

PROCESS FOR REQUESTING ADJUSTMENTS TO POPULATION AND WATER DEMAND PROJECTIONS

1. TWDB to draft WUG-level projections for distribution to planning groups.
2. Dry-year base for demands will be either 2006 or 2009 based upon review of 2009 water use data when available August 2011.
3. Online planning database (DB17) to be directly populated by TWDB with draft projections and adjusted with any TWDB-approved RWPG requests.
4. Entities wanting to adjust projections should address requests through their respective planning group(s).
5. If RWPG concurs with request, it will submit adjustment request to TWDB Executive Administrator for consideration with supporting electronic data, analyses, and documentation in TWDB format.
6. All requests to adjust draft population or water demand projections must be submitted along with associated data in an electronic format determined by TWDB (e.g., fixed format spreadsheets).
7. TWDB staff to provide feedback on request.
8. Criteria and data requirements for projection revision requests are detailed below.

2.0 Population and Water Demand Projections (from the draft General Guidelines for Regional Water Plan Development)

For the fourth cycle of regional water planning, the 2010 U.S. Census data for county-level population projections will become generally available in late 2011. Draft Water User Group level (WUG) projections are anticipated to be provided by TWDB to RWPGs in early 2012. These draft WUG-level projections will be used as the basis for conducting a full-scale revision of regional water plans including the associated population and municipal water demand projections for these 2016 regional water plans, including the extension of the planning horizon and projection period out from 2020 to the year 2070.

Draft non-population related water demand projections (e.g. mining, manufacturing, irrigation, steam electric power, and livestock) are anticipated to start becoming available for review and comment by RWPGs in late 2011. The TWDB will rely on a recent study with the Bureau of Economic Geology at the University of Texas at Austin to prepare draft mining water demand projections for each planning region.

TWDB staff, in conjunction with the Texas Commission on Environmental Quality (TCEQ), Texas Parks and Wildlife Department (TPWD), and Texas Department of Agriculture (TDA) will prepare draft population and water demand projections for all water demands including: Municipal, County-other,

mining, manufacturing, irrigation, steam electric power, and livestock. TWDB staff will update population and water demand projections for all associated Water User Groups (WUGs) and provide these draft projections to RWPGs for their review and input. The new population projections to be used in the 2016 regional water plans will increase population projections in some locations while decreasing population projections in other locations, relative to the population projections in the 2011 regional water plans. TWDB will directly populate the online planning database with all WUG-level draft projections and make related changes to the online planning database if adjustments are approved by the TWDB.

The TWDB will consider requests for changes to draft population and draft water demand projections if warranted. Entities wishing to adjust draft projections should address their requests through their respective planning group. If the RWPG concurs, it will submit a request to the executive administrator of the TWDB for consideration. Requests for adjustments should be accompanied by supporting data, analyses, and documentation. TWDB staff will coordinate reviews of each request with the TCEQ, TPWD, and the TDA. All requests to adjust draft population or water demand projections must be submitted along with associated data in an electronic format determined by TWDB (e.g., fixed format spreadsheets). TWDB staff will make adjustments considered justified by the supporting data submitted prior to Board consideration of adoption. Population and water demand projections will then be formally adopted by the TWDB during the summer of 2012 after receiving input from the planning groups and the TCEQ, TPWD, and TDA. The adopted projections will then be provided to RWPGs. RWPGs must use the Board-adopted projections when preparing their 2016 regional water plans.

County-Level Population

TWDB staff will project population by decade for each county in the State and then sum the county populations to a Regional total. Any adjustments to a county-level population must involve a justifiable redistribution of projected county populations within the region so that the summed regional total remains the same.

Criteria for Adjustment: One or more of the following criteria must be verified by the Planning Group and the Executive Administrator for consideration of revising the county population projections:

- a) A possible Census undercount took place in the county and action is currently being pursued to request a Census Bureau correction.
- b) If there is evidence that the 2010-2020 net migration rate will be significantly different than the net migration rate used for the original projection.
- c) There are statistically significant birth and survival rate differences (by appropriate cohorts) between the county and the State.

Data Requirements: The Planning Group must provide the following data associated with the identified criteria to the Executive Administrator for justifying any adjustments to the county-level population projections:

1. Documentation of an action requesting the Census Bureau correct an undercount of population within a county.
2. Projected in migration and out migration of a county, indicating that the net migration of a county will be significantly different than the net migration rates previously used.
3. Birth and/or survival rates for a county population between 2000-2010 by gender, race/ethnicity and single-year age cohorts.

