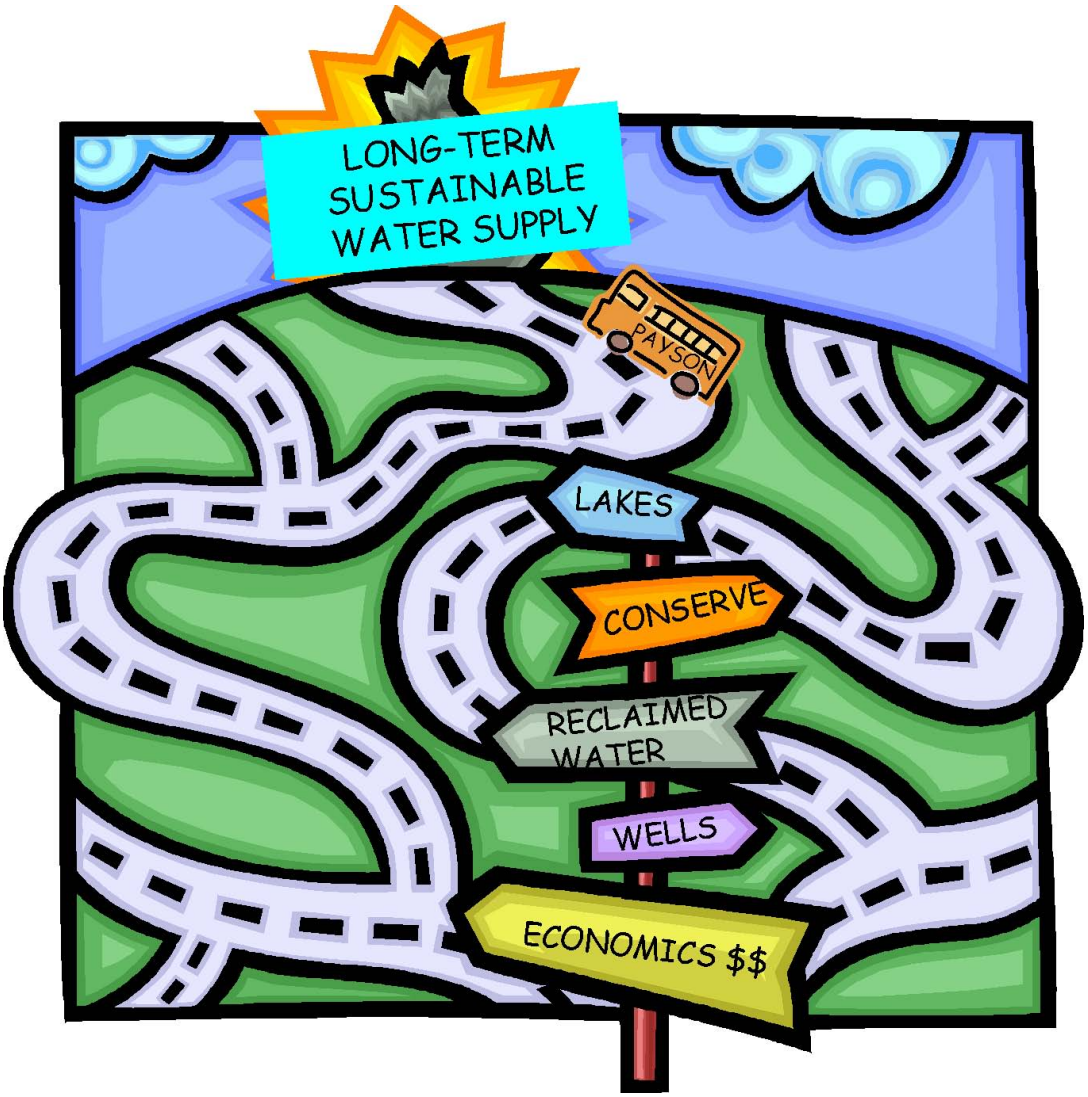
TOWN OF PAYSON
WATER RESOURCES MANAGEMENT

2011 Status Report



APRIL 5TH, 2011

Prepared By:
Town of Payson Water Department

2011 PAYSON WATER RESOURCES STATUS SUMMARY

The Town of Payson desires to maintain water usage below what is replaced on a long-term average basis by rain and snowfall within the watersheds that recharge or re-fill the aquifer upon which it relies. Maintaining groundwater usage below this amount is considered "Safe Yield". The amount of groundwater available to the Town of Payson within a Safe Yield state is estimated at up to 2,681ac-ft/y. This value is considered Payson's maximum available annual groundwater supply.[1]

