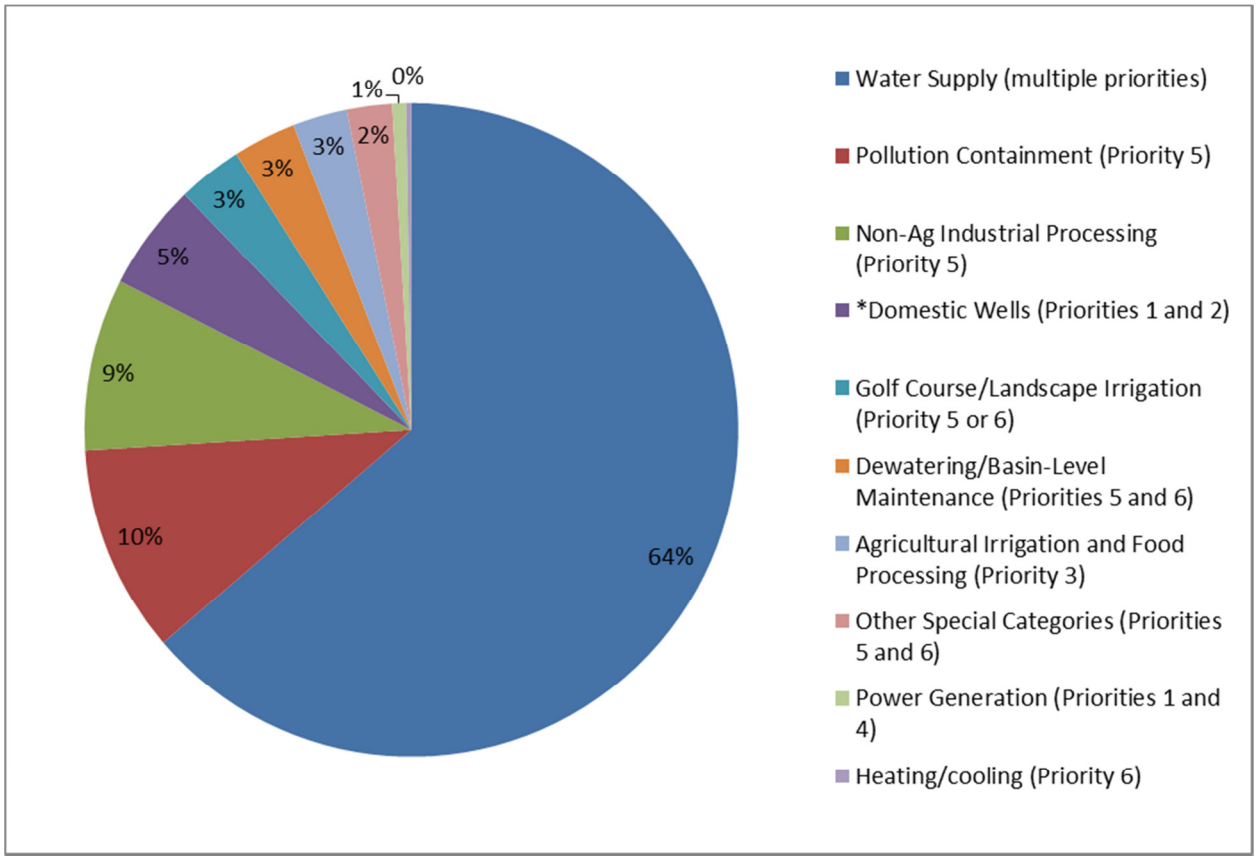
March 28, 2014 N&E Metro GWMA Update

Average Groundwater Use By Category in the North & East Metro GWMA



Breakdown of average groundwater use (2008-2012) into several groups/categories. Note that domestic well use was estimated rather than reported by users, whereas all other categories are uses reported by permit holders. Priorities are based on Minnesota Statute 103G.261 but are general and may not apply to all uses within a category.

GROUNDWATER APPROPRIATIONS AND USE

There are 259 active permits to appropriate groundwater in the area. The annual average of the reported groundwater use in the area over the five-year period 2008 through 2012 was 29.0 billion gallons (BG) with the total reported groundwater use in 2012 at 30.0 BG (several permittees did not yet

report 2012 use). This compares to total permitted groundwater appropriations of 62.5 billion gallons per year (BGY) in 2012. Total groundwater use over the five-year period was 30.6 BGY after adding domestic well pumping estimated by Metropolitan Council for 2010 (1.6 BGY). This use is broken down into several categories in the Figure.

Nearly two-thirds of total groundwater use was for water-supply systems (64%) including municipal and other public and private potable water supplies. The largest other categories of water uses included pollution containment (10%) and non-agricultural industrial processing (9%). Relatively small amounts of groundwater were used for domestic wells (estimated 5%), dewatering and basin (lake)-level maintenance (3%), agricultural/food uses (3%), golf course and landscape irrigation (3%). other special categories (2%), power generation (1%), and heating/cooling (<1%). Only one once-through heating/cooling system permit (1980-6214) remains active in the area because the discharge is used to maintain a wetland.

The pollution-containment category includes pumping of contaminated groundwater or pumping to prevent the further migration of contaminated groundwater. These uses are essential for protecting drinking-water supplies and public and ecological health. In some cases, additional uses have been found for water pumped to contain or remediate contamination plumes. Some water pumped from the former 3M facility in Woodbury is used for industrial cooling and power generation at 3M facilities in Cottage Grove prior to discharge to the Mississippi River. Water pumped for the City of New Brighton public-water supply requires treatment to remove contaminants originating at the former Twin Cities Army Ammunition Plant (TCAAP) in Arden Hills, but this municipal pumping also intercepts contaminated groundwater that would otherwise migrate down gradient. Nevertheless, potential secondary uses for water pumped to contain/remediate pollution are limited by the contaminants in the water and costs/practicality of treatment.