

Aquifer Protection Worksheet (example)

Item: Road Salt

Subcommittee A Classification: Threat

Problem: Salt (sodium chloride) applied to roads as a deicing agent can runoff and infiltrate through the soil into the groundwater. Chloride is largely non-reactive in the subsurface and will accumulate in an aquifer over time. In northeastern Illinois, over 55% of public water supply wells have an increasing trend in chloride. Communities and private well-owners that use salt-softening to control the hardness of their groundwater further increase the sodium and chloride levels in their drinking water. Neither chloride nor sodium are toxic to humans and chloride has a secondary standard of 250 milligrams per liter (mg/L). A sodium concentration of less than 20 mg/L is recommended for people with hypertension.

Some of the highest chloride concentrations in the Mahomet Aquifer (Figure 1) occur in western Tazewell County where there is higher density of roadways and the aquifer is unconfined. The high chloride values in Piatt and DeWitt Counties are likely due to the influx of brine from the underlying bedrock.

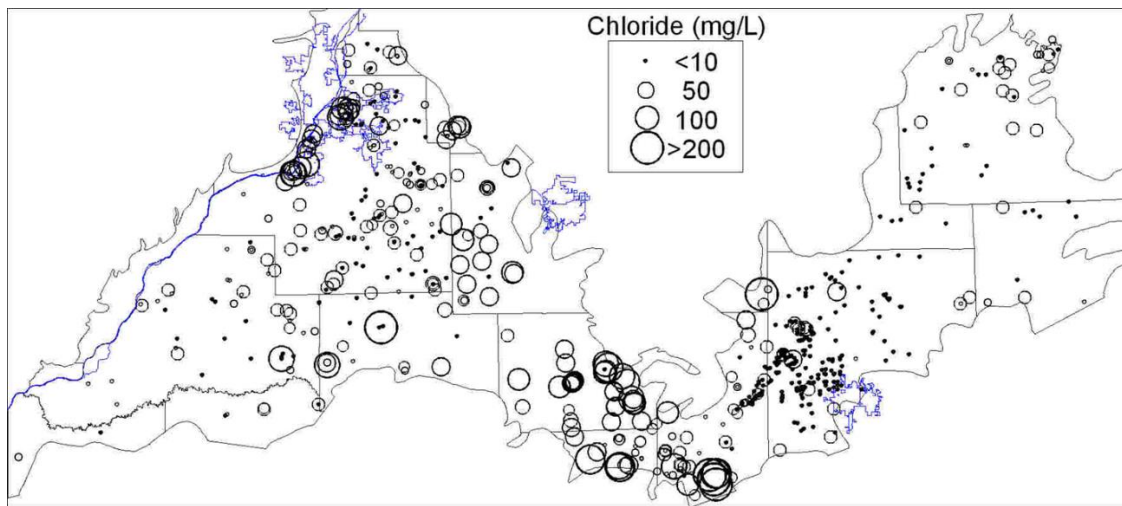


Figure 1. Chloride concentrations in the Mahomet Aquifer from the ISWS database

Subcommittee B Recommendations:

1. Expand the education and training programs organized by the Tazewell County Health Department to all the counties over the aquifer
2. Encourage municipalities and counties to calibrate their road salt spreaders.
3. Monitor chloride trends in public water supply wells
- 4.