It is the policy of the Town of Payson local government that the Town will make attempts to manage its water supply and take efforts relating to water development and water conservation to achieve and/or maintain a "Safe Yield" condition of its groundwater supplies each year. Currently, Payson's water consumption remains below the long-term state of "Safe Yield". In 2010, Payson residents consumed local groundwater resources in an amount equal to 60% of "Safe Yield". The net per person usage of water for 2010 was just under 79gpcd. This value is very low and likely affected by the presence of metered yet unoccupied dwellings and businesses. This circumstance is due to the prevailing economic conditions. Still, per capita usage remains below Payson's target of 89gpcd.

Per person water use remains far below 89gpcd, near average annual precipitation has been observed in winter 10-11, and groundwater resource levels remain relatively stable. Therefore, the **Town of Payson will implement Water Conservation Level I** water wise use levels for the period of April 2011 to May 2012. This level of conservation includes prudent measures such as no washing of paved areas such as sidewalks or driveways and limiting outside water use to certain days of the week. Complete details are available at the Payson Water Department and on-line at www.paysonwater.com. These efforts in combination with increased water conservation education, including the Town's annual participation in "Arizona Project WET" are meaningful attempts by Town government to achieve the Town's water resources demand goals. The Level I water use limits are commensurate with the reality of our environment and the potential for recurring drought conditions. Water conservation and demand management success has positively influenced both the short and long-term water supply status of the Town of Payson.

C.C. Cragin (Blue Ridge) surface water and related water resources projects have been moving forward with great success. Federal Stimulus funds continue to fuel much work in preparation for construction of the Cragin project and eventual delivery of surface water to Payson. As such, Payson is well on the road to achieving a rare condition, water resources sustainability in the desert southwest.

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[1] Agreements made with Salt River Project use 2,520ac-ft/yr (rolling average) as a "groundwater withdrawal cap". The 2,520 value is not considered Payson's safe yield.

2011 WATER RESOURCES STATUS

GROUNDWATER LEVELS

Groundwater levels in the Payson area are ever changing, not only from year to year but also from day to day. It is important to note that changes in groundwater levels either up or down are normal, within the context of a particular area's history. Because the Town of Payson currently obtains all of its potable water supplies from a fractured aquifer groundwater source, highly variable groundwater levels are expected.

Groundwater level changes are related to many factors. Recharge or re-filling of the aquifer occurs in times of precipitation (rainfall and snowmelt). This results in groundwater level rise. In an opposite way, groundwater levels will drop in response to periods of no recharge or drought. Groundwater levels will also drop and rise in response to well(s) pumping or not pumping. The topic becomes more complicated by virtue of the type of aquifer on which the Town and communities in the region depend. The Payson regional aquifer is in fact a complex system of interconnected cracks and sections of porous (sponge like) earth that yield water to wells. Nearly all of the earthen material beneath Payson and its surrounding area consist of the "Payson Granite". Some areas in the granite have more cracks and porous earth (decomposed granite) than others and some of the cracks or "fractures" are more interconnected than others. Therefore, interpreting changes in depth to groundwater can be complicated.

Groundwater levels are measured quarterly from all wells in the Town of Payson's observation network. This network consists of nearly 100 wells in the Payson area. Monthly measurements are collected at all active production wells and also at key observation wells. The water level data is maintained in a database by Water Department staff.

From 2010 to 2011, groundwater level changes have been mixed with both minor increases and decreases observed. Overall, the aquifer continues to be in a stable condition.

