

Appendix J

Summary of July 21st, 1998 Groundwater Source Area
Delineation Technical Advisory Committee meeting

DATE: September 18, 1998 FILE REF: 3230

TO: Ken Bradbury - WGNHS Jim Krohelski - USGS
George Kraft - UWSP John Tinker - UWEC
Mike Lemcke - DNR, DG/2

FROM: Jeff Helmuth - DNR, DG/2

SUBJECT: Summary of July 21st, 1998 Groundwater Source Area Delineation Technical Advisory Committee meeting

Attendees: Ken Bradbury, Jim Krohelski, George Kraft, John Tinker, Mike Lemcke and Jeff Helmuth.

The meeting was held in Room 100D of the CNR Building on the UW - Stevens Point campus, beginning at 1:30 p.m.

1. Background on Source Water Assessment Program (SWAP) and purpose of meeting - Jeff Helmuth and Mike Lemcke gave some background on the need for determining source water protection areas for the SWAP. After having proposing to use calculated fixed radius delineations for all municipal systems they had received advice from the SDWA Ad Hoc Advisory Council and other stakeholders that more attention should be given to delineating protection areas for systems in karst and confined settings. Furthermore, there was interest regarding regional and local modeling that had been or would be completed that could provide delineations for groundwater systems in areas of the state.
2. Regional studies resulting in models capable of delineating source water protection areas - Ken Bradbury listed the completed Dane County Hydrologic Study delineations and the delineations to be completed as part of the regional hydrologic study to be completed in the seven SEWRPC counties (Washington, Ozaukee, Milwaukee, Waukesha, Kenosha, Racine, and Walworth) in the next few years. Jim Krohelski said that the optimization study model could easily produce advanced delineations for the Lower Fox River Valley Counties of Brown, Outagamie, Winnebago, Calumet, and parts of Fond du Lac and other surrounding counties. John Tinker said that he had overseen advanced delineations for most municipalities in Eau Claire and Chippewa Counties.
3. Possible approaches to addressing karst and confined settings - Jeff Helmuth said that stakeholder input on the SWAP had shown a concern over using calculated fixed radius delineations for systems in karst and confined aquifer settings. A larger radius had been suggested for systems in karst settings. Ken Bradbury agreed that fractured rock needed more attention, but did not think that a larger delineated area would address the problem of defining a capture zone in fractured rock. He suggested that mapping karst features in the vicinity of public wells would be more useful for source water assessments. Karst features may act as conduits from contamination sources at the surface to groundwater and wells. There was consensus that this approach would be more effective than using a larger radius. Ken noted that carbonate bedrock underlies 1/3 of the state and that defining "karst areas" was not easy.

For confined systems, the committee saw much less potential for groundwater contamination than for karst systems. Jim Krohelski noted that particle tracking from recharge areas to wells in the Lower Fox River Valley model produced travel time estimates of more than 2,000 years. Jim acknowledged



significant difficulty in delineating recharge areas for wells in confined aquifers. Jim and George Kraft suggested delineating recharge areas for major aquifers or pumping centers. This regional approach would result in a tool useful for educational purposes and very long-range planning as well as generating source water protection area delineations. There was a consensus that the threat of contaminants penetrating confining layers through conduits such as improperly abandoned wells justified doing advanced delineations and source water assessments in confined settings.

4. Conclusions and next steps - For areas not covered by regional studies the committee discussed criteria for prioritizing communities for advanced delineations. Groundwater susceptibility and population served were clearly priorities. Ken Bradbury suggested identifying a first cut list of wells to be considered for advanced delineations by looking at raw water quality. Nitrate and chlorofluorocarbons and/or tritium analyses could be used for screening tools. John Tinker advised that areas that are easily modeled such as shallow wells in alluvial systems should be given priority to avoid wasting money on costly delineations in difficult settings. George Kraft emphasized that community interest was essential to getting buy-in on source water protection.

Jeff Helmuth thanked the committee members for their input and said he would provide a meeting summary. The meeting adjourned at 3:00.

cc: Bob Krill - DG/2
Bob Baumeister - DG/2
SDWA Ad Hoc Advisory Council Members
Bill Ryan - USEPA, Reg. 5

C:\helmuj\swap\appendices\Appendix J.doc