

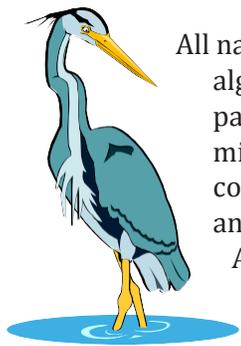
What You Should Know

The quality of Virginia's natural waters, including ocean, bays, rivers, streams and lakes, is monitored regularly. There are a number of factors including naturally occurring



organisms, rainwater runoff and human impacts that make it impossible to guarantee that any natural body of water is free of health risks. Most of the organisms in Virginia's recreational waters probably do not cause human illness or are in such low levels they will not make anyone sick, but there is no way to be sure. Because natural bodies of water, especially rivers, are so changeable, officials can only make general statements about the health risk of certain bodies of water; they cannot say exactly what the condition of a specific body of water is at any particular time.

Where Do Organisms Found in Water Come From?



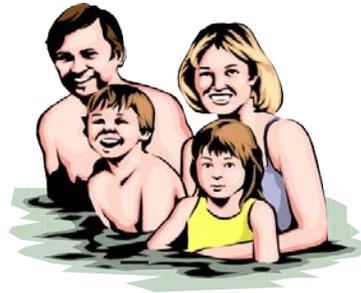
All natural waters contain algae, bacteria, viruses and parasites. These microbiological organisms come from plants, animals and sometimes, humans. Agricultural and urban runoff and improperly or partially treated sewage

contribute to microbiological pollution. Water flow, temperature, level of acidity, chemical composition, amount of organic material, and especially what runs into or is dumped into the water influence how many and what kinds of organisms are present.

Why Avoid Natural Water After a Heavy Rain?

During a heavy rainfall, pollution from the land washes into rivers, lakes and streams and eventually winds up in our coastal waterways.

Pet, livestock and wildlife wastes, and untreated waste water from sewage treatment plants that are overloaded by an excess of rain water can all end up in natural waters used for recreation and pose risks to human health.



How is Health Risk from Natural Waters Determined?

Because testing water for bacteria, viruses, and parasites that cause illness is difficult, time consuming and costly, two bacteria have been selected to use as indicators of possible contamination from human waste.

National standard tests for *E. coli* and enterococci, a group of bacteria, indicate the level of possible contamination from human waste. Non-disease causing bacteria can also come from animals or multiply readily in certain types of water so high levels of these indicator bacteria do not necessarily mean the water is unsafe. Likewise, water that tests negative for indicator bacteria could contain disease-causing organisms. In general, the higher the indicator level, the more likely it is that harmful bacteria are present, increasing the risk that people will become ill from the water.

What Are the Risks?

The most common waterborne illnesses are gastrointestinal and may cause vomiting, diarrhea or nausea. These illnesses result from swallowing water contaminated by disease causing microbiological organisms. Less commonly, skin, ear and eye infections can result from contact with contaminated water. Although recreational water users may inadvertently swallow water, deliberately drinking from rivers, streams or lakes is never recommended.



People who have a weakened immune system may get sick from much lower levels of harmful organisms than healthy people, and should avoid any contact with natural bodies of water.

Some waters may be contaminated with toxic substances. The risk of illness is greater for persons eating fish from those waters than it is for swimmers.

The Virginia Department of Health issues fish consumption advisories when levels of contaminants found in fish exceed safe levels and recommends that people limit or eliminate consumption of certain types of fish from those waters. Warning signs and brochures on fishing regulations provided by the Department of Game and Inland Fisheries notify the public of fishing advisories. Waterbody-specific advisory information is available on the VDH website.



What You Can Do To Protect Yourself

- Look for posted signs and follow the advice on them.
- Do not swim in water that is stagnant, muddy, smells unpleasant, or has an unusual color.
- Avoid swallowing river, stream or lake water. Children are more likely to swallow water and are at greater risk of infections due to a developing immune system.
- People with weakened immune systems should avoid contact with natural bodies of water.
- Prevent direct contact between broken skin and natural waters.
- Avoid swimming several days after a heavy rainfall.
- During extremely warm periods, keep your head out of the water, use nose clips or hold your nose shut, and avoid stirring up sediment in shallow fresh water areas.
- Do not drink alcoholic beverages or use drugs when swimming or boating.
- Avoid areas where you may become trapped in rocks or debris by fast flowing water.
- Avoid flood waters that can carry hidden debris and cause injury.
- Do not add to the risk; use toilet facilities and properly dispose of pet waste.

For more information, contact your local health department or the regional Department of Environmental Quality office.

Visit our website at

www.vdh.virginia.gov/environmental-epidemiology/

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