

October 31, 2014

Dear Members,

In keeping with the communications established this summer the Board thought it was about time for an update on our activities since our last news letter.

New Board Member

Scott Harvey agreed to step into the vacancy created when Jan Stephens went off the board in August. Scott brings a strong finance background to the position, was a WWA board member in an earlier era and is a current board member with the Vashon Park District. The Board welcomes Scott's expertise and energy.

Robert Jones has stepped into the Vice President's role, joining Jennifer Pratt, treasurer, Judy Olson, Secretary, and Scott as member at large.

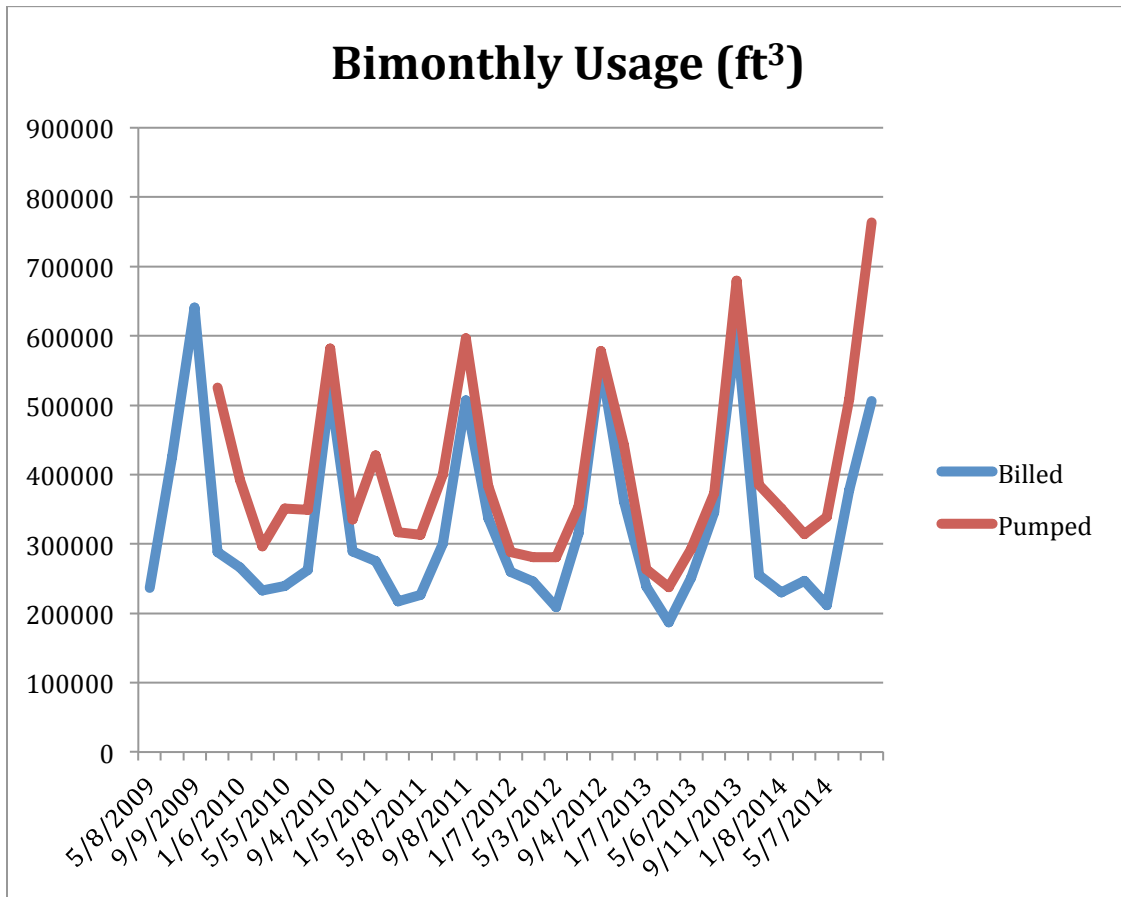
Leaks, Leaks and more Leaks

This summer we experienced a number of leaks in the supply side (as opposed to the customer side where we had additional leaks) of our system. In fact it appears from analysis that only about 2/3 of the water pumped actually reached our customers. The Board is investigating ways that we may be able to instrument the system to better detect such leaks but in each case the leaks we did have were found by observant members. So this is a reminder for those of you who walk the roads within our Association boundaries to keep an eye out for water in a ditch or any low lying place and call 206-715-3805 to report it. We would gladly chase a few false alarms than have a leak go on for a long time.

