

Submittal and review of a MAG Peak Factor Request

Regional water plans are based on drought conditions and therefore do not reflect wet year pumping. Modeled available groundwater (MAG) is the amount of water that the TWDB Executive Administrator determines may be produced on an average annual basis to achieve a desired future condition (DFC) and is the groundwater availability volume utilized for planning purposes. The MAG Peak Factor is intended to allow flexibility for regional water planning groups (RWPGs) to develop regional water plans that more accurately reflect groundwater availability while continuing to meet the statutory mandate that plans be consistent with the DFC. It is not mandatory that RWPGs utilize MAG Peak Factors in the development of their plans. It is the decision of each RWPG, in concurrence with the relevant groundwater conservation district (GCD) and groundwater management area (GMA), to determine what, if any, MAG Peak Factor is appropriate to be requested for their planning efforts.

The process to submit a MAG Peak Factor request is as follows:

1. Since the MAG Peak Factor is intended to better reflect the actual management of groundwater by GCDs who are involved in planning, the request of a MAG Peak Factor could be initiated by a GCD or a RWPG. It is the decision of each RWPG, in concurrence with the relevant GCD and GMA, to determine what is the justifiable technical basis for the MAG Peak Factor. The MAG Peak Factor must be expressed as a percentage greater than 100 percent, and the submittal must specify the aquifer-region-county-basin split(s) that the peak factor is applicable to, and the applicable planning decades.
2. Obtain written approval from the relevant GCD, if one exists within the particular aquifer-region-county-basin split, and representatives of the GMA. In determining the details of the form of this written approval and the manner in which it should be approved, the GCD should analyze any other requirements applicable to that district, such as the district's enabling legislation, rules, or bylaws. Similarly, the representatives of a GMA should also analyze any requirements applicable to that group, such as any internal rules, bylaws, or procedures. RWPGs should account for the timing of obtaining written approval in the requests process.
3. The MAG Peak Factor request must be approved by the applicable RWPG at a regular RWPG meeting. The RWPG action should allow for flexibility of the RWPG Chair, political subdivision, or technical consultant to provide additional information to the TWDB if necessary.
4. The RWPG submits the written request to apply a MAG Peak Factor and supporting documentation to the TWDB Executive Administrator.

The submitted MAG Peak Factor request must include

1. written approval from **both** the relevant GCD, if one exists within the particular aquifer-region-county-basin split, and representatives of the GMA;
2. the technical basis for the request in sufficient detail to support GCD, GMA, and the Executive Administrator evaluation;
3. documentation (for example, monitoring plans) of how the temporary availability increase will not prevent the associated GCD(s) from managing groundwater resources to achieve the DFC(s); and
4. a cover letter documenting the approval date of the MAG Peak Factor request by the RWPG.

Multiple MAG Peak Factor requests may be grouped in one submittal, as long as the appropriate approval and documentation is provided for each request. The TWDB review of MAG Peak Factor requests may be streamlined if multiple requests are combined for review, however, the submittal format of multiple requests is ultimately up to the RWPG. The TWDB review of MAG Peak Factor requests may take up to 60 days. RWPGs should also take into account the timeframe necessary for interregional coordination, as appropriate.

The process the TWDB will utilize to review and potentially approve the MAG Peak Factor request is as follows:

1. The TWDB staff will review the submittal to determine whether all the necessary written approvals and technical documentation has been provided.
2. The TWDB staff will conduct a technical review of the supporting documentation.
 - a. This review may, depending on the area to be affected by the MAG Peak Factor, involve evaluation of the relevant hydrostratigraphic and geologic features, groundwater levels and groundwater flow, groundwater pumping, spring flow, interaquifer flow, and discharge to surface waters. RWPGs may need to provide adjusted model well files, detailed georeferenced maps of pumping assumptions (pumping location, pumping amounts, and model layer), or unallocated supply assumptions to support the TWDB's evaluation.
 - b. The effect of the MAG Peak Factor on the adjacent or hydrologically connected groundwater resources outside of the applicable GCD will be evaluated to understand the possible effect of the MAG Peak Factor on the ability of neighboring GCDs to achieve their relevant DFCs.
 - c. The evaluation may include reviewing existing GAM runs or other tools utilized to develop the MAG. The reviews may also vary depending on the time periods specified for the MAG Peak Factor, the DFC statement, and how the GCD plans to manage its resources to achieve the DFC.
 - d. The RWPG may be contacted to provide follow up information if necessary.
3. The TWDB Executive Administrator will provide a written response either approving or denying use of the MAG Peak Factor to the RWPG, GMA, and GCD (if applicable).
4. If approved, the TWDB staff will enter the MAG Peak Factor value into the state water planning database for each applicable groundwater source, by planning decade. The MAG Peak Factor will be applied to the associated MAG volume, and the resulting volume will be the groundwater availability used for planning purposes. See Attachment A for information on the MAG Peak Factor database display and use.