2011 WATER RESOURCES STATUS
CONSERVATION

Conservation Programs

Water Conservation rebate programs approved by the Town Council during 2010 included a residential toilet rebate, a commercial assistance rebate to retro-fit plumbing fixtures that are not compliant with the current conservation code, and two low income assistance programs. During our inspections of commercial facilities in the past year, we have found that in most instances the restrooms are already equipped with low flow toilets. The rebates to both homeowners and businesses have decreased substantially indicating a successful program over the years.

Our 4th "Project Wet" Water Festival was held in September, 2010. Project Wet is a multi agency sponsored education program designed for interaction with and the education of 4th grade students Through this festival we are able to educate our future water users about the water cycle, the watershed, groundwater and aquifers and, of course, water conservation. 203 students, 9 teachers and 50 volunteers participated.

In a joint effort with the High Country Xeriscape Council the 3rd annual Waterwise Seminar was held at Gila Community College. This seminar is free to the public and offers information and classes on Xeriscape gardening, rainwater harvesting, and drip irrigation systems to name a few. The Water Department mans a booth providing informational brochures and promotional items.

Project Wet Watershed Lesson

Conservation Level

Water conservation requirements pursuant to Resolution No. 1742 anticipate that Water Conservation Level requirements be enacted according to the deficit or surplus of precipitation that occurred in the twelve month period immediately preceding the annual water report. Additional, resource factors are also considered when setting the Water Conservation Level requirements for any given year. Precipitation for Payson's water year of 2010-11 (April 10-March 11) was near 19 inches (official values from the NWS were not available at printing time). This amount is below the long-term average of ~22 inches per year, as referenced in conservation ordinances. When considered alongside groundwater levels and annual water demand, a 3 to 4-inch deficit in winter 2010-11 precipitation does not represent a significant shortfall.

In light of the above precipitation values and Payson's already low per person (per capita) water use, it is determined that **Water Conservation Level I remains as the appropriate measure to implement upon Council acceptance of this report in April, 2011** for the following year. It is anticipated that implementation of Level I water use limitations will continue to promote responsible water use and maintain annual water use below the target 89gpcd (per-person) level.

WATER DEMAND

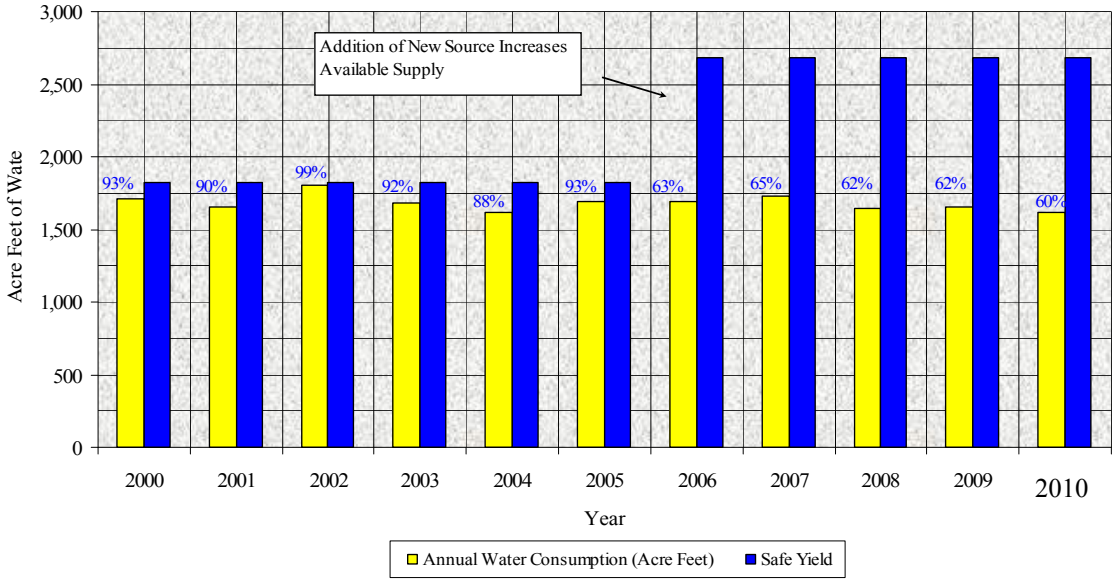
Water demand for the 2010 year decreased from 2009, going from 1,656 acre-ft. to 1,620 acre-ft. Water demand has not been consistently below this level since 1999. It is believed that the recent economic down-turn is responsible for the last few years of relatively "flat" water consumption trends. This can be explained by increases in unoccupied homes and businesses and potentially fewer visitors and part-time residents staying in Payson in 2010. Additionally, Payson residents continue to maintaining a responsible awareness and willingness to accept conservation as a way of life in the high desert environment of Payson.

