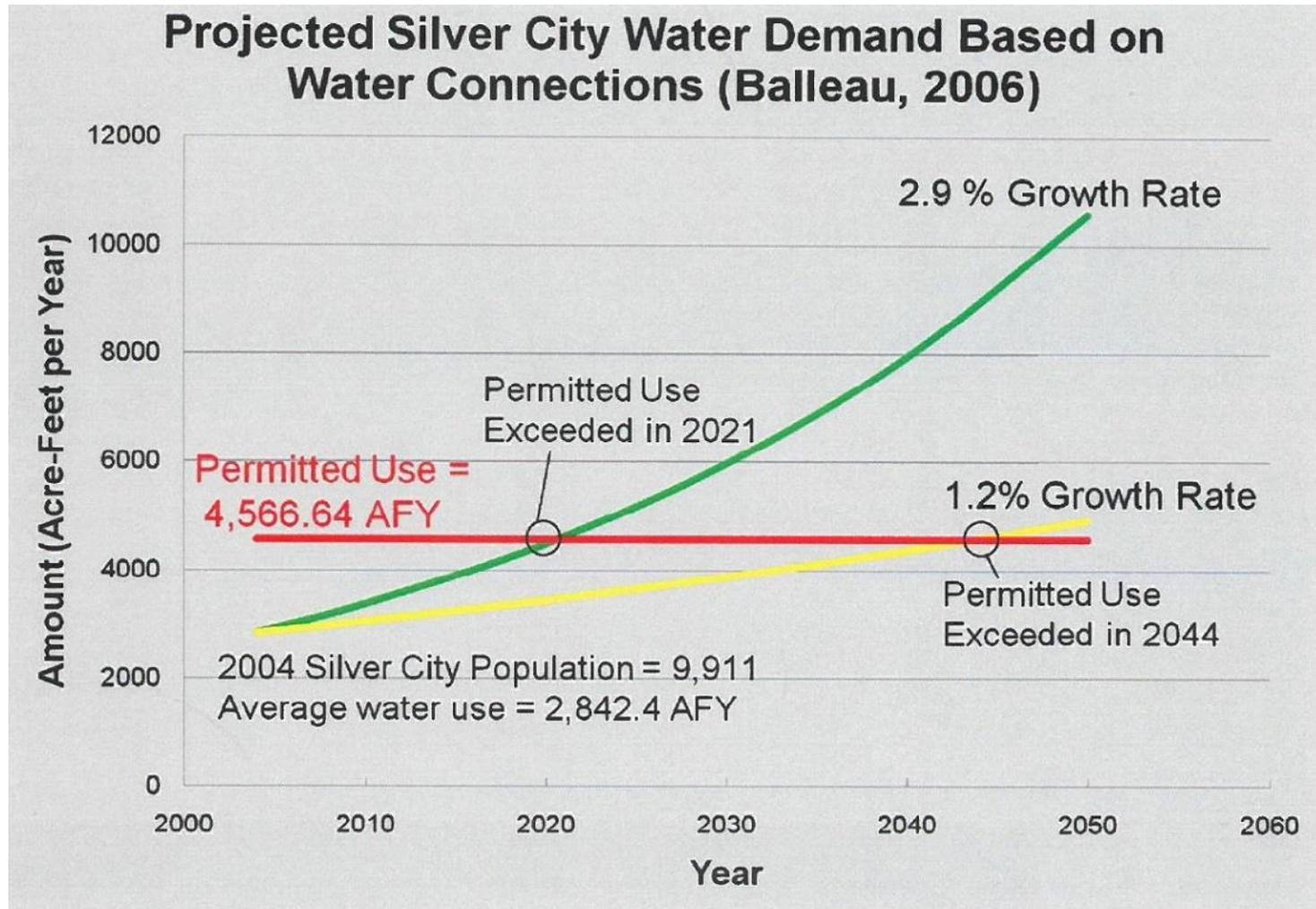
Town of Silver City Water Needs

(2006) 40 YEAR WATER PLAN by Balleau Groundwater

Per the (2006) 40 – Year water plan

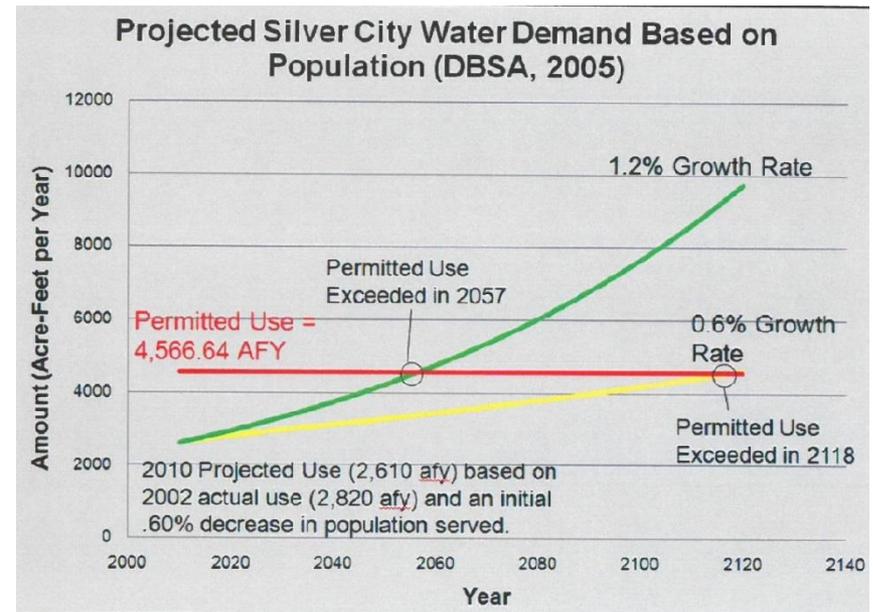
- The Town of Silver City pumps its water from two aquifer's
 - 1,120 ac-ft/yr from the Gila Basin
 - 3,445 ac-ft/yr from the Mimbres basin
- The Town has access to 4,565 ac-ft/yr of water for municipal use.
 - Of these water rights the Town can only transport 80% or 3,652 ac-ft/yr or water in to the distribution system with its current transmission infrastructure.
- The study also recommended that we study the aquifer to gain a better understanding of the aquifer groundwater availability from recharge. (Mangus Trench recharges at 15,000 ac-ft/yr per the study)
- Based on the previous five year groundwater diversion numbers we were averaging approximately 2,800 ac-ft/yr.
 - Using a high growth projection of 2.9% the Town would have to acquire additional water rights by 2021
 - Using a low high growth projection of 1.2% the Town would have to acquire additional water rights by 2044

Town of Silver City Water Needs



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- In 2009 the Interstate stream commission updated the 2006 40-year water plan.
- The study used all the same assumptions except that they used a lower annual average of 2,610 ac-ft/yr and they used lower growth projection
 - Using a high growth projection of 1.2% the Town would have to acquire additional water rights by 2057
 - Using a low high growth projection of 0.6% the Town would have to acquire additional water rights by 2118



Town of Silver City Water Needs

As a result of the 2006 40-year water study

- The Town initiated measures to ensure the long term sustainability of the our water resources.
 - The Town identified all infrastructure needed to increase our transmission capacity into the distribution system
 - The Town began working with the Mining district to develop the regional water project in an effort to develop supplemental water rights for our system.
 - We identified what distribution projects were needed to decrease unaccounted water loss to a minimum.
 - We replaced infrastructure in the older parts of Town
 - Leak detection is being done twice a year to identify other areas that may be losing water.
 - A large meter calibration program has been set up to decrease losses.

