

# WHAT CITIZENS CAN DO TO PROTECT THE WATER SUPPLY



Everyone has a role in protecting our water supplies. Here are some things you can do, too.

- Avoid overuse of pesticides, herbicides and fertilizers, which contribute to the growth of algae that can cause taste and odor in drinking water.
- Clean up after your pet so the rain won't wash pet waste into the watershed through storm sewers.
- Dispose of pharmaceutical and personal care products in the trash, not down the toilet.
- Properly dispose of chemicals, paints and hazardous waste products so they don't enter the watershed through storm sewers.
- If you have a boat, keep it clean to avoid bringing algae, dirty water or contaminants into your marina.
- Support regulations and other efforts to reduce nutrients in the watershed.
- Report any spill.

## OUR PARTNERS IN PROTECTING THE RIVER

(All of the below are active members of the HMA and LEPC)

COMPANY	PRODUCTS	PROCESS CONTROLