GROUNDWATER SUSCEPTIBILITY

Groundwater protection projects are those that reduce pollution to groundwater coming from storm water runoff. This includes projects designed to attenuate storm water flows into karst features or to reduce or eliminate storm water infiltration in areas with a high public health risk or in areas that contain inadequate soil profiles to properly attenuate pollutants.

An **agricultural site** that is susceptible to groundwater contamination according to s. NR 151.015(18), under s. 281.16(1)(g), Wis. Stats., means any one of the following:

1. An area within 250 feet of a private well.
2. An area within 1,000 feet of a municipal well.
3. An area within 300 feet upslope or 100 feet downslope of a direct conduit to groundwater.
4. A channel that flows to a direct conduit to groundwater.
5. An area where the soil depth to groundwater or bedrock is less than two feet.
6. An area where the soil does not exhibit one of the following soil characteristics:
   a. At least a two-foot soil layer with 40% fines or greater above groundwater and bedrock.
   b. At least a three-foot soil layer with 20% fines or greater above groundwater and bedrock.
   c. At least a five-foot soil layer with 10% fines, or greater above groundwater and bedrock.

Urban areas where the DNR has identified storm water infiltration poses an environmental threat to groundwater are listed in s. NR 151.12(5)(c)5. These include:

1. Direct runoff to karst features.
2. Storm water infiltration of runoff from tier 1 and tier 2 industrial facilities.
3. Storm water infiltration of runoff from fueling and vehicle maintenance areas.
4. Storm water infiltration in areas within 1,000 feet up-gradient of karst features or within 100 feet down-gradient from karst features.
5. Storm water infiltration of general urban runoff into soils less than 3 feet deep to bedrock or seasonally high groundwater.
6. Storm water infiltration of runoff from industrial, commercial and institutional parking lots and roads and from residential arterial roads into soils less than 5 feet deep over seasonally high ground water or bedrock.
7. Storm water infiltration in areas within 100 feet of a private well or within 400 feet of a community well.
8. Storm water Infiltration through soils that are laden with contaminants of concern as defined in s. NR 720.03(2).
9. Storm water infiltration into soil that does not meet the following criteria:
   a. At least three feet in depth with 20% fines or greater.
   b. At least five feet in depth with 10% fines or greater.

Karst feature is an area or surficial geologic feature subject to bedrock dissolution so that it is likely to provide a conduit to groundwater, and may include caves, enlarged fractures, mine features, exposed bedrock surfaces, sinkholes, springs, seeps or swallets, rain, snow, ice melt or similar water that moves on the land surface via sheet or channelized flow.

A **mine feature** is a man-made shaft, tunnel, cave, hole or other feature created for mining purposes.

A **sinkhole** is a topographic depression (unless filled) in which bedrock is dissolved or collapsed. Sinkholes may be open, covered, buried or partially filled with soil, field stones, vegetation, weathered bedrock, water or other miscellaneous debris. Sinkholes are usually circular, funnel-shaped or elongated. Sinkhole dimensions vary by region. Wisconsin sinkholes generally range between 20 to 30 feet in diameter and four to ten feet deep, although some can be wider and/or deeper.

A **spring or seep** is an intermittent or permanent seepage of water from ground surface or bedrock outcrop or karst area.

A **swallet** is a place where surface or storm water drainage disappears underground.

A **cave** is a natural cavity, large enough to be entered, which is connected to subsurface passages in bedrock.