# FECAL BACTERIA BEST MANAGEMENT PRACTICES (BMPs)

# **▶ Septic Systems And Portable Toilets**

### **OVERVIEW**

# **Failing Septic Systems**

Onsite septic systems can contribute fecal bacteria into the environment. For example, when septic drain fields fail, wastewater may accumulate on the surface and can sheet flow into nearby surface water. Additionally, improper or insufficient maintenance of septic systems can impact the treatment capacity of the system. Therefore, wastewater treated in systems that have not been well maintained could be contributing high levels of fecal bacteria into the environment.



Photo Credit: Wisconsin DNR

#### **Portable Restroom Waste**

Another decentralized source of human fecal bacteria is portable restrooms (e.g., porta-potties). Wisconsin State Statutes (NR 113) require that portable restrooms be serviced by licensed operators and that waste be taken to approved wastewater treatment facilities. However, toilets in recreational vehicles do not have the same requirements, so there is more potential for improper disposal (e.g., disposing of waste in storm sewers). Recreational vehicles should dispose of RV waste in sanitary sewers or sanitary dump stations.

Additionally, portable restrooms have the potential to overflow or leak if not properly and regularly maintained. Leakage or wash water from portable restrooms containing human sewage can be problematic if placed on or near storm water inlets or impervious surfaces.



# **IMPLEMENTATION**

# **Managing Septic Systems**

### Adopt Local Ordinances To Regulate Septic Systems

Ordinances can require a septic system inspection every time a parcel is sold.

- Allows for more oversight of privately owned land.
- Requires investigation to identify non-compliance with the ordinance.

# Encourage Landowners To Place Septic Systems Farther From Surface Water

Wisconsin law (SPS 383) requires that septic tanks be at least 10 feet from navigable waters and that the area where wastewater is filtered through soil be at least 50 feet from navigable waters. Encourage landowners to place their septic systems beyond the minimum requirement if they have a choice.

 Bring awareness to the issue of the potential contamination of surface water from septic systems.



Photo Credit: Wisconsin DNR

- Moving septic systems is a complicated and costly process. Residents are unlikely to do this unless necessary.
- Would need to focus efforts on the placement of septic systems for new construction, or if the homeowner was moving it for another reason, such as putting an addition on their house.

Encourage Landowners To Regularly Inspect Septic Systems

This will help identify any issues or leaks in the system and how to improve them.



- Brings awareness to the issue of potential contamination of surface water from failing septic systems.
- Regular maintenance can prevent more expensive repairs in the future.
- Requires education to help landowners understand why inspections are important and the different funding opportunities available. There are grant opportunities for homeowners to inspect their septic systems.

### **Managing Portable Toilets**

# Ensure Portable Restrooms Are Place Properly To Minimize Contaminated Storm Water Runoff.

Place portable toilets away from storm water inlets and preferably on pervious surfaces.

Additionally, portable restrooms should be placed on flat surfaces and protected from high-traffic areas to prevent tipping.

- Relatively easy to implement.
- There may not always be a pervious surface nearby. If not, place portable toilets away from storm water inlets. Also, would need to develop a plan to manage potential spills on impervious surfaces.

### Washing Portable Restrooms

Washing of portable toilets, such as pressure washing, should be done over drains that discharge to a sanitary sewer or where wash water can be collected in secondary containment and disposed of via sanitary sewer system. This will prevent wash water potentially containing fecal bacteria from entering the storm sewer.

- Relatively easy to implement.
- May be difficult to collect wash water in secondary containment.



Photo Credit: Wisconsin DNR



### Proper Disposal Of RV Waste

Wisconsin law (<u>Wisconsin Legislature: ATCP 79.15</u>) regulates the implementation of dump stations and requires the disposal of RV waste at approved disposal sites including dump stations or sites connected to sanitary sewers.

Educational signs and handout materials for RV users can help encourage them to dispose of waste properly. Signs could explain why proper disposal is important, indicate where RV users can dispose of waste, and reinforce the fact that this is mandated by law. Additional materials, such as pamphlets, can include where RV owners can dump their waste. For an educational pamphlet example, see the Additional Resources Section.

