FAQ re GPCD

1. Where do we get this data?

- Water use estimates for municipal, manufacturing, and steam-electric power categories come from an annual survey of public water suppliers and major manufacturing and power entities. Response to this survey is mandatory (according to Section 16.012(m) of the Texas Water Code, as amended by the 78th Texas Legislature in 2003).
- Mining water-use estimates are based on the annual water-use survey and an estimate of the water used in secondary recovery processes for oil and gas recovery.
- Livestock water-use estimates are derived from annual livestock population estimates produced by the Texas Agricultural Statistics Service. Estimated water use per animal unit is based on research conducted by the Texas Agricultural Experiment Station.
- Irrigated agriculture water-use estimates are based on annual crop acreage from the Natural Resources Conservation Service (prior to 2001) and the Farm Service Administration (2001 and later). Irrigation rates per acre are estimated based on potential evapotranspiration, with final estimates reviewed by local authorities.

2. What types of water use are included?

- Municipal water use: city-owned, districts, water supply corporations, or private utilities supplying residential, commercial (non-goods-producing businesses), and institutional (schools, governmental operations) water.
- Manufacturing water use: process water reported by large manufacturing plants.
- Steam-Electric Power water use: consumptive use of water by large power generation plants that sell power on the open market, generally not cogeneration plants that generate power for manufacturing or mining processes.
- Mining water use: fuel (oil or gas) and non-fuel mining operations
- Livestock water use
- Irrigated Agriculture water use

3. Why is the Gallons per Capita Daily (GPCD) not shown for my local utility?

Estimates of Gallons per Capita Daily (GPCD) have been made annually since 1980, intended for the express purpose of projecting the future water needs of each city, and are intended to reflect water uses that can be expected to grow along with population. Historically, available methodologies for projecting future population have been centered on counties and cities. Thus, water use estimates are adjusted to reflect the population of entire cities, and are not published on an annual basis for specific utilities.

If you are interested in data related to a specific non-city utility, please contact the Water Use Survey and Estimates Team by telephone at (512)463-7952 or by email to waterusesurvey@twdb.state.tx.us

4. Why is the TWDB's per-person water use figure (gallons per capita daily or GPCD) different from the one that my local utility has published?

It is not unusual for GPCD (Gallons Per Capita Daily) figures to vary due to differing methods of calculation. In the calculation of a city or utility's water use (and ultimately, the GPCD) for regional water planning, the TWDB:

- does include the water use of residential, commercial and institutional users, as well as process-related water loss and any system water loss,
- does not include water sales to large manufacturing, mining or steam-electric power plants,

- does not include a city's water sales to retail customers who live outside of the city limits,
- does include the water use of commercial and institutional entities, and residential customers, who are within the city limits but are supplied water from another source, including a private groundwater well, another water utility or a surface water right.

Because each water utility plans to the total water demand expected by all of its customers, a water utility, when calculating its per-capita use (GPCD) may include all of its customers (residential, manufacturing, and wholesale), regardless of whether they are within the city limits or not.

Finally, the per-person water use is calculated not only with the amount of water used, but also the population. The TWDB's per-person water use calculation utilizes the annual population estimates of cities produced by the Texas State Data Center / Office of the State Demographer . If a water utility calculates the per-person use with a different population estimate, the per-person usage will differ from TWDB's.

5. If a city is listed with a high GPCD, does that mean that they use too much water?

Cities with high per capita water use estimates are sometimes portrayed as being extravagant in their water consumption when compared to cities with low per capita use figures. This is not always true, as a number of factors can legitimately affect estimated per capita use.

TWDB estimates are for total municipal water use, defined by the TWDB as water produced by utilities for use not only in homes, but also in most non-goods producing business establishments - retail, lodging, eating and drinking places, and various types of services: professional, legal, medical, financial, educational, in addition to government, and specialties such as regional air transportation centers and professional and college sports venues. All other things being equal, larger cities with a greater concentration of employment in such services and which provide such services to more than a local demand base will legitimately have a higher water use per permanent resident, without indicating that those residents are wasteful in their personal use of water. In contrast, areas with less commercial activity and institutional water users may have much lower figures.

Other factors that affect per capita use may include:

1. variations in regional climates,
2. population and building density,
3. regional economic conditions,
4. the quality of water supplies in a given region,
5. the extent and effectiveness of local water conservation programs, and
6. rates of unaccounted for water in a given distribution system (e.g., leaks from aging distribution infrastructure).

In summary, the TWDB recognizes that there are legitimate reasons for differences, and emphasizes that per capita estimates are not intended for making direct comparisons between cities.