Town of Payson

Background
The town of Payson sits along the Mogollon Rim in the middle of the Tonto National Forest. It is located in Gila County, close to the geographic center of the state of Arizona, and has an estimated population of 17,242.*

Payson is within the mid-northern edge of the Central Highlands Transition Zone physiographic province, just below the southern border of the Colorado Plateau. Average annual precipitation in Payson is about 22.1 inches, with average summer maximum temperatures near 93 degrees (ºF), and average winter minimums near 25 degrees (ºF).†

Water Supply and Deliveries
All of the water supply for Payson is originally sourced from groundwater, but a large percentage of effluent is delivered for direct uses. In 2008, residential accounts utilized approximately 80% of the total potable water supplies.

**Per Capita**

The town of Payson has reduced its gallons per capita per day (GPCD) water use from 2003 through 2008 across all metrics: residential (-3.8% change), system-wide potable (-8.0% change), and system-wide total (-6.9% change). Payson’s low residential GPCD is partially explained by the town’s retirement community character, in which half of the homes may be empty during the winter months.

### Payson GPCD

<table>
<thead>
<tr>
<th>Per Capita Water Use</th>
<th>2003</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential a</td>
<td>68</td>
<td>69</td>
<td>66</td>
</tr>
<tr>
<td>System-Wide Potable b</td>
<td>91</td>
<td>87</td>
<td>83</td>
</tr>
<tr>
<td>System-Wide Total c</td>
<td>139</td>
<td>134</td>
<td>130</td>
</tr>
</tbody>
</table>

* a Treated water deliveries to residential accounts ÷ service area population
  b Total treated water delivered ÷ service area population
  c Total raw water from all supply sources + direct effluent use ÷ service area population

**Rate Structure**

The town of Payson uses a four-tier inclining block rate for individual residential water accounts.

### Usage Per Dwelling Unit | Cost
--- | ---
2,001–5,000 gallons | $2.93 per 1,000 gallons
5,001–10,000 gallons | $3.87 per 1,000 gallons
10,001–20,000 gallons | $4.42 per 1,000 gallons
Over 20,000 gallons | $6.00 per 1,000 gallons

Residential accounts have a base minimum fee of $21.71 that covers the first 2,000 gallons of use. This base fee represents approximately 44% of the average customer’s monthly bill for 10,000 gallons. The slope of Payson’s average price curve is 0.018, indicating that the average price of water increases as consumption increases.

**Conservation Measures**

The town of Payson is a Community Water System in the Verde River Basin. It has published a water conservation plan as part of its system water plan, which details the conservation measures being implemented by the town.

### Customer Rebates

The town of Payson offers the following financial rebates:

- **Toilets** – $100 for one low-flow toilet.
- **Showerheads** – free.
- **Faucet aerators** – free.
- **Small business restrooms** – incentives are offered to bring toilets, urinals, and faucets up to code.

### Ordinances/Rules

**Indoor Water Conservation**

- Water system leaks from private water lines creating waste shall be repaired by the owner within 15 days of a repair notification by the water department. Proof of repair shall be provided to the water department upon completion of the repair.
- High-efficiency washers must be installed in all new multifamily and commercial laundry facilities.

**Water Conservation Plumbing Standards** – All new construction shall follow the standards below and all existing water users shall retrofit their facilities to the standards by January 1, 2005. Single- and multifamily-residential water users are exempt from the retrofit requirement.

- **Water closets** – Average consumption of not more than 1.6 gallons per flush.
- **Urinals** – Waterless urinals shall be installed in all new public, commercial, multifamily-residential common-use buildings, and in all commercial and industrial restroom remodels.

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‡ Id. § 50.82.
• **Non-metered faucets** – Lavatory and kitchen faucets shall be equipped with aerators and not exceed a water flow rate of 2.5 gallons per minute.

• **Metered faucets** – Self-closing faucets shall be installed on lavatories intended to serve the transient public and deliver not more than 0.25 gallons of water per use.

• **Showerheads** – Not to exceed a flow rate of 2.5 gallons per minute.

• **Recirculating systems** – Evaporative cooling systems, decorative water fountains, car washes, and commercial and industrial clothes washers must be equipped with recirculation systems.

• **Hot water heaters** – Shall not be installed more than 40 feet from the hot-water-using fixture.

**Outdoor Water Conservation** *

- Outdoor irrigation is prohibited between 9:00 a.m. and 6:00 p.m.
- Watering native plants is prohibited.
- The construction of new outdoor swimming pools is prohibited.
- The use of misters is prohibited.
- The use of plants not listed on the town of Payson’s “Native and Low-Water-Use Plant List” for industrial, commercial, and multifamily residential landscaping is prohibited.
- Spray irrigation is prohibited except for existing turf or plants that have been spray-irrigated prior to March 1, 2003. Flood irrigation is prohibited.
- Drip irrigation systems with smart controllers must be installed on all new commercial landscape irrigation projects.
- Artificial water features larger than 50 gallons are prohibited, and water features of less than 50-gallons capacity must be equipped with a recirculating pump.

**Conservation Signage and Literature Distribution** †

- Public, semi-public, and governmental restroom and shower facilities shall post a water conservation sign in each restroom and shower facility.
- Hotels, motels, and other lodging facilities shall provide a water conservation informational card or brochure in a visible location in each guest room. Lodging facilities shall not provide daily linen and towel changing for those guests staying multiple nights unless a guest specifically requests each day that the linen and towels be changed.
- Retail plant nurseries shall provide customers with town-provided, low-water-use landscape literature and water-efficient irrigation guidelines at the time of sale of any outdoor perennial plants.
- Title companies shall provide town-authored indoor and outdoor conservation literature at the time of closing.
- Town departments shall provide indoor and outdoor conservation literature to all persons applying for a building permit and customers initiating new water service.

