

# Land Cover and Associated Potential Contaminant Sources

The following is a list of commonly associated potential contaminants found within each land cover/land use type. This list may be updated in the future.

1. Barren Land
  - a. Mining
  - b. Pit (aggregate)
  - c. Storm water run off
2. Hay/Pasture/Cultivated Crops
  - a. Land application (bio solids, septage, pesticides)
  - b. Nutrient application and management (commercial fertilizer, animal waste)
  - c. Feedlots
  - d. Storage and preparation area (tanks, ag chemicals, petroleum products)
3. Wetlands and Open Water
  - a. Storm water run off
  - b. Road or rail crossing over water
4. Developed-Open Space
  - a. Wells
  - b. Septic systems
  - c. Turf Management
  - d. Chemical application and storage
5. Developed-Low and Medium Intensity
  - a. Wells
  - b. Septic systems
  - c. Turf management
  - d. Chemical application and storage
  - e. Storm water basins, drains, and infiltration practices
  - f. Storm water run off
  - g. Above ground storage tanks
  - h. Class V wells
  - i. Transportation Corridor
6. Developed-High Intensity
  - a. Wells
  - b. Septic systems
  - c. Turf management
  - d. Chemical application and storage
  - e. Storm water basins, drains, outlets, and infiltration practices
  - f. Storm water run off
  - g. Above ground storage tanks
  - h. Underground storage tanks
  - i. Leaking underground storage tanks

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- j. Class V wells
  - k. Transportation corridor
  - l. Road and rail crossings (spills over water)
  - m. Solid waste management site
  - n. Pipeline
  - o. Gravel pit
  - p. Suspected contaminant of concern
  - q. Hazardous waste handler and/or generator
7. Forest
- a. At this time there are no potential contaminate sources identified

The potential contaminates listed above is based upon the 2011 Land Cover dataset. MDH has simplified this list as some of the National Land Cover (NLC) categories most likely contain a similar set of contaminants.

**MDH and National Land Cover Categories Crosstalk Table**

MDH Land Cover	NLC Categories	Definition
Barren Land (Rock/Sand/Clay)	Barren Land (Rock/Sand/Clay)	Barren areas of bedrock, desert pavement, scarps, talus, slides, volcanic material, glacial debris, sand dunes, strip mines, gravel pits and other accumulations of earthen material. Generally, vegetation accounts for less than 15% of total cover.
Wetlands and Open Water	Open Water	All areas of open water, generally with less than 25% cover or vegetation or soil.
Wetlands and Open Water	Woody Wetlands	Areas where forest or shrub land vegetation accounts for greater than 20 percent of vegetative cover and the soil or substrate is periodically saturated with or covered with water.
Wetlands and Open Water	Emergent Herbaceous Wetlands	Areas where perennial herbaceous vegetation accounts for greater than 80 percent of vegetative cover and the soil or substrate is periodically saturated with or covered with water.
Pasture, Grasslands, and Cultivated Crops	Pasture/Hay	Areas of grasses, legumes, or grass-legume mixtures planted for livestock grazing or the production of seed or hay crops, typically on a perennial cycle. Pasture/hay vegetation accounts for greater than 20 percent of total vegetation.
Pasture, Grasslands, and Cultivated Crops	Grassland/Herbaceous	Areas dominated by grammanoid or herbaceous vegetation, generally greater than 80% of total vegetation. These areas are not subject to intensive management such as tilling, but can be utilized for grazing.
Pasture, Grasslands, and Cultivated Crops	Cultivated Crops	Areas used for the production of annual crops, such as corn, soybeans, vegetables, tobacco, and cotton, and also perennial woody crops such as orchards and vineyards. Crop vegetation accounts for greater than 20 percent of total vegetation. This class also includes all land being actively tilled.

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MDH Land Cover	NLC Categories	Definition
Developed-Open Space	Developed, Open Space	Includes areas with a mixture of some constructed materials, but mostly vegetation in the form of lawn grasses. Impervious surfaces account for less than 20 percent of total cover. These areas most commonly include large-lot single-family housing units, parks, golf courses, and vegetation planted in developed settings for recreation, erosion control, or aesthetic purposes.
Developed-Low and Medium Intensity	Developed, Low Intensity	Includes areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 20-49 percent of total cover. These areas most commonly include single-family housing units.
Developed-Low and Medium Intensity	Developed, Medium Intensity	Includes areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 50-79 percent of the total cover. These areas most commonly include single-family housing units.
Developed-High Intensity	Developed-High Intensity	Includes highly developed areas where people reside or work in high numbers. Examples include apartment complexes, row houses and commercial/industrial. Impervious surfaces account for 80 to 100 percent of the total cover.
Forest	Deciduous Forest	Areas dominated by trees generally greater than 5 meters tall, and greater than 20% of total vegetation cover. More than 75 percent of the tree species shed foliage simultaneously in response to seasonal change.
Forest	Evergreen Forest	Areas dominated by trees generally greater than 5 meters tall, and greater than 20% of total vegetation cover. More than 75 percent of the tree species maintain their leaves all year. Canopy is never without green foliage.
Forest	Mixed Forest	Areas dominated by trees generally greater than 5 meters tall, and greater than 20% of total vegetation cover. Neither deciduous nor evergreen species are greater than 75 percent of total tree cover.
Forest	Shrub/Scrub	Areas dominated by shrubs; less than 5 meters tall with shrub canopy typically greater than 20% of total vegetation. This class includes true shrubs, young trees in an early successional stage or trees stunted from environmental conditions.

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