

Bear Creek Watershed Association Policy

Approved: June 12, 2013

BCWA Policy 11 - Site-Specific Wastewater Treatment/ Disposal Systems



Statement of Basis and Purpose

There are five types of human-generated wastewater treatment/disposal types currently in use within the Bear Creek Watershed. There are 16 permitted wastewater treatment systems that have a design capacity of 2,000 and over gallons per day. These treatment systems are called point sources. These systems have state issued discharge permits and they meet strict water quality effluent limits and include nutrient management systems. These regulated point-sources facilities have assigned wasteload allocations that are identified in the Bear Creek Control Regulation #74.

The remaining four types of small site-specific wastewater treatment/disposal systems include both publically-owned and individual or private systems. These systems are covered by state and county regulations (Clear Creek, Jefferson and Park counties). There are not good inventories, only rough estimates, available to the BCWA for these small site-specific wastewater treatment/disposal systems. The four-types of wastewater treatment/ disposal used in the watershed are:

1. Individual sewage or septic systems (on-site wastewater treatment systems, OWTS) that have a design capacity of less than 2,000 gallons per day. These OWTS are identified as non-point sources, but they are regulated by state and county regulations. These systems collectively have the potential to generate large amounts of unregulated nutrient discharge into the watershed. Failed systems have a high potential for site-specific water quality degradation. There are an estimated 10,000+ OWTS systems in the watershed.
2. A composting toilet is a dry toilet that generally uses a aerobic process system to treat wastewater, typically the system operates with no water or small volumes of flush water. The toilet composts the waste or uses a managed aerobic decomposition. The toilet can also have an associated leach or disposal field. These systems are found in parks and open-space locations through-out the watershed and may cause water quality degradation similar to an OWTS. There is not a good inventory of these systems in the watershed.
3. A vault toilet has a sealed tank buried in the ground with a building over the tank. All waste is contained in the tank until it is pumped for disposal at a designated permitted waste disposal site. These vaults are identified as non-point sources, but they are regulated by county regulations. These systems are found in parks and open-space locations through-out the watershed and may cause water quality degradation when the vault seal is compromised. There is not a good inventory of these systems in the watershed.
4. A pit toilet is a hole in the ground with a building over the hole. The liquid waste drains into the surrounding soil and the solid waste remain in the pit. Once this system reaches capacity, the pit is covered and abandoned; and in some cases they may be pumped and hauled by a licensed hauler.. Although these site-specific wastewater disposal systems were once

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common in the watershed, they are not permitted by the counties as new systems; however, some older systems are still used. Abandoned pit toilets have a potential to cause water quality degradation. There is not a good inventory of abandoned systems in the watershed or a count of those systems still actively used. Observations by BCWA membership do show a small number of these are scattered throughout the watershed.

BCWA water quality data has shown some of these systems can generate a measureable amount of pollution that can adversely degrade adjacent waterways. The BCWA is especially concerned about nutrient loading from these systems and how these nutrient loads can have a negative site-specific impact within waterways, including but not limited to, increased algal and periphyton growth on hard substrates, reduced macroinvertebrate populations and diversity, increased nutrient concentrations in excess of proposed standards, affect classifications and beneficial uses, or in extreme cases cause toxicity that impacts fish and wildlife.

Colorado regulation defines *waters of the state* as meaning “any and all surface and subsurface waters which are contained in or flow in or through this state”. The BCWA uses the state’s definition of *waters of the state*.

The BCWA recognizes that private site-specific wastewater treatment/ disposal systems have a potential to adversely impact watershed quality, however, the BCWA will not include these private systems in the policy position at this time. A great deal of more education is required before considering private systems. As such, the BCWA policy will focus on the smaller set of publically-owned and operated site-specific wastewater treatment/ disposal systems (SSWDs).

Policy Position

The BCWA Position Statement specific for *Site-Specific Wastewater Treatment/ Disposal Systems (Composting, Vault and Pit Toilets)*:

The Bear Creek Watershed Association (BCWA) asserts any publically owned and operated site-specific wastewater treatment/disposal systems (SSWDs) have the potential to adversely affect water quality within the Bear Creek Watershed. Pollution caused by SSWDs will be considered by the BCWA as “point sources”. As such, nutrient point source pollution sources in the watershed maybe subject to a wasteload allocation under existing regulation. Water quality degradation associated with publically owned SSWDs may be included in the BCWA annual report to the Colorado Water Quality Control Commission as an unregulated point source pollution problem.

Listing and General Water Quality Management Practices for SSWDs

1. Jefferson County, Clear Creek County, and Park County health departments have regulations that cover SSWDs. The BCWA supports these county regulations and this policy is not intended to alter these county regulations.
2. The BCWA does not support continued use of historic pit toilet located within high priority tier 1 zones, consistent with BCWA Policy 10. Any public agency responsible for historic pit toilets currently used within the Bear Creek Watershed shall provide a listing and detailed map of such facilities to the BCWA by December 31, 2013. The BCWA shall determine if

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these systems are within the 200-foot waterway limitation. The BCWA may forward a recommendation of closure and mediation to the appropriate county health department.

3. Any public agency responsible for wastewater composting or vault toilets currently operational within the Bear Creek Watershed shall provide a listing and/or map of such facilities to the Association by December 31, 2013. Responsible public agencies are requested to keep the BCWA annually apprised on operational performance [e.g., system located at (location) inspected on (date); wastewater septage pumped and hauled to (location), and other operational performance notes]. Updates should be provided to Association by e-mail or other electronic notification.
4. The Association will maintain a data-base of identified public SSWDs by stream segment, along with operational comments.
5. Interested park, open space and local agencies in the Bear Creek Watershed should help develop recommended water quality based Best Management Practices (BMPs) for SSWDs construction and management within the watershed. Any recommended practices will be shared with all appropriate agencies.

General Wastewater Composting Toilet and Collection Vault Recommendations

1. Wastewater composting toilets and collection vaults must be maintained and certified as “water-tight” structures, as defined by county regulations.
2. Responsible agencies must pump-out wastewater composting toilets and collection vaults that require winter closure and inspect vaults prior to first use in spring (e.g., standing water in a pumped-out vault may indicate leakage). Vault inspection should include a water-release leak detection method.
3. Inspections by responsible agencies or the BCWA may include observations of surrounding waterways, as appropriate, for signs of nutrient enrichment.
4. The BCWA as a referral agency requests any public agency responsible for composting toilets and collection vault toilets provide plans and specifications for review of any new systems installed within the watershed.
5. The BCWA may conduct water quality analyses in adjacent waterways, if a composting toilet or vault toilet is suspected of causing nutrient enrichment. If it is found that a system is leaking, the BCWA expects the responsible party to perform proper investigation and monitoring to assess and/or determine the source of the problem and to fix it. The monitoring should be performed in a manner to demonstrate that the problem has been mitigated. If the responsible party lacks the resources to do this, they may be required to compensate the BCWA for monitoring laboratory costs, and/or necessary mitigation costs.