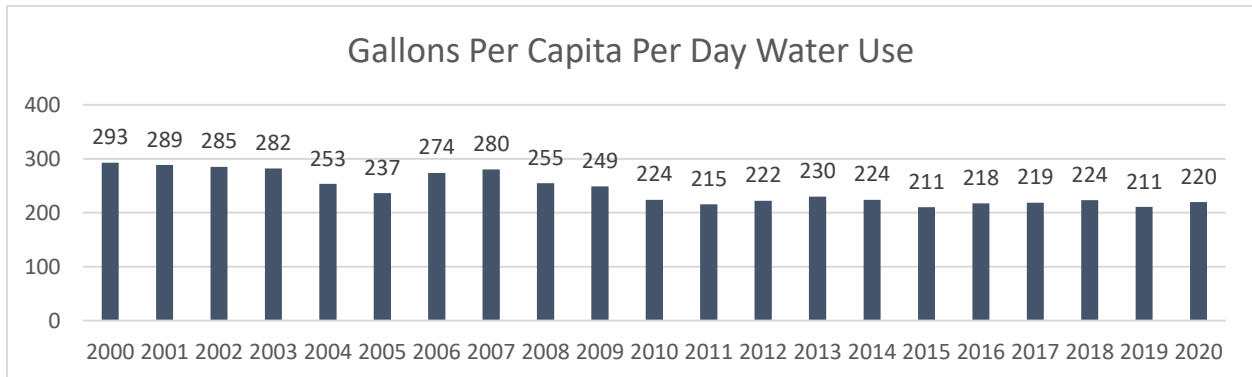
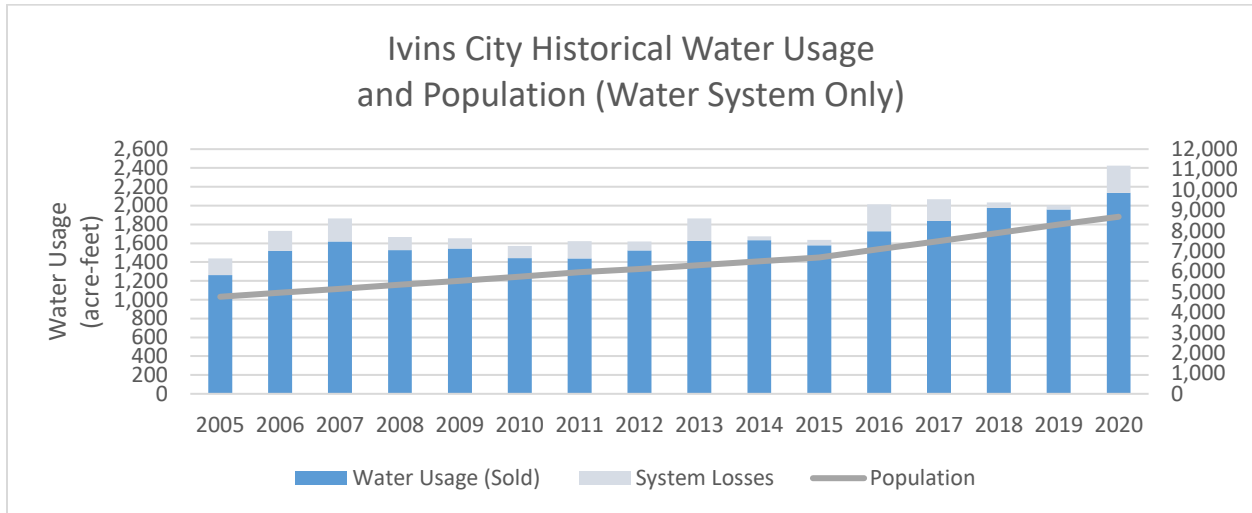




# WATER USAGE AND SUPPLY REPORT

By Ivins City Public Works, July 2021

## Water Usage Update - Existing



Above shows our current water usage based on calendar years. We can see that 2020, being such a dry year and with such heavy construction activity we saw a jump in our water usage despite efforts to encourage water conservation and reduce water per capita water usage.

### Water Demands versus Existing Water Supplies

There have been some questions regarding existing water supplies and how serious is the concern that we may not have enough water to continue to grow. The following table shows the last five years of water usage in terms of both Annual Usage and Peak Day Demand. (Annual usage is useful when determining water supplies, and peak day demand is important in determining sizing of water transmission facilities)

Year	Avg Annual Demand (acre-feet)	Peak Day Demand (gallons per minute)
2016	1,998	2,189
2017	2,066	2,259
2018	2,027	2,415
2019	2,000	2,392
2020	2,438	2,887

Now we will move on to existing supplies. This might be confusing because we have a small amount of water rights and then some agreements with St George and WCWCD that provide us with water security. Here is the summary

- Snow Canyon Compact – Provides 393 acre-feet (Ivins City Water Rights) of water with a flow capacity of about 800 gpm (gallons per minute)
- Gunlock Wells Agreement – Provide 614 acre-feet of water with a flow capacity of about 900 gpm. St George let us use 820 acre-feet in 2020 which exceeds the agreement. They may at some point force us to reliance on this source per the agreement limitation of 614 acre-feet.
- Regional Water Supply Agreement (WCWCD) – Current pipeline capacity should provide us with at least 2,500 acre-feet of water with a peak flow capacity of about 3,000 gpm. This is dependent on whether the WCWCD can provide it. Last year we used 1,790 acre-feet from the regional pipeline, so it’s conceivable to think that they could supply us with the full 2,500 acre-feet.
- Ence Wells – We have an agreement in place and facilities in place to deliver water from this source, but it is currently not being used. When we need it, it will give us another 380 acre-feet and maybe 250 gpm capacity.

If you total these four sources of water, we have about 3,900 acre-feet of annual water supply and 4,950 gpm of peak day capacity.

We are not necessarily in a crisis yet, but we are certainly getting very close. Our average increase over the past 5 years has been about 100 acre-feet per year, plus we want to maintain a 20% buffer. If you run that out then we probably have about 6 to 8 years of water before we truly are in a crisis, which when you consider it, might take 4-5 years to install a water re-use plant, the time to take action is right now.

### **Existing Water Supplies versus Future Buildout Demands**

We estimate that for full buildout we need 5,454 acre-feet (this does not include the Kayenta water service area which is serviced by KWU). Thus, we are short 1,600 acre-feet to be able to provide water for full build out. That is certainly a gap that we could close with some of the different solutions we are looking at right now such as a reuse plant.

Also, we should consider that if we can conserve another 10% that would get us about 500 AF. Could we do better than 10%? We do not really know. We can only bank the water conservation that we have already achieved which is good, but it would help us a lot to improve our conservation.