- Relatively easy to implement.
- Municipalities would have to work with campground/event owners to install signs if privately operated or owned by the county or state.

### Ensure Portable Restroom Waste Is Handled By Licensed Operators

Wisconsin Law (NR 113) requires that services that empty and dispose of portable restroom waste obtain a license that ensures they follow proper disposal methods.

When hiring companies to service portable restrooms at your event, construction site, etc., ask for proof they have received the proper license to ensure the waste is disposed of properly.

### Implement Ordinances Regulating Portable Toilet Placement And Maintenance

Ordinances can dictate where portable restrooms should be placed and required maintenance activities such as checking for cracks and monitoring for discharges.

- Need to consider how to enforce the ordinance. Will you require maintenance or inspection records, or will the ordinance be complaint-based?
- Would require educational materials and communication informing construction sites or events using portable restrooms of the new ordinance.



### **ADDITIONAL RESOURCES**

### **Example Ordinances**

- <u>City of Fort Worth, Texas Environmental Code Stormwater Protection</u> (epa.gov)
- Regulation For Inspection Of Residential Onsite Disposal Systems At Property Transfer – Washtenaw County
- Portable Restroom Management Gwinnette County

# **Septic System Maintenance**

- Septic Inspection Services Locator NOWRA
- Grant Opportunities For Septic Systems US EPA

### **Portable Restrooms**

- Stormwater Pollution Surface Cleaning Pamphlet Middle Tennessee State
   University
- RV Waste Disposal Guide San Juan County

### **SOURCES**

CP 24. 26-year leak in Hamilton sewage system dumped more than 300M litres of waste into harbour.

Tillett, B. J., Sharley, D., Almeida, M. G. S., Valenzuela, I., Hoffmann, A. A., Pettigrove, V. 2018. *A Short Work-Flow To Effectively Source Faecal Pollution In Recreational Waters- A Case Study*. Sci Total Environ., 10.1016/j.scitotenv.2018.07.005.

Lenaker, P. L., Corsi, S. R., De Cicco, L. A., Olds, H. T., Dila, D. K., Danz, M. E., McLellan, S. L., Rutter, T. D. 2023. Modeled Predictions Of Human-Associated And Fecal-Indicator Bacteria Concentrations And Loadings In The Menomonee River, Wisconsin Using In-Situ Optical Sensors. PLoS One 18, e0286851.

Wisconsin Department of Natural Resources. Milwaukee River Basin Total Maximum Daily Load (TMDL).

Sowah, R. A., Habteselassie, M. Y., Radcliffe, D. E., Bauske, E., Risse, M. 2017. *Isolating The Impact Of Septic Systems On Fecal Pollution In Streams Of Suburban Watersheds In Georgia, United States.* Water Research 108, 330-338.



Verhougstraete, M. P., Martin, S. L., Kendall, A. D., Rose, J. B. 2015. *Linking Fecal Bacteria In Rivers To Landscape, Geochemical, And Hydrologic Factors And Sources At The Basin Scale*. PNAS 112, 10419-10424.

Berounsky, V. M., Travers, H., Reynolds, K. 2018. Canine Detection of Fecal Coliform Bacteria from Human Sources in the Pettaquamscutt Estuary, RI – Preliminary Results. <u>OCEANS</u>.

Gwinnett County. Best Management Practice (BMP) Water Quality Protection Guideline.

Chapter SPS 383.03. Private onsite wastewater treatment systems.

US Environmental Protection Agency. About Septic Systems. Retrieved from: Frequent Questions on Septic Systems US EPA

US Environmental Protection Agency. <u>Septic Systems</u>.

US Environmental Protection Agency. Septic Systems.

Bureau of Land Management.

Georgia Department of Public Health. Portable Sanitation Rule.

San Diego County. Portable Toilets.

**Disclaimer:** This fact sheet is intended to be used for informational purposes only. These examples and references are not intended to be comprehensive and do not preclude the use of other technically sound practices.

Last Updated: October 2024