SAFE YIELD

Safe Yield Status

Safe Yield is a term commonly used to define the amount of groundwater that is naturally and artificially replenished via deep percolation of precipitation into the subject aquifer. In Payson, this value has been estimated to be 2,681ac-ft/yr for its well fields. The value does not include artificial recharge or the now confirmed presence of a deep regional groundwater source. The 2,681ac-ft/yr "Safe Yield" is considered quite conservative and by maintaining water use significantly below this value, such as 2,520acft-yr per SRP agreements, can help maintain sustainability of groundwater supplies. In 2010, groundwater demand was only 1,620ac-ft or 60% of the available groundwater supply.

Town of Payson Annual Groundwater Consumption
Since 2000 Relative to % of Safe Yield



C. C. Cragin Reservoir Pipeline and Related Projects

In, 2010 the Water Department was granted a "Severance and Transfer of Water Right" from the Arizona Department of Water Resources. The severance and transfer officially designates the Town's right to up to 3,500 acre-ft/yr of surface water, delivered by SRP, from the Cragin Reservoir (Blue Ridge) source.

The Water Department and its environmental firm are wrapping up the process to obtain a Forest Service special use permit for the construction of a new 15 mile pipeline from the existing Cragin diversion infrastructure to Town. Along the way, the Town's proposed water filtration plant is likely to be located in the vicinity of Mesa Del Caballo subdivision. This location of the water filtration and treatment facility will enable deliveries of treated water directly to this chronically water short area. After much process and study, the completion of the environmental assessment "EA" and issuance of the special use permit by the National Forest is now expected in April 2011.

The Town's vitally important Cragin water supply project is partially funded by Federal stimulus dollars of the American Recovery and Reinvestment Act "ARRA" of 2009. The Town of Payson was officially awarded a total of $4.0M in support of the "Phase I" elements. Primary Phase I pre-construction elements and their status are outlined below:

