

Salem Sound Coastwatch's Clean Beaches & Streams Program

Salem Sound Coastwatch (SSCW) samples water at coastal streams and stormwater outfall pipes in



Salem Sound and tests these samples for bacterial contamination. Many of these sample locations empty out at bathing beaches or near fishing and boating areas. Municipalities are responsible for testing water conditions within designated bathing areas. SSCW's sampling of the coastal streams and outfall pipes, in combination with the municipalities' beach water monitoring, presents a more complete picture of the ecological health our coastal waters. Potential public health risks associated with recreation at these sites are also evaluated.

SSCW obtains water samples at the source of storm water runoff at low tide. Therefore, the bacterial counts tend to be higher than from water samples taken from the middle of a bathing beach, particularly at high tide. Rain events may also temporarily increase bacterial counts by flushing contaminants through the storm drains.

SSCW's monitoring data (available at www.salemsound.org) indicates that bacterial contaminants are still being transported by stormwater into Salem Sound. SSCW works with municipal officials and regional partners to identify and evaluate site-specific solutions to this issue and to notify the public of potential health risks.

For more information on local water quality:

For information regarding an **outfall or stream** in Salem Sound, or to volunteer, please check Salem Sound Coastwatch's website (www.salemsound.org) or contact SSCW:

Salem Sound Coastwatch
201 Washington St., Suite 9
Salem, MA 01970
978-741-7900
info@salemsound.org

For more information regarding local beach closures and **beach water quality** (results from municipal testing performed at least once per week during the summer), the Massachusetts Department of Public Health website can be reached at:
www.salemsound.org/clean_beaches.htm.

Or call your local Board of Health:

Beverly	978-921-8591
Danvers	978-777-0001
Manchester	978-526-7385
Marblehead	781-631-0212
Peabody	978-532-3000
Salem	978-741-1800

Brochure produced by Salem Sound Coastwatch.

This product is funded through the Coastal Nonpoint Pollution Grant Program made possible by the National Oceanic and Atmospheric Administration (NOAA) and administered by the Massachusetts Office of Coastal Zone Management (CZM). Views expressed herein are those of the author(s) and do not necessarily reflect the views of the Executive Office of Environmental Affairs (EOEA) or CZM.

NONPOINT SOURCE POLLUTION & SALEM SOUND

MAKE THE STORMWATER CONNECTION



What is nonpoint source pollution?

Nonpoint source pollution is the term used to describe diffuse sources of contaminants that cannot be attributed to a single discharge point. Examples include stormwater runoff and atmospheric deposition.



Nonpoint source pollution is "the most important source of contamination in our nation's waters" (U.S. EPA 1999).

How do pollutants get into stormwater?

As water travels downhill to the ocean, it picks up pollutants such as fertilizers, pesticides, pet waste, oil, road salt, sand, and litter from our streets. The water flows into streams, rivers, and storm drains carrying these pollutants with it. Sewer mains often run along side the storm pipes. If a sewer main breaks, sewage can seep into the storm drain system. Faulty septic systems can also add contaminants to the groundwater that may eventually end up in streams or storm drains. Stormwater runoff is the largest component of nonpoint source pollution.



Warm, shallow, freshwater streams that flow across beaches often attract children, but the water flowing out of these coastal outfall pipes and streams is often unsafe.

