What Our Water's Worth

Using and understanding the mapping tool

What is total water pumpage?

This number, given in millions of gallons a day, is the average amount of water pumped by a utility for all uses – residential, industrial, commercial, etc. – in a single day.

In general, total pumpage is a function of population, but that is not always the case. There are handful of reasons why two towns with comparable populations might have significantly different figures for total water pumpage. Here are a few common drivers of water pumpage:

- One town could have a large shopping mall, stadium, power plant, manufacturing center or other large user. These are large, non-residential uses of water.
- One town could have an older pipe system, which often corresponds to higher rates of leakage and loss. The water is pumped out, but leaks out of the pipe system, and never arrives at its destination. The more miles of pipe in a community, the more possibilities for leakage.
- Older communities often have older homes and appliances as well, leading to higher water usage.
- One town could have larger lot sizes and lawns, resulting in more irrigation needs.
- Water rates differ from town to town. A community with lower rates is more likely to experience greater consumption.

What is per capita residential consumption?

This number, given in gallons per day, is how much water is used at home (for indoor and outdoor uses) by a community resident, per day. Communities within the region have significantly different figures for per capita residential residential water use. Moreover, this figure can change from year to year, and is affected by many factors:

- In general, communities with larger lot sizes will have higher per capita use, as use for watering gardens and lawns is higher. Usage will drop in rainier years, increase in drier ones.
- Older communities tend to have older homes, and that means pipe systems, appliances, and plumbing fixtures that use more and leak more water. Homes built in the last two decades often have more efficient systems, but also tend to be larger than older homes, and that means more pipes and opportunities for leaks.
- Water rates differ from town to town. A community with lower rates is more likely to experience greater consumption.

Where do the data come from?

For this mapping tool, we rely on data from two sources. For communities using Lake Michigan water, we use data from the Annual Water Use Audit Forms (LMO-2). Each recipient of Lake Michigan water files an annual LMO-2 with the Ill. Dept. of Natural Resources, which oversees the allocation program for lake water. Each community must report on its own water use, leakage rates, pipe age, and a range of other factors. Per capita residential use is not explicitly included in the LMO-2, but total population and total residential water use are, enabling determination of per capita residential use (total residential use/total population). This can be determined for each community, which we have done, and for the entire population of Lake Michigan users. The latter is what we call 'Lake Michigan user average.' While errors and discrepancies likely occur within the data, we believe this dataset is the best overall source for understanding Lake Michigan water use at the local level. Water2050 provides some further examination of this dataset, including recommendations for improvements in reporting.

For communities that do not use Lake Michigan water, there is no single dataset as comprehensive as the LMO-2s. However, Appendix A of Residential Water Use in Northeastern Illinois, prepared by Southern Illinois University Carbondale in 2009 as part of the regional water supply planning process, does include community-level information on residential water use. The report's regional average for per capita residential use includes communities using deep and/or shallow aquifers, rivers, and Lake Michigan water. A more thorough examination of that report's methods is included in the report itself. The SIU report does not give a town-by-town breakdown for Lake Michigan users, but does for communities using other sources. Of particular note is Chicago is reported as having approximately 5.2 million people – the report has combined the population of Chicago itself with the population of many, if not all, of the communities served by the Lake Michigan water distribution system emanating from Chicago.

Using data from two different sources is not ideal, but given the options available, was deemed to be the best choice. If you believe there is an error in the data presented in our mapping tool, please let us know. We want to present the most accurate data possible. Please e-mail comments or questions to Josh Ellis at jellis@metroplanning.org.