4. Other data that the Planning Group believes is important to justify any changes to the population projections.

Water User Group Population

The projected population growth throughout the planning period for the cities, utilities and rural area (County-Other) within a county is a function of a number of factors, including the entity's share of the county's growth between 2000 and 2010, as well as local information provided by Planning Groups. The total county population, as projected by TWDB will act as a control total for the populations within the county. Any adjustments to a city, utility or remaining County- Other population must involve a justifiable redistribution of projected populations within the county so that the county total remains the same.

Criteria: One or more of the following criteria must be verified by the Planning Group and the Executive Administrator for consideration of adjusting the WUG population projections:

- a. Official adjustment to the census population for a city or an adjustment to the population estimate for non-city Municipal WUGs (utilities or collective reporting units)
- b. The population growth rate for a city, utility or County-Other over the most recent five years is substantially greater than the growth rate between 2000 and 2010.
- c. Identification of areas that have been annexed by a city since the 2010 Census.
- d. Identification of the expansion of a utility's CCN or service area since April 2010
- e. Identification of growth limitations or build-out conditions in a city or utility that would result in maximum population that is less than was originally projected.

Data Requirements: The Planning Group must provide the following data associated with the identified criteria to the Executive Administrator for justifying any adjustment to the Water User Group population projections:

1. Population estimates for cities developed and published by the State Data Center or by a regional council of governments will be used to verify criteria (b) for cities.
2. The verified number of residential connections and permanent population served will be used to verify criteria (a or b) for utilities.
3. The estimated population of an area that has been annexed by a city (for criteria c) or has become part of a CCN or service area for a water utility (for criteria d). In addition, the geographical boundary of the area must be presented in an acceptable map or ArcView shapefile.
4. Documentation from an official of a city or utility describing the conditions expected to limit population growth and estimating the maximum expected population will be used to verify criteria (d).
5. Other data that the Planning Group believes is important to justify any changes to the population projections.

Dry Year Designation

Water demand projections are to be based upon dry-year conditions, so the base year for the projections is intended to be the driest year in the last five. Based upon quarterly drought indices from the National Drought Mitigation Center, staff have determined that 2006 or 2009 will be used as the dry-year base for the water demand projections. The 2009 water use data will be available in August 2011 for analysis and review.

Municipal Water Use

Municipal water use is defined as residential and commercial water use. Residential use includes single and multi-family residential household water use. Commercial use includes water used by business establishments, public offices, and institutions, but does not include industrial water use. Residential and commercial water uses are categorized together because they are similar types of uses, i.e., each category uses water primarily for drinking, cleaning, sanitation, cooling, and landscape watering. Reported municipal water use data for the designated dry year was used to calculate the base per capita water use for each city. The municipal water demand projections shall incorporate anticipated future water savings due to the natural installation of plumbing fixtures to more water-efficient fixtures, as detailed in the 1991 State Water-Efficient Plumbing Act and subsequent relevant legislation. All other future water savings due to conservation programs undertaken by cities, utilities or county-other will be classified as WMSs by the Planning Group.

Criteria: One or more of the following criteria must be verified by the Planning Group and the Executive Administrator for consideration of revising the municipal water demand projections:

1. An adjustment of the dry year population estimate will require adjustment of the city's annual per capita water use.
2. Any changes to the population projections for an entity will require adjustments to the municipal water use projections.
3. Errors identified in the reporting of municipal water use for an entity.
4. Evidence that the dry year water use was abnormal due to temporary infrastructure constraints.
5. Evidence that per capita water use from a year between 2005-2009 would be more appropriate because that year was more representative of below-normal rainfall conditions.
6. Trends indicating that per capita water use for a city, utility or rural area of a county have increased over the latest period of analysis, beginning in 2000, and evidence that these trends will continue to rise in the short-term future.
7. Evidence that the number of fixture installations to water-efficient fixtures between 2000 and 2010 is different than the TWDB schedule.

Data Requirements: The Planning Group must provide the following data associated with the identified criteria to the Executive Administrator of the TWDB for justifying any adjustments to the municipal water use projections:

- 1) Annual municipal water production (total surface water diversions and/or groundwater pumpage and water purchased from other entities) for an entity measured in acre-feet.
- 2) The volume of water sales by an entity to other water users (cities, industries, water districts, water supply corporations, etc.) measured in acre-feet.
- 3) Net annual municipal water use, defined as total water production less sales to other water users (cities, industries, water districts, water supply corporations, etc.) measured in acre feet.
- 4) Documentation of temporary infrastructure constraints.
- 5) Drought index or growing season rainfall data to document a year different than the designated dry year as a more appropriate base year for projections.
- 6) Documentation of the number of water-efficient fixtures replaced between 1990 and 2010.
- 7) In order to verify increasing per capita water use trends for a city or rural area of a county and therefore revising projections of per capita water use to reflect this increasing trend, the following data must be provided with the request from the Planning Group:
 - a) Historical per capita water use estimates based on net annual municipal water use for the city, utility or rural area of a county, beginning in 2000.

