

Drinking Water Source Protection and Biosolids Reuse

Ohio's environmental regulations protect drinking water by requiring distance between the reuse of biosolids and sources of ground water used for public drinking water.

Ensuring a safe and reliable source of drinking water and safely reusing nutrients from sewage sludge (or biosolids) are both public and environmental health protection priorities. While reusing biosolids is beneficial to the environment, it can also negatively impact a drinking water source by contaminating it.

Who regulates these activities?

Ohio EPA's Division of Drinking and Ground Waters (DDAGW) regulates public water systems. DDAGW also administers the Source Water Assessment and Protection (SWAP) program, which determines the protection area surrounding a drinking water source. Ohio EPA has evaluated all Ohio public water systems to identify and outline these protection areas.

Ohio EPA's Division of Surface Water (DSW) regulates the biosolids generated by sewage treatment. DSW helps protect sources of drinking water by enforcing rules that prohibit use of biosolids in some protection areas.

What are biosolids?

Sewage treatment generates two materials: biosolids and treated wastewater. Biosolids, as discussed in this fact sheet, are treated solid, semisolid or liquid residue generated during the treatment of domestic sewage. Treated wastewater, as discussed in the Drinking Water Source Protection and Land Application fact sheet, is the liquid generated during treatment. Because it is rich in nutrients, biosolids are often reused as a fertilizer.

Biosolids can be classified (Class A or Class B) based on the amount of treatment they have undergone. Class B biosolids, or non-exceptional quality biosolids, may contain significant levels of microorganisms after treatment. Class A biosolids must be treated to reduce existing microorganisms and analyzed for pathogens prior to distribution to ensure they do not exceed the allowable limit following treatment.

What restrictions apply near public water systems?

Class B biosolids cannot be applied to land or stored for land application (for example, field storage areas and stockpiles) within the emergency management zone surrounding a public water system's water supply intake. Class B biosolids also cannot be applied to land or stored for land application within the inner management zone of a community or non-transient, non-community water system. If the protection area is underlain by karst or fractured bedrock and has been determined to be highly susceptible to contamination, the setback will include the entire protection area. This prohibition only applies to Class B biosolids because they are likely to contain a significant amount of pathogenic (or disease-causing) microorganisms.

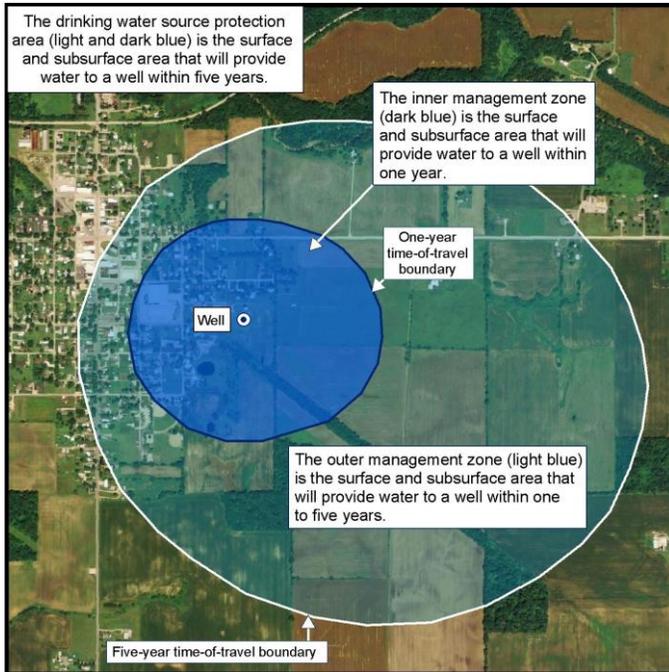
How does this protect drinking water?

Since Class B biosolids may contain significant levels of microorganisms after treatment, there is a greater potential for the pathogenic ones to enter the source of drinking water. Requiring land application of biosolids in an area outside of the source protection area creates a buffer between it and the source of drinking water. This buffer allows time for natural processes to filter or destroy pathogenic microorganisms before the source water enters the community water system.



In Ohio, Class B biosolids may not be applied to land or stored within the inner management zone of a community or non-community, non-transient public water supply well, or within the emergency management zone for a public water system's drinking water intake. (Photo source: Natural Resources Conservation Service)

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Where are drinking water source protection areas?

To determine if an existing or proposed facility is located within a drinking water source protection area, contact Ohio EPA's SWAP program. Please include the following information in your request:

- the location of the existing or proposed facility (a map showing the land application or storage facility location is best);
- the reason for your request (such as "biosolids land application"); and
- your contact information, including your email address.

Additional Information

- Ohio EPA, Division of Surface Water, Biosolids Program, epa.ohio.gov/dsw/sludge/biosolid.aspx
- Ohio's Sewage Sludge Rules: Ohio Administrative Code Chapter 3745-40, epa.ohio.gov/dsw/rules/3745_40.aspx
- Ohio's Sewage Sludge Rules: Division of Surface Water Policy 0100.028, epa.ohio.gov/portals/35/policy/01_28u_nc.pdf

Contact

For more information, contact the Ohio EPA, Division of Drinking and Ground Waters, Source Water Assessment and Protection Program, at (614) 644-2752, or email whp@epa.ohio.gov. Visit the SWAP web page at epa.ohio.gov/ddagw/swap.aspx.

This fact sheet is intended to provide an overview of this program as it relates to drinking water source protection and the SWAP program. The activities or structures described have additional restrictions not discussed in this document. When investigating state or federal programs for information on source water protection, please consult with staff from that particular program for the most complete and current information.