Regional Water System

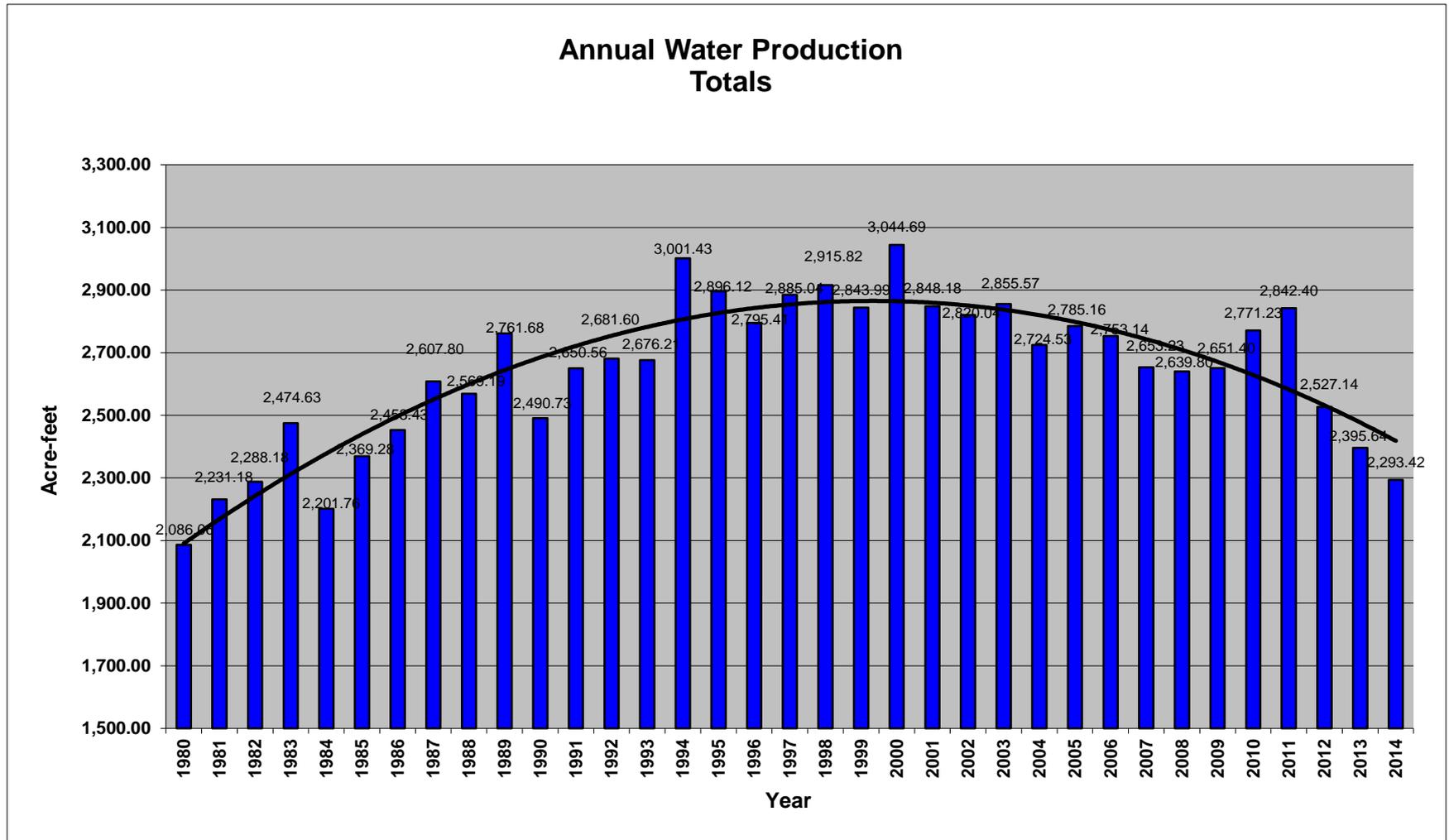
- Purpose of the regional system is to provide a primary source of water to Hurley and a supplemental source of water to the rest of the mining district and the 8 area water associations.
- Status
 - Awarded \$2.1 million in funding from the AWSA via the ISC.
 - Preliminary engineering completed with Colonias initiative funding.
 - Final design of phase 1, consisting of well field and transmission lines to Hurley, funded and under way. Colonias initiative funding.
 - Construction of phase 1 awaiting the design.
 - Funding Sources being explored
 - USDA, EDA, Water Trust Board, Colonias initiative, CDBG, Legislative allocation and local funds.
 - Town of Silver City has committed 940ac-ft/yr of water rights.

Town of Silver City Water Needs

In 2013 the Town of Silver City adopted our water conservation plan. Recommendations included:

- System Operation Efficiency programs
 - Continue leak detection program and distribution infrastructure replacement (Already in place)
 - Continue meter calibration program (Already in place)
 - Replace existing metering system with radio read meter system (Oct. 2015)
 - Replace billing system (reviewing)
- Outdoor water conservation programs
- Indoor water conservation programs
- Statutes, Ordinances, and Regulations
 - Amend rate structure to bill for every 1k gallons used (FY 2014 and FY 2015)

Town of Silver City Water Needs



Town of Silver City Water Needs

What has resulted by implementing the water conservation plan?

- Water production has decreased substantially
 - Our three year high from 1999 thru 2001 was 2,912 ac-ft/yr or 64% of our total water rights.
 - The last three full years from 2011 thru 2014 was 2,405 ac-ft/yr or 53% of our total water rights.
- Unaccounted water has averaged 8.59% over the last three years.
- The average consumption per household per month has gone from 7k gallons in 2011 to 4.7k gallons per month.
- By amending the rate structure to bill for all water used by the consumer, revenues have been increasing rather than falling due to the decrease in water being pumped.

Town of Silver City Water Needs

- Where do we go from here?
 - As of 2006 the Town of was focused on acquiring additional water rights and increase transmission capacity due to a perceived short term need.
 - This was going to be very expensive.
 - As of 2011 the Town started implementing more cost effective measures which have shown to extend the life of our current resources.
 - The Town will continue to focus on implementing the recommendations of the water conservation plan which are far less costly than expanding transmission capacity.
 - The Town will also work toward securing water rights for our long term needs.

Town of Silver City Thanks You!

- Alex Brown

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