- b) A trend analysis which must take into account the variation in annual rainfall.
 - c) Revised projections of per capita water use for a city, utility or rural area of a county will be submitted by the Planning Group, where an increasing trend in per capita water use has been verified for a city or rural area of a county.
 - d) Growth data in the residential, commercial and/or public sectors that would justify an increase in per capita water use.
- 8) Other data the Planning Group believes is important to justify any adjustments to the State Water Plan municipal water use projections.

Industrial Water Use

Industrial water use is defined as water used in the production process of manufactured products, steam-electric power generation, and mining activities, including water used by employees for drinking and sanitation purposes.

Criteria: One or more of the following criteria must be verified by Planning Group and the Executive Administrator for consideration of revising the industrial water use projections:

- a. An industrial facility which has recently located in a county and may not have been included in the Board's database. Documentation and analysis must be provided that justify that the new industrial facility will increase the future industrial water use for the county above the industrial water use projections.
- b. An industrial facility has recently closed its operation in a county.
- c. Plans for the construction of an industrial facility in a county at some future date.

Data Requirements: The Planning Group must provide the following data associated with the identified criteria for justifying any adjustments to the industrial water use projections.

- 1. The quantity of water used on an annual basis by an industrial facility that has recently located in a county and was not included in the Board's database.
- 2. The North American Industrial Classification (NAIC) of the industrial facility that has recently located in a county. The NAIC is the numerical code for identifying the classification of establishments by type of activity in which they are engaged as defined by the U.S. Office of Management and Budget and is a successor of the Standard Industrial Classification (SIC).
- 3. Documentation of plans for an industrial facility to locate in a county at some future date will include the following data:
 - a. Confirmation of land purchased for the facility or lease arrangements for the facility.
 - b. The quantity of water required by the planned facility on an annual basis.
 - c. The proposed construction schedule for the facility including the date the facility will become operational.
 - d. The NAIC for the planned facility.

Irrigation Water Use

TWDB annual Irrigation water use estimates are produced by calculating a crop water need based on evapotranspiration and other climatic factors, this need per acre is then applied to irrigated acreage data obtained from the Farm Service Agency (FSA) in order to determine estimated irrigation water use by TWDB crop category. These estimates are then made available to Groundwater Conservation Districts for comment.

Criteria: One or more of the following criteria must be verified by the Planning Group and the Executive Administrator for consideration of revising the irrigation water use projections:

- a) Evidence that a year between 2005-2009 would be more representative of typical irrigated acreage or below-normal rainfall than the designated dry year.
- b) Evidence that irrigation water use estimates for a county from another source are more accurate than those used by TWDB.
- c) Evidence that the expectation of conditions in the region are such that the projected annual rates of change for irrigation water use in the 2011 State Water Plan are no longer valid.

Data Requirements: The Planning Group must provide the Executive Administrator the following data associated with the identified criteria for justifying any adjustments to the irrigation water demand projections:

- 1) Acreage and water use data for irrigated crops grown in a region, as published by the Texas Agricultural Statistics Service, the Texas Agricultural Extension Service, or the Farm Service Agency (USDA), for the designated dry year and/or a different year that the Planning Group wishes to present for consideration.
- 2) Any economic, technical, and/or water supply-related evidence that may show cause for adjustment in the future rate of change in irrigation water use.

Livestock Water Use

Livestock water use will be defined as water used in the production of livestock, both for drinking and for cleaning or environmental purposes.

Criteria: One or more of the following criteria must be verified by the Planning Group and the Executive Administrator of the TWDB for consideration of revising the livestock water use projections:

- a) Plans for the construction of a confined livestock feeding operation in a county at some future date.
- b) Other evidence of change in livestock inventory or water requirements that would justify a adjustment in the projected future rate of change in livestock water use.

Data Requirements: The Planning Group must provide the following data associated with the identified criteria for justifying any adjustments to the livestock water demand projections:

- 1. Documentation of plans for the construction of a confined livestock feeding facility in a county at some future date will include the following:
 - a. Confirmation of land purchase or lease arrangements for the facility.
 - b. The construction schedule including the date the livestock feeding facility will become operational.
 - c. The daily water requirements of the planned livestock feeding facility.
- 2. Other evidence that would document an expected increase or decrease in the livestock inventory in the county.