**Water Waste** ‡ – The planting or establishment of new turf areas and the expansion of existing turf areas is prohibited and at odds with the town’s water conservation plan. No entity shall cause or permit to occur any water waste.

**Education**

**Conservation Signage and Literature Distribution** – Payson has a comprehensive water conservation signage program that covers public restrooms, lodging facilities, commercial nurseries, title companies, and town departments.

**Public Relations and Awareness** – The town of Payson hosts a water conservation webpage and provides water conservation tips via brochures, slides on the public television station, and at the local movie theatre.

**Brochures** – The town of Payson offers numerous brochures free to the public. The town has a “wall of brochures” always available in the water utility’s office.

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* Id. § 50.83.

† Id. § 50.80.

‡ Id. § 50.84.
that includes information on leak repair, reading your meter, town plant list, rainwater harvesting, gray water use, and other water conservation issues.

Leadership Training – The town annually sponsors a “Leadership Academy” for the public and potentially interested political candidates to learn about water resources, water systems, and conservation programs within the context of municipal government.

New Homeowner/Commercial Customer – Information on native and low-water-use plants is provided to all residential/commercial builders and owners through the town’s building division. A “Welcome to Payson” brochure that outlines the town’s water conservation requirements is also available at the water department website, the chamber of commerce, and most real estate offices.

High-Water-Use Notification – Customer service notifies customers of unusually high readings as a result of the monthly meter reads during the billing cycle.

Seminars – Water department staff participates in the High Country Xeriscape Council WaterWise Seminar and sponsors the Arizona Project Wet Water Festival for the fourth-graders in the local school district.

Community Presentations – Water department staff provides outreach and presentations to Scout meetings and church youth summer programs.

Xeriscape Demonstration Garden – Payson and the High Country Xeriscape Council maintain a Xeriscape garden at the local college.

Home Water Audit – Home water audit information is available on the Water Conservation page of the town’s website.

Water Waste Investigations – Water conservation staff responds to reports of water waste, and issues notice of violations, where appropriate.

Implementation of Conservation Measures

The town of Payson tracks its rebate programs for both the residential and small business sectors. Residential low-flow toilet rebates totaled 17 in FY 08-09 and 19 in FY 09-10. In both time frames, additional funding was available for rebates. Payson reports the following successes in its small business restroom rebate program:

<table>
<thead>
<tr>
<th>Fixture</th>
<th>Rebates (FY 08–09)</th>
<th>Rebates (FY 09–10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faucets</td>
<td>4</td>
<td>34</td>
</tr>
<tr>
<td>Toilets</td>
<td>30</td>
<td>46</td>
</tr>
<tr>
<td>Urinals</td>
<td>59</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Expenditures</strong></td>
<td><strong>$18,705</strong></td>
<td><strong>$9,600</strong></td>
</tr>
</tbody>
</table>

Payson’s billing and meter reading systems report unusually high readings during each billing cycle, which are then provided to field representatives for investigation. During 2009, 584 unusually high readings resulted in the discovery of 219 customer-side leaks.

Funding for Conservation

In 2008, Payson had a conservation budget of $125,000, approximately 3.3% of the total water utility’s budget. The town has two employees in its water conservation department, and spends approximately $7.07 per customer each year on conservation programs.

Goals for Conservation Savings

The water conservation goal for the town of Payson is to maintain water usage at or below 89 GPCD system-wide.

Water Loss

In 2008, the town recorded 171 AF (55.7 million gallons) of water loss, representing 9.4% of total water supplies. In 2007, the town reported a water loss of 5.7%. These data points corroborate town water managers’ thoughts that water loss is likely between 5% and 10%.
Supply-Side Efficiency Measures

The town of Payson purchased active leak detection equipment about five years ago and performed several tests of water mains. Unfortunately, the equipment failed to work as well as hoped — it didn’t work at all on PVC pipe — and the town has discontinued its active leak detection program. Currently, Payson repairs leaks when they are perceptible on the surface.

The town implemented a meter change-out program for larger meters (1 ½” to 4”) in 2003 that utilizes a master meter device to “double-check” water use at the meter. Since testing began, Payson has replaced or resized 58 of the 117 tested meters. High-use residential meters are periodically checked for performance, but there is no active meter replacement program for the residential sector.

Effluent Use

Payson generated 1,612 AF of effluent in 2008, delivering 747 AF for direct uses and 213 AF for recharge. The town’s main recharge facility, Green Valley Park, is a cooperative water reclamation project between the Northern Gila County Sanitary District and the town. The lakes at Green Valley Park have the capacity to recharge approximately 325 AF per year and serve as an effluent storage facility for landscape irrigation.

Additional Information

Payson has received complaints about its ordinance requiring waterless urinals in commercial buildings — predominantly regarding smell and maintenance issues. In response, the town is re-evaluating the ordinance and exploring the use of new Zurn urinals that can be manually flushed only by maintenance personnel. Payson is also implementing a pilot program at the local Safeway grocery store to test out one-quart-flush urinals, which use about half the water of high-efficiency models.

Payson is currently pursuing a partnership with the Salt River Project to develop surface water supplies out of the C.C. Cragin (formerly Blue Ridge) Reservoir. In this project, the town plans to construct a 14.5-mile pipeline that will maximize the vertical drop between the reservoir and town by adding a hydroelectric facility that will offset any pumping power demands along the route.

The town is also evaluating the electrical needs and efficiencies of its groundwater well system in order to optimize pumping performance at the lowest possible energy demand. An output from this study will include another decision level in the system that selects which wells should be pumped, based on the rate of water level depletion in storage tanks.