



STAYING WATER-WISE IN PARK CITY

An Interview with Jason Christensen, the City's Water Resource Manager

PCMC Community News: Let's start by talking about the water supply.

Jason Christensen: The situation is not dire yet, but most people know that we're in the midst of a four-year drought, and this was an especially difficult winter. To put things in context, the snowpack level at Thaynes Canyons was the lowest on record since data started being collected in 1979. And our water supply comes almost entirely from groundwater recharged by snowpack.

Luckily in 2012, the Quinn's Junction water treatment plant—which allows us to access water from the Weber River—came online. We're not anticipating any cuts in that supply. If Park City's residents continue to monitor and reduce their water intake, we think it's possible we can survive this year without an official drought declaration.

PCMC: What would trigger a declaration?

JC: Once demand hits 85 percent of available supply, we will take the first step toward this process.

PCMC: Can you put the current situation within the larger context of impacts from climate change?

JC: There is a fair amount of consensus that climate change will cause the Wasatch Range to warm. What is unclear is how this will affect levels of precipitation. But the climate's warming means a reduction in snowpack (i.e., more precipitation as rain), and it's difficult to say how this will impact us.

PCMC: Do you have storage facilities that could accommodate this increase in rain-based precipitation?

JC: Because we are at the top of the watershed, we do not have storage: we survive on groundwater and tunnel discharge. This has changed somewhat with the connection to the Weber River, which is fed by a reservoir. But for the most part, we're unique in Western towns because of our geography.

I should also emphasize that our position at the top of the watershed means that any action we take impacts everyone downstream, in terms of stream flow and water quality. So it's that much more incumbent upon us to be good stewards of the resource. For example, all of our indoor water is reused by someone: after Park City uses it, it goes to the Snyderville Basin treatment facility. From there it goes to either East Canyon Creek or Silver Creek, both of which have users downstream from them.

PCMC: If we do need water in the future, where will it come from?

JC: With the exception of the Quinn's facility, Basin residents are using only water that is naturally here, so any future supply will need to be imported. This conveyance will be incredibly expensive and will require a lot of energy. In fact, the water coming into Quinn's is imported twelve miles uphill.

PCMC: Have you forecasted out if/when you will need to build a new facility to treat imported water?

JC: We do forecast a deficit at some point in the future, but the longer we are able to delay this hypothetical project through conservation, the more (tremendous) cost savings for everyone.

PCMC: How are we doing on the state mandate of a 25 percent water reduction by 2025?

JC: The original target year was actually 2050, and Governor Herbert accelerated the time line in 2013. As a city, we are meeting or exceeding our benchmarks, primarily through conservation, which is very heartening.

PCMC: As much of our citizenry knows, we have several very large water bonds. What are those funds those used for?

JC: Our current bonding is primarily driven by two things, the first of which is new water supply projects and water right purchases.

The second thing driving our bonding is a Clean Water Act obligation to treat the water coming out of the mine tunnels, even though it is not drinking water. The tunnels have been discharging for over 100 years, but we are now required to mitigate their impact. Re-plumbing the system will require a huge undertaking over the next decade or longer.

PCMC: Will you need to build new infrastructure to clean the mine-tunnel discharge?

JC: Yes. Over the past two years, the Water Department has been installing the Judge Tunnel pipeline, which takes the water from Judge Tunnel to the Spiro Treatment site at Three Kings Road. We are evaluating sites for the eventual facility, and that location will need to be both protective of the environment and a sound investment for ratepayers.

PCMC: Park City's stormwater system was recently classified as an MS4 under the Clean Water Act. Explain what this stricter level of compliance means.

JC: MS4 stands for Municipal Separate Storm Sewer System. We will now need to comply with six best-management stormwater practices, a lot of which we are fortunately already doing:

- **Public Education and Outreach** of stormwater impacts
- **Public Involvement & Participation** (essentially an advisory board)
- **Illicit Discharge Detection & Elimination:** we can only have stormwater in our stormwater system. This also requires an emergency plan for larger accidents or spills.
- **Construction-site Stormwater Runoff Control:** Luckily, the Building Department already has a program in place, so we will use this as a jumping-off point for compliance.
- **Long-term Stormwater Management in Development & Redevelopment:** matching pre-construction hydrology with post-construction hydrology through bioswales, on-site retention, and other methods.
- **Municipal Best Practices:** setting a good example for the community in all aspects of stormwater management.

PCMC: You direct the city's WaterSmart program. How does it help customers save water and money?

JC: The program has two components, the first being a home-water report, which is mailed to all residential customers separate from their bill. This report tells the customer how much water they are using per day on average. It also provides personalized conservation tips—such as upgrading to low-flow toilets—as well as any rebates that they can utilize. And we provide a comparative analysis—how much water they are using compared with their neighbors. We've found that the power of "social norming" is far more effective than other elements of an education campaign.

The second element is access to a customer portal, which allows you to see how many gallons of water you are using per day, as well as the same conservation tips provided in the customer report. On top of this, it provides real-time water use by hour. This will let you see whether you have a toilet running or how many thousands of gallons your irrigation system uses every time it kicks on. And possibly the most important element is the leak alert. If the system logs levels that could indicate a leak, it automatically generates an email to alert the resident and provides steps to identify the leak's location.

PCMC: What are the trigger levels for the leak alert?

JC: If the customer's water meter senses 80 gallons per hour for 24 hours or one gallon per hour or more for seven days, an email is generated. This near-instantaneous alert can be a huge money-saver.

PCMC: And what are the highlights of the rebate program that go along with WaterSmart?

JC: Right now Park City offers an up to \$300 credit on smart controllers, which automatically adjust your irrigation system based on weather. They also let you schedule waterings from your phone or computer. Weber Basin Water District also has a rebate program for smart controllers, as well as spray-and-rotor-heads, pressure regulators, and drip system components.

PCMC: Another benefit you offer are water audits for external systems.

JC: Yes, we offer this in partnership with Weber Basin Water Conservancy District. A Weber Basin employee will come to your house and check that your irrigation system is watering at appropriate levels. Remember that the biggest demand for water coincides with the time when the least amount of water is available in the system—i.e., the high point of summer. And nearly all—70 percent—of this peak demand stems from outdoor irrigation. The audits are a great way to educate our residents about how much to water and when.

PCMC: What is your background, and how did you arrive at your current role?

JC: I've worked for the city for eight years, having started as a legal intern after completing law school. As an intern I learned about the city's environmental legacy issues, particularly mining and related soil and water issues. This was very interesting to me, and I continued on. In 2012, I took a position with the Water Department, and I am currently the Water Resources Manager. I'm responsible for most of the customer-facing elements, including billing and the customer service department. I'm also responsible for the conservation program. And I've recently taken on responsibility for compliance with the new MS4 stormwater regulations which will complement the operations and management work currently done by the Streets division in Public Utilities. I'm very excited about this new challenge—especially with regard to how we can improve stormwater quality. Our residents are very interested in preserving the natural environment, and this is a key piece of that.

Details of Park City's WaterSmart program can be found on the [city's website](#).