Additional Resources

TWDB's information sheet on the MAG Peak Factor:

<http://www.twdb.texas.gov/publications/shells/MAG.pdf>

Regional Water Planning contract document *First Amended General Guidelines for Fifth Cycle of Regional Water Plan Development*:

http://www.twdb.texas.gov/waterplanning/rwp/planningdocu/2021/doc/current_docs/contract_docs/170418_Exc_1st_amended_gen_guidelines.pdf

Adopted desired future condition documents and modeled available groundwater reports:

<http://www.twdb.texas.gov/groundwater/dfc/2016jointplanning.asp>

Groundwater conservation district management plans:

http://www.twdb.texas.gov/groundwater/conservation_districts/gcdinfo1.asp

Attachment A

DB22 Application Modeled Available Groundwater (MAG) Peak Factor Display and Use

The MAG Peak Factor is a percentage greater than 100 percent that is applied to MAG values. It will be entered into the state water planning database (DB22) as a decimal value. For example, if the MAG Peak Factor for a specific source is 120 percent, then the value entered into DB22 will be 1.2. The MAG Peak Factor will be entered for each groundwater source where it has been approved, by planning decade.

Groundwater sources labeled as a MAG represent sources where the geographic area of the aquifer they represent has an adopted desired future condition (DFC). For MAG sources where a MAG Peak Factor has been applied, the source total availability by planning decade will be updated to represent the MAG Peak Factor value multiplied by the MAG value. Both the MAG availability and the MAG Peak Factor values will be entered and only editable by TWDB staff. A view of the source availability table for MAG sources as it will appear on the Source Details page of the DB22 data entry application is shown below. This example has an approved MAG Peak Factor of 120 percent in 2040-2050 and 140 percent in 2060-2070.

Decade	Total Availability	MAG Availability	MAG Peak Factor
2020	2,500	2,500	1.0000
2030	2,500	2,500	1.0000
2040	3,000	2,500	1.2000
2050	3,000	2,500	1.2000
2060	3,500	2,500	1.4000
2070	3,500	2,500	1.4000

Groundwater sources labeled as a partial MAG represent sources where a portion of the aquifer's geographic area has an adopted DFC, but the remainder of the source area does not (i.e. the remaining area has been designated as non-relevant). These sources will have MAG values that represent the portion of the source with the adopted DFC and may also have an RWPG-Estimated Groundwater Availability (Non-MAG Availability) value for the portion of the source not covered by the DFC. For Partial MAG sources where a MAG Peak Factor has been applied, the source total availability by planning decade will be updated to represent the sum of the RWPG-Estimated Groundwater Availability and the MAG Peak Factor value multiplied by the MAG value. Both the MAG availability and the MAG Peak Factor values will be entered and only editable by TWDB staff. A view of the source availability table for Partial MAG sources as it will appear on the Source Details page of the DB22 data entry application is shown below. This example has an approved MAG Peak Factor of 120 percent in all decades.

Decade	Total Availability	MAG Availability	MAG Peak Factor	Non-MAG Availability
2020	2,400	2,000	1.2000	0
2030	3,400	2,000	1.2000	1,000
2040	3,400	2,000	1.2000	1,000
2050	3,400	2,000	1.2000	1,000
2060	3,400	2,000	1.2000	1,000
2070	3,400	2,000	1.2000	1,000