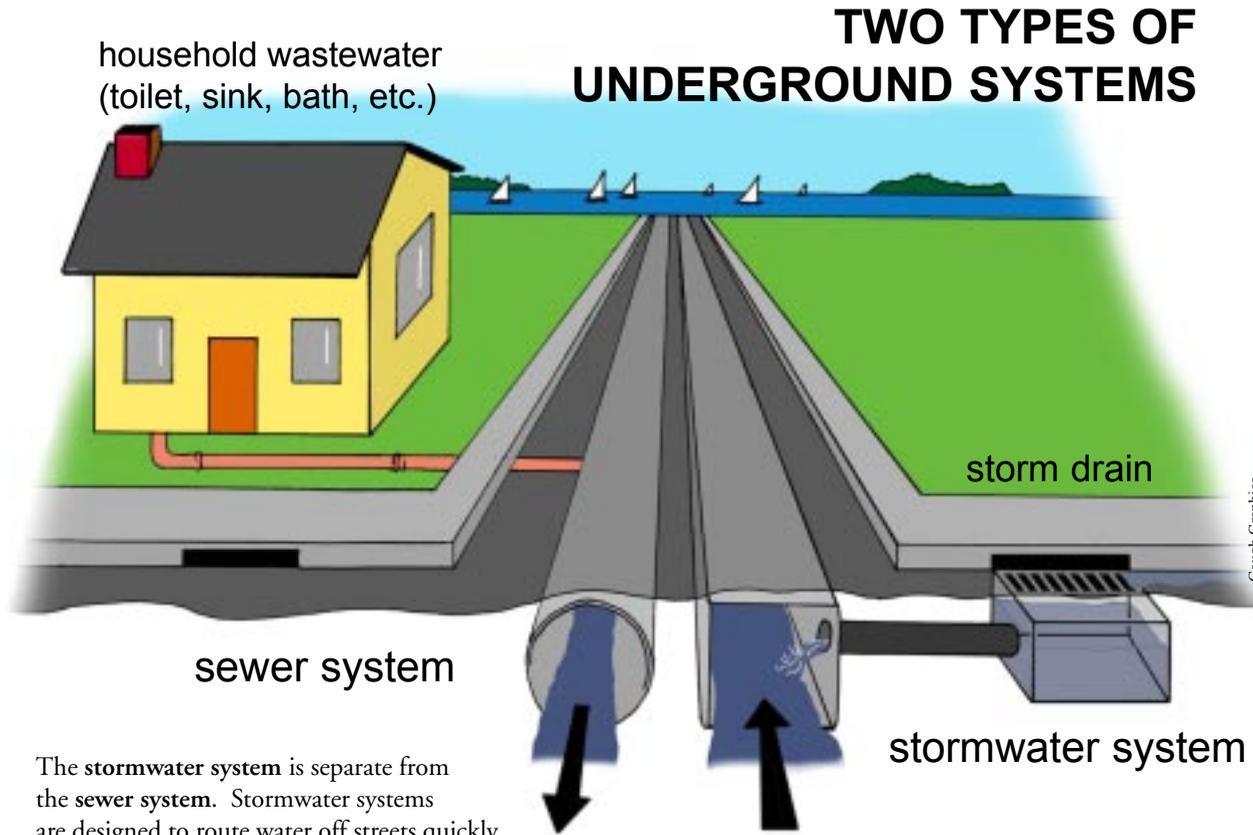
Stay out of the water coming from outfall pipes and streams flowing across beaches!



The most serious problem sites are posted by the local public health department with signs similar to this one.

Possible Negative Human Health

Effects from exposure to stormwater contaminated with bacteria bacterial are *sore throats, nausea, diarrhea, vomiting, skin rashes, and fever*. Although rarely fatal, other possible diseases are *gastroenteritis, cholera, hepatitis, dysentery, and giardiasis*, all of which may have severe health consequences. To minimize any health risk, it is best to avoid swimming near outfalls and coastal streams, especially after heavy rains.



The **stormwater system** is separate from the **sewer system**. Stormwater systems are designed to route water off streets quickly to prevent flooding. Storm drains direct runoff into an underground network of pipes which typically discharge directly into our rivers, estuaries, or Salem Sound without treatment or cleansing. Often these stormwater pipes empty directly at our swimming beaches, whereas, materials within the sewer system receive treatment before being discharged to Salem Sound.

Nonpoint Source Pollution can harm fish, marine plants and animals, kill native vegetation, encourage harmful algal blooms, and make recreational areas unpleasant or even unsafe. When this type of pollution is transported to our shoreline through the stormwater system, our beaches become littered with debris and trash, such as fast food wrappers, cigarette butts, and styrofoam. When this stormwater discharge contains chemical and biological contaminants, such as bacteria, pesticides, or excess nutrients, there may be human health concerns as well.

What pollutants may be flowing through the pipe?

- Bacteria, viruses, nutrients from pet waste, failing septic systems, and broken sewer mains
- Oil, grease, chemicals from homes & vehicles
- Pesticides and fertilizers from lawns
- Road salts, sand and gravel
- Heavy metals from roof shingles, vehicles and other sources
- Trash and debris: cigarette butts, leaves, grass clippings, straws, cups, styrofoam, food wrappers, and much more.

10 ways to be part of the solution!

1. Never dump anything into storm drains!
2. Always clean up after your pets. Scoop up and dispose either in the toilet or in a sealed plastic bag in the trash. Never dump it into a storm drain. Pet waste is a major source of bacteria and excessive nutrients in our local waters.
3. Don't feed waterfowl. Feeding waterfowl leads to unnatural behaviors, overcrowding, and poor nutrition. Keep wildlife wild.
4. Reduce or eliminate fertilizer, herbicide and pesticide use. They will readily dissolve in water, run off into the storm drains and may be toxic to fish, wildlife and plants.
5. Compost yard waste. Do not sweep leaves and grass clippings into the street. Decaying plant debris adds phosphorus and other nutrients.
6. Sweep up salt and sand on your walkways after snowmelt.
7. Wash your car in your yard so the water infiltrates into the ground or use a commercial car wash that treats or recycles its wastewater. Use biodegradable and non-phosphate detergents.
8. Repair any fluid leaks from your car, and dispose of used motor oil and batteries at recycle centers.
9. If you are on a septic system, keep it working properly. Have it pumped at least every 3 years.
10. Store and dispose of chemicals properly. Never discard chemicals down the storm drain.