

6.1.6.10 Monitoring and Reporting Requirements/Monitoring Conditions/ Requirements for Specific Waters/Subsurface Waters

Applicability:

The intent of this section is to assist the permit writer in establishing minimum requirements for monitoring programs for discharges that flow directly or indirectly into known aquifers. The permit writer shall establish monitoring frequencies, locations, and sample types that fulfill the site-specific informational needs of the department.

Content:

An aquifer is a subsurface water-bearing bed or stratum that stores or transmits water that is currently being used or could be used as a water source for private or public use. Groundwater is water that is located in aquifers. It is subject to the same water quality standards as for drinking water.

The Division of Geology and Land Survey (DGLS) has information on the location and depths of aquifers within the state, and they regularly monitor water levels within aquifers.

Many aquifers are recharged as a result of infiltration from losing streams. Recommendations for monitoring requirements for discharges to losing streams are in section 6.1.6.2.

For any permit that includes land application of wastewater, the potential for aquifer contamination should be evaluated. Generally, karst areas are more susceptible to this type of problem.

For larger facilities, such as animal feeding operations, and any others which are determined to pose a risk of groundwater contamination, a requirement for water quality monitoring in wells should be considered. Parameters to be evaluated would depend on the nature of the wastewater being treated. Nitrates are generally the most common parameter of concern in areas of land application.

There are no specific requirements in the current regulations that govern the frequency and type of monitoring for discharges that may impact groundwater in the regulations. The only practical method to sample from wells is with grab samples. Decisions concerning monitoring requirements will have to be based on best professional judgement. Factors to take into account include the size of the discharge from the facility, the area of land that will be used for land application, and the underlying geology.

As an example, one facility in southwestern that has a design flow of over 2 million gallons per day (MGD) is required to monitor its wells once a month. The site in question is in a karst area. For facilities located where the underlying geology is less permeable, or where the design flow is smaller, quarterly monitoring may be sufficient.

Legal References:

Code of State Regulations:

[10 CSR 20-7.015\(7\)](#) Effluent Regulations - Subsurface Waters Limitations

[10 CSR 20-7.031\(1\)\(B\)](#) Water Quality Standards - Definitions

Other Links:

[Groundwater: The Hidden Resource](#)

[6.1.6.2 Losing Streams](#)

Key Words:

Aquifer, groundwater, land application, karst, losing streams

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