

Stormwater Pollution and Recreation on the Bay

As the summer weather winds down many Marylanders are enjoying the last days of the warm season on the water or along beaches and lakes soaking up the sun, sand, and surf. Warm weather tends to bring an influx of residents and tourists to local bodies of water meaning that water quality in the Chesapeake Bay (as well as its streams and rivers) matters as much to people as it does to the Bay's aquatic life.

This year in particular, an increased number of people may be exploring streams, rivers, and lakes across the region as coronavirus limits access to public swimming pools and water parks. It is important to remember that swimming in a natural water body presents far greater risks than diving into a treated pool. Natural waters are continually changing due to environmental factors, such as land use changes, excess nutrients, air pollution (nitrogen and mercury), and sedimentation. Waterways are highly susceptible to pollution and bacteria that are hazardous to the health of the public.

What are the Concerns?

A frequent concern associated with recreational water use is the presence of enterococci and *Escherichia coli* (*E. coli*) fecal organisms. These organisms are indicators of fecal matter in the water and are often associated with the presence of disease-causing bacteria, viruses, and protozoa. They have the potential to harm those who use the contaminated water for recreation or who consume raw shellfish/fish harvested from the area. These bacteria may cause gastrointestinal (GI) illnesses, skin and ear infections, and in severe cases have the potential to cause life-threatening illnesses in those who are immunocompromised. Sources of bacteria in recreational waters typically include improperly functioning wastewater treatment plants, leaking septic systems, polluted storm water runoff, animal carcasses, and runoff from fertilized fields and lawns.



How can I keep myself and my family safe?

Signs at many water access areas warn the public to stay out of the water approximately 48–72 hours after rainfall. It is imperative to heed all warning signs as bacteria levels have shown to be highest following significant rainfall. Furthermore, in areas where water quality monitoring takes place, it may take 48–72 hours to obtain bacteriological analysis and provide needed warnings to patrons.





In addition to posted warnings, several water quality information sources are available such as the Swim Guide app and website (<https://www.theswimguide.org/>). A growing number of reputable groups use this specific site to share up to date monitoring data from local beaches and swimming holes.

If you do partake in recreational water activities, implementing these tips may reduce your risk of exposure to contaminated water:

- Wear heavy cotton or leather gloves when handling crab pots or cleaning and processing fish.
- Wear water shoes to avoid cuts and scrapes.
- If you get a cut or scrape while in the water, clean it immediately (or as soon as possible) with soap and clean water.
- Bathe/shower after spending time in natural waters.
- Avoid swallowing the water. If you do experience symptoms of GI, respiratory, or skin illness, seek medical attention as soon as possible and tell your provider about recent water exposures.

What Can You do?

Stormwater pollution affects all of us. You can do your part to minimize pollution sources from your home by limiting use of fertilizers, picking up waste from your pets, and disposing of trash and waste properly.

Visit the following websites for more information on water quality as it relates to recreational water use:

<https://www.epa.gov/national-aquatic-resource-surveys/indicators-enterococci>

<https://www.epa.gov/sites/production/files/2015-09/documents/ecoli.pdf>

<https://www.nps.gov/chba/learn/environmental-factors.htm>

<https://www.aafp.org/afp/2017/0501/p554.html>

Please visit <https://code200-external.gsfc.nasa.gov/250/environmental/environmental-bulletins> to explore other topics of environmental importance.