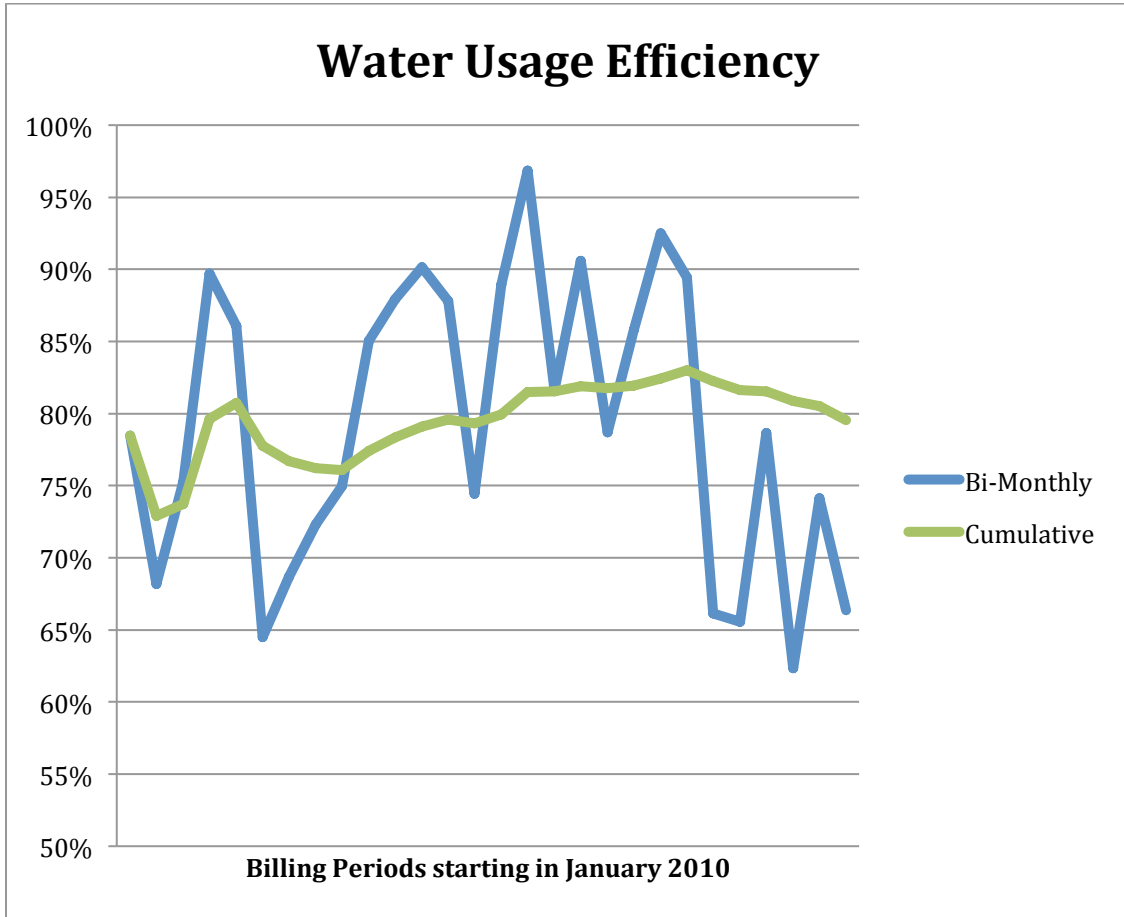
Leaks increase our costs somewhat (but not a major factor due to the fact that much of our monthly cost is fixed rather than variable with water pumped) but also increase the arsenic concentration in our water until we get that problem finally solved. To understand the effect in the terms we have spoken of recently our peak daily average pumping rate this summer was 90 gallons per minute. Had we achieved a 90% water delivery efficiency we would have had a peak pumping rate of only 67 gallons per minute. As we use the Canyon Well as the primary supplement to our well points until the Anderson well is on-line without the leaks our peak Arsenic concentration this summer would have dropped from 22 parts per billion (ppb) to about 13 ppb – a very large reduction. Maintaining a much lower leak rate also translates to a lower demand to add capacity saving capital dollars in the long run.

Four out of five of the leaks this summer were in the service lines off of the main distribution pipes. These service lines date to the 1960's through 1980's. The other failure was in a faulty brass fitting in a pressure relief valve. Service lines are typically replaced when new mains are added and tackling them preemptively would be an expensive proposition. So for the time being we think that improved monitoring is our best approach.

The graph below shows the actual volume of water that we have pumped and billed (in cubic feet) for the past five years



This second graph shows the ratio of billed to pumped volumes on a bimonthly basis since January 2010 – this is our water delivery efficiency.



Anderson Well

A revised construction plan was submitted to the Department of Health and approval was received to proceed with pipe installation on October 9th. This plan calls for the well to be connected to the WWA system at the intersection of 115th SW Ave and SW 156th St (where the main line comes up from the canyon pumping facility). The Board has selected Island Water Management as the contractor for this work. If given a period of good weather we expect to complete installation this fall. As of the end of October most of the section of the piping along the King County right-of-way along 115th Ave has been completed.

The well house has been renovated with new siding, ceiling, cleaned roof, paint and a new concrete floor. An inspection by King County of the well-head has been completed with no modifications needed.

Some additional water quality testing (corrosivity and radio nuclides) was completed and all water quality tests have passed.

Canyon Well Filtration

As you may recall from the last newsletter we reported a couple of weeks of acceptable performance by the canyon well filtration system whereupon we started to get iron bleed-through (and thus water discoloration). We left the system off for the summer, collected a list of actions from our consultant and started on this list this fall. The first item on the list was to inspect the filtration media in the tanks. The three filter vessels are about 6 feet high and two feet in diameter. Essentially they are filled with a fancy “sand” (the media). Treated water is pushed through the “sand” under pressure and the arsenic which is in particulate form at this point sticks to the sand. After every few thousand gallons of filtered water the process needs to be interrupted and a small amount of clean water pushed back in the opposite direction to clean the “sand”. This step is known as a “back wash” cycle.

The inspection revealed media of good quality but less in each vessel than when originally filled by as much as 17”. It appears that our backwash cycle was at too high a velocity and blew the media out of the filtration vessel. We will acquire new media over the winter and do the appropriate testing to not have this occur next summer. We are hoping that this explains last summer’s results and that we will be able to provide up to 30 gallons per minute of filtered water from this system next summer.

Arsenic Levels

At this point in the annual cycle our usage has declined to about what our primary well point system can deliver and therefore arsenic levels have dropped below the 10 ppb EPA standard. Over the entire year to date here is a graph that shows the arsenic levels we have experienced. With the Anderson Well on line in 2015 we expect to be able to stay below the 10 ppb standard for most of the summer. Assuming we can also get the canyon well filtration system tuned and working properly we will definitely be able to meet the standard for the entire year.

2014 WWA delivered Arsenic concentration

