

# Texas Commission on Environmental Quality

INTEROFFICE MEMORANDUM

**To:** Commissioners **Date:** January 17, 2003

**Thru:** LaDonna Castañuela  
Chief Clerk

**From:** Randolph Wood, Deputy Director  
Office of Environmental Policy, Analysis, and Assessment

**Subject:** Consideration of a Petition for Proposed Rulemaking on 30 TAC Chapter 213,  
Edwards Aquifer

**Docket No.:** 2003-0044-RUL

**Rule Log No.:** 2003- 019-PET-WT

## Who Submitted the Petition:

On December 13, 2002, the executive director received a petition for rulemaking from the Barton Springs Edwards Aquifer Conservation District (BSEACD). On January 7, 2003, the executive director received a letter supporting the petition from the City of Austin, City Manager, Toby Hammett Futrell.

## What the Petitioner Requests:

BSEACD is requesting that the official maps incorporated by reference under §213.3(26) be amended to revise the boundaries of the recharge zone of the Edwards Aquifer within Travis and Hays Counties based on new geologic information from hydrologic studies and more detailed mapping efforts. No changes to the rule language are proposed by the petitioner. BSEACD is requesting the changes under §213.11, which encourages groundwater conservation districts to conduct geologic investigations, as necessary, to provide updated information to the executive director regarding the official maps of the recharge and transition zones.

BSEACD proposes changes to the boundary that would add approximately 8.8 square miles to the existing 89.33 square miles of recharge zone for the Barton Springs segment of the Edwards Aquifer. BSEACD proposes to designate approximately 4.6 square miles of the existing contributing zone area as recharge zone spread over five locations on the western boundary of the recharge zone. BSEACD also proposes to designate approximately 4.2 square miles of the existing transition zone area as recharge zone spread over six locations along the eastern boundary of the recharge zone. Lastly, BSEACD proposes to designate approximately 0.3 square miles of the existing recharge zone area as transition zone.

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**Background and Assessment:**

The regulatory boundary of the Edwards Aquifer recharge zone was established by TCEQ and its predecessors using the information available at the time the maps were adopted. The primary techniques were interpretation of aerial photography, utilization of existing maps of other research organizations and limited physical inspection or ground truthing. The boundary is interpreted from information containing varying degrees of detail, and the result is not a detailed depiction of actual field conditions at a site-specific scale of significant recharge features which may contribute to direct recharge. More detailed mapping efforts, refined geologic concepts and hydrologic testing in recent years have enabled more accurate delineation of the recharge zone, affording better and more comprehensive water quality protection.

The boundaries of the Edwards Aquifer have undergone many changes as new information has been made available. Whole counties have been added (1985, 1990) and partially deleted (1986). The lines within counties have been modified with the transition zone being added (1986, 1990) and recharge zone being modified (1974, 1984, 1986, 1990, 1999). A buffer zone was established in 1970, deleted in 1974, and reestablished as the contributing zone in 1999.

Preliminary examination of the material provided in support of this petition indicates that the proposed changes would be consistent with the scientific definition of recharge zone in Chapter 213. Staff's recommendation, however, is that the proposed boundary changes and supporting evidence should be reviewed and subjected to field verification by commission staff as part of the agency's responsibility to implement the Edwards Aquifer Protection Program. Staff also notes that some of the materials submitted in support of the petition are based on an incorrectly digitized version of the boundaries of the Edwards Aquifer recharge zone, which slightly alters the calculated amount of territory affected by the petitioner's request.

In support of proposed changes on the seven locations along the eastern boundary of the existing recharge zone, the petitioner has referenced the results of groundwater tracing studies and flow loss studies conducted in the field. The petitioner's interpretation of the results of these studies and tests indicates the presence of geologic formations identified in the subject area that are presently defined as part of the recharge zone in Chapter 213, and that exhibit characteristics with a potential for recharge of surface waters into the Edwards Aquifer.

The evidence submitted in support of the proposed changes along the western boundary of the existing recharge zone attributes karst characteristics, a defining feature of geologic formations identified in Chapter 213 as part of the recharge zone, to a rock unit that previously has not been considered a part of the recharge zone as defined in Chapter 213. The petition further states that this rock unit may be in contact with geologic formations presently recognized as part of the regulatory recharge zone, through geologic faults, and therefore should be considered hydraulically connected to the Edwards Aquifer. This interpretation needs further study, and staff cannot support the proposed revisions to the western boundary based only on the evidence presented with the petition.

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**Recommended Action:**

The executive director recommends that the commission grant the petition and initiate rulemaking to revise the official maps for the recharge zone that are incorporated by reference into §213.3(26). However, the executive director proposes to revise the official maps based on further staff review and field verification of the boundary delineations presented by the petitioner. If, after further study, staff concludes that the rock unit not previously considered a part of the recharge zone should be included, revisions to the definition of Edwards Aquifer in §213.3(26) may also need to be proposed to include the new rock unit. As part of this rulemaking to revise the official maps of the recharge zone, the executive director also recommends correcting discrepancies in boundary lines on the official maps of the recharge zone that staff has discovered over the past several years.

**Applicable Law:**

Texas Government Code, §2001.021, establishes the procedures by which an interested person may petition a state agency for the adoption of a rule and 30 TAC, §20.15, provides such procedures specific to the commission.

Section 213.3(26) provides the definition of recharge zone and states, in part that the recharge zone is "that area designated as such on official maps located in the appropriate regional office and groundwater conservation districts." Section 213.3(8) provides the definition of Edwards Aquifer.

Section 213.11 encourages groundwater conservation districts to conduct geologic investigations, as necessary, to provide updated information to the executive director regarding the official maps of the recharge and transition zones.

**Affected Public:**

Owners and developers of land in the areas proposed to be redesignated as part of the recharge zone would be affected because developments, regardless of geographic size or type, would be subject to agency approval through an Edwards Aquifer protection plan which includes a water pollution abatement plan, organized sewage collection system plan, and/or an underground/above ground tank plan. Protection measures would be more extensive because the activity would now be considered to be in direct contact with the aquifer. Additional cost would be incurred by landowners for both permitting and for platting and development of the land.

Along the western boundary, the applicant would be required to submit plans to the agency for all development which meets the definition of regulated activity under Chapter 213, Subchapter A, and every plan would require a geologic assessment. Depending on the development, a water pollution abatement plan, organized sewage collection system plan, and/or an underground/above ground storage tank plan would be required to be submitted to the executive director for approval. Prohibition of certain activities under §213.8(a) and prohibition of new industrial and municipal waste water discharges would apply. Existing discharges would need to meet wastewater treatment and disposal requirements under §213.6. Currently, applicants are required to provide a contributing zone plan for developments which are part of a common plan for development of five or more acres where stormwater is leaving the site.

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On the eastern boundary, new developments would also be subject to agency approval through a water pollution abatement plan and/or an organized sewage collection system plan, and would require a geologic assessment. Prohibition of certain activities under §213.8(a)(2), (4), and (6) and prohibition of new industrial and municipal wastewater discharges would apply. Existing discharges would need to meet wastewater treatment and disposal system requirements under §213.6. Currently, plans are only required for the installation of a petroleum storage tank system.

**Affected Agency Programs:**

Field Operations Division  
Technical Analysis Division, Groundwater Planning and Assessment Team  
Remediation Division

**Agency Contacts:**

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**Attachments**

cc: 5 copies to the Chief Clerk for distribution