

Abbreviated Water Benchmark Report 2002-2013



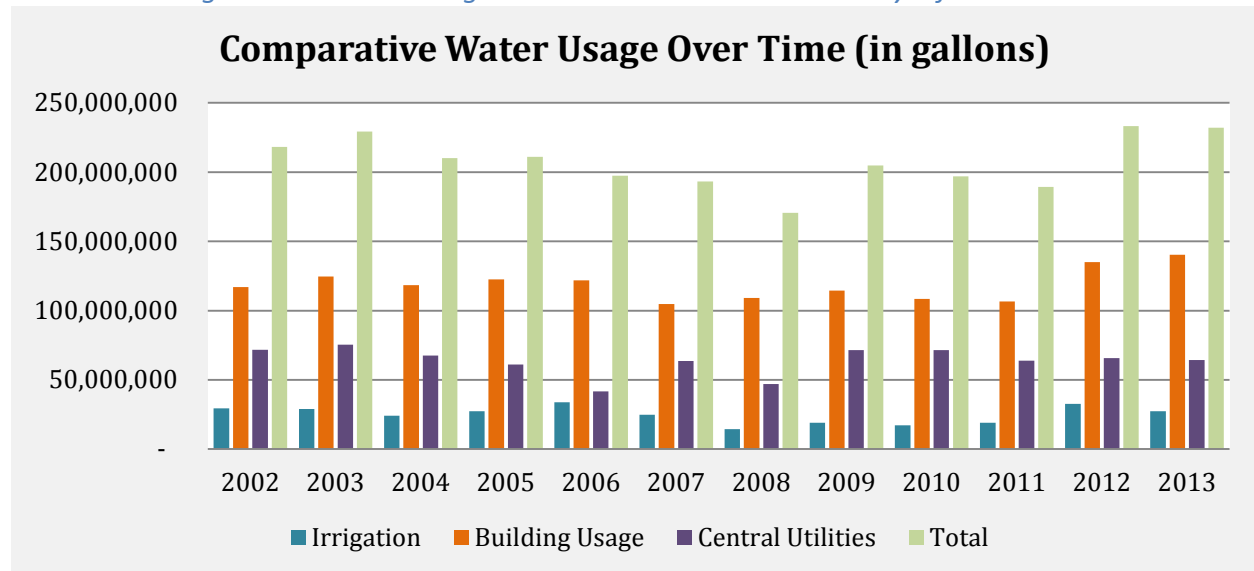
Project Statement

This project aims to track, pinpoint, and summarize water usage on the University of Arkansas campus beginning with the year 2002 and continuing through 2013. The goal of this analysis is for the Office for Sustainability to benchmark water usage by category, see where efforts for water conservation are most needed, and to track the progress of these conservation initiatives over time.