Payson Cragin Water Pipeline Project – Phase I
April 2011

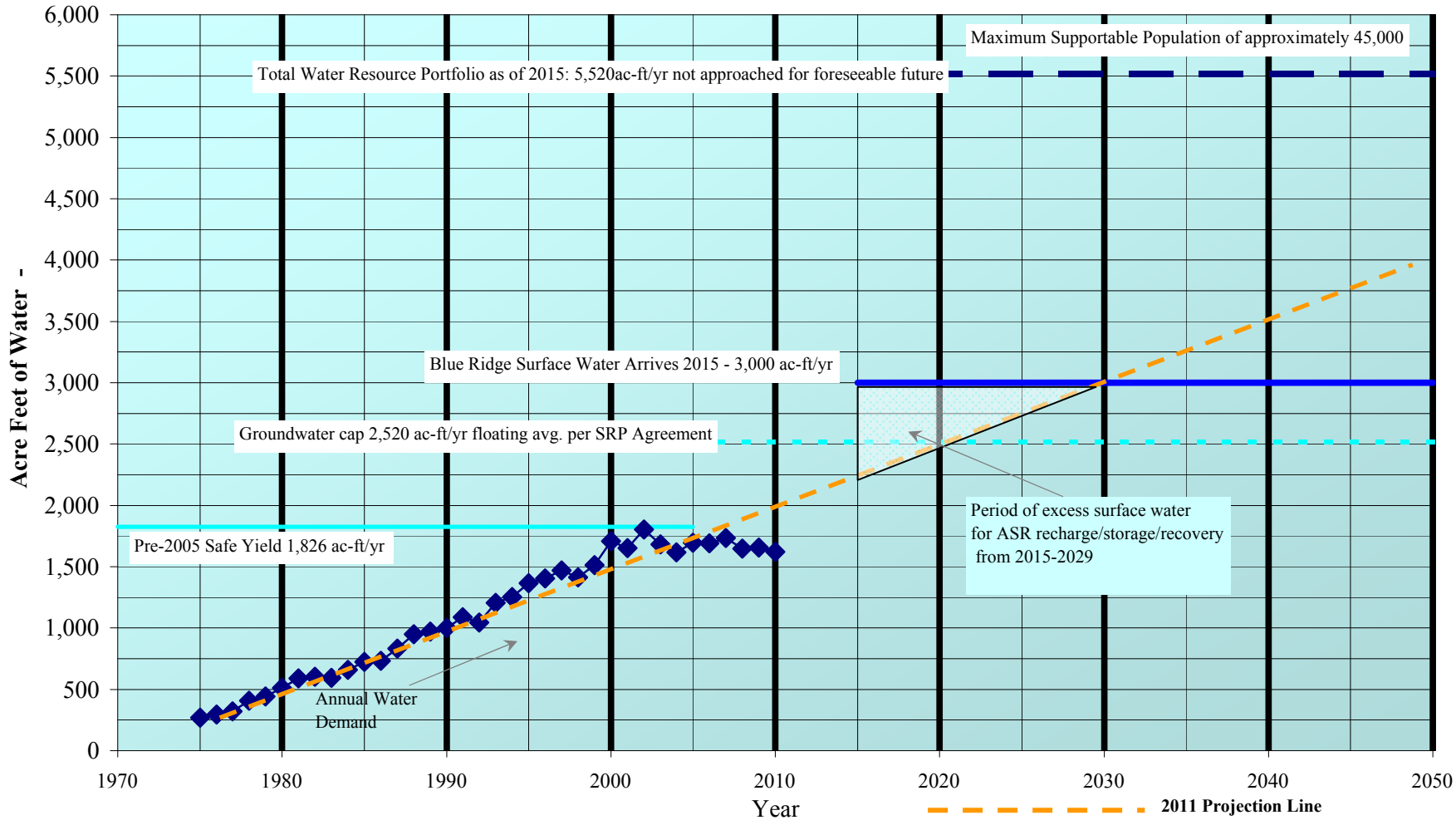
- Repair and rehabilitation of existing pipeline conveyance: 22 pipeline segments replaced 2008-2010, complete (SRP with PCL and Sundt)
- Raw water pipeline 30% design engineering and hydro-power study: Complete (Sunrise Engineering)
- Water filtration plant preliminary design and engineering: RFP for manufactures and pilot testing complete, Pilot testing of selected filtration manufacture pending, (Sunrise Engineering and PALL water processing)
- Finish water (filtered) pipeline 30% design engineering: Complete (Tetra Tech Engineering)
- Water system master plan revision and system modeling: Complete (Tetra Tech Engineering)
- SCADA control systems design and implementation: 40% complete (Automation Electric)
- Environmental (EA): 98% complete (SWCA Environmental Consultants with USFS)
- Advance purchase of pipeline materials (for Phase II construction): RFP complete selection pending. (Sunrise Engineering with Tetra Tech Engineering)
- Aquifer storage and recovery wells: Phase I (testing) 90% complete (exceeded goals by 2cfs), Phase II (ASR well construction) specifications being developed (Tetra Tech Engineering with HydroSystems Inc.)

C.C. CRAGIN STATUS Continued….

Planning for the eventual delivery of surface water to the Town of Payson is on-going as are many engineering and study efforts. Water resources supply and demand data must be revisited occasionally to identify and account for changes. All water resources projections and trends were revisited and recalculated in early 2011. Data continue to indicate that, with both groundwater and surface water supplies in-hand, the Town will have achieved its goal of long-term water supply sustainability, with a build-out population between 38,000 to 45,000. This fact is a rare occurrence in the desert southwest and something for the community to be proud of. Please see the "Annual Water Demands, Supplies, Trends, and 2011 Projection 1975-2050" chart on the following page.

Town of Payson
Water Department

Town of Payson
Annual Water Demands, Supplies, Trends, and 2011 Projection
1975-2050



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