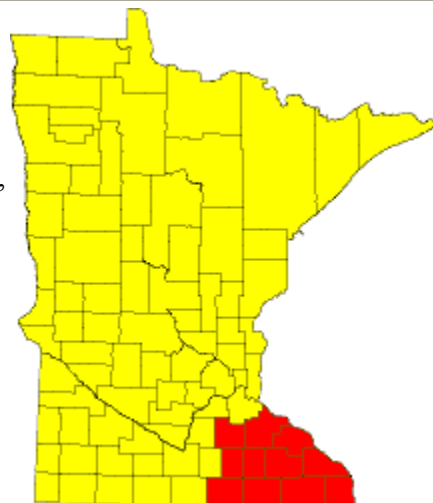


Ground Water Profile for the Southeast Region of Minnesota

This is a ground-water profile for Minnesota's Southeast Region, which is comprised of Dodge, Fillmore, Freeborn, Goodhue, Houston, Mower, Olmsted, Rice, Steele, Wabasha and Winona Counties.



Hydrogeology

- Layered sandstone and carbonate bedrock aquifer systems are highly productive and of high natural quality.
- Extensive near-surface karst areas result in aquifers that are highly vulnerable to contamination.
- Glacial aquifers are not widely present and are often of moderate to poor yield.

Quantity Issues

- Isolated well interference problems are present.

Quality Issues

- Near-surface, karst aquifers have potential for contamination and major problems with land-use management, including siting of industrial, municipal, and agricultural facilities.
- Pesticides occur in older, shallow wells constructed in karst aquifers.
- Nitrate contamination in near-surface aquifers is widespread.

Information Needed

- More water quality work is done here than in other regions, but there is a great need to better integrate local and state monitoring.
- The effects of implementing best management practices and other pollution control measures need to be assessed.
- The effectiveness of clay-rich glacial deposits in protecting bedrock aquifers needs to be determined.

Desired Actions

- High priority should be given to additional geologic atlases, updating older atlases, and concentrating on detailed ground-water mapping at a scale of 1:24,000 in karst areas.
- High priority should be given to water-quality trends monitoring of aquifers immediately beneath already-impacted ground water, evaluation of seasonal changes, and assessing quality of ground-water discharge from springs.
- Define areas where nitrate concentrations approach or exceed health limits.
- Educate land owners about land-use practices to protect wells and shallow ground water.

Maps

Availability of Geologic and Hydrogeologic Maps for Southeastern Minnesota Counties

County	Database	Bedrock geology	Surficial geology	Quaternary stratigraphy	Depth to bedrock	Geologic resources	Water table hydrogeology	Bedrock hydrogeology	Sensitivity to pollution	Sinkhole probability	Springsheds	Karst features	Illustrated geology	Nitrate map	Wellhead protection
Blue Earth															
Dakota	x	x	x	x	x	x		x	x						
Dodge*															
Faribault															x
Fillmore	x	x	x		x	x		x	x	x	x				
Freeborn															
Goodhue	x	x	x	x	x	x									
Houston		x													
Le Sueur															x
Mower	x	x	x	x	x	x									
Nicollet														x	x
Olmsted	x	x	x		x	x	x		x	x					
Rice	x	x	x	x	x	x	x	x	x						x
Steele															x
Wabasha	x	x	x		x	x						x	x		
Waseca		x	x												
Winona	x	x	x	x	x	x	x	x	x	x					

* Dodge County Environmental Atlas available from Dodge County

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