Summary of Data

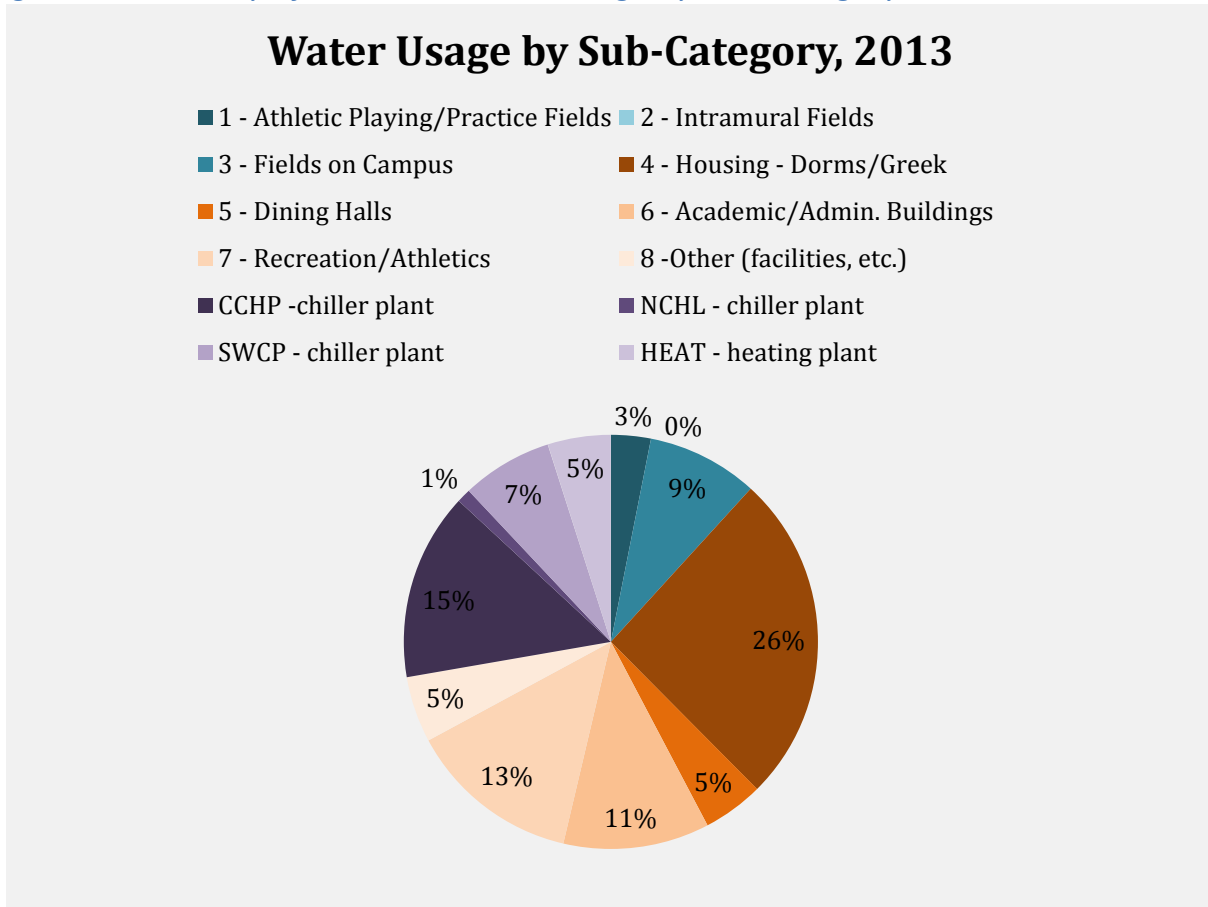
The amount and distribution of water usage on campus is fairly consistent over time (Figure 1). The majority of the water is being used in buildings, slightly less in heating and cooling, while the least is being used for irrigation (Figure 1). Variations in total usage can be attributed to years of drought, changes in irrigation patterns, construction periods, or even errors in record entry from earlier years.

Figure 1. Water Usage over Time at the University of Arkansas



The irrigation of campus fields accounts for three-quarters of the total irrigation and almost a tenth of total water usage, and could be drastically reduced using sensor-based irrigation controls so as to avoid the problem of irrigating in the afternoon or, more obviously, while it is raining. Reducing this value by only 1 percent saves 200,000 gallons of water.

Figure 2. University of Arkansas Water Usage by Sub-Category, 2013



However, the most notable point about this data is that buildings used 60 percent of water in 2013 and almost half of this water was used by housing. This is over a quarter of the total water usage annually (Figure 5). While it makes sense that residence halls would use the most water, it is also clear that this is where the biggest difference can be made.

Conclusion

Total annual water usage at the University of Arkansas has been fairly consistent over the past 10 years, at approximately 230 million gallons per year. In 2013, 60 percent of water usage was from buildings, 40 percent of which being used in the residence halls (about 26 percent overall). Changing irrigation methods appears to have reduced irrigation levels in the past 7 years, but those reductions have been recently offset due to construction on campus and other possible factors. The University of Arkansas currently pays \$3.00 per thousand gallons of water; reducing water use by 10 percent could save \$69,000 annually. This number, however, does not include the various fees and surcharges associated with water cost. If these costs are taken into account, reducing water use by 10 percent could actually save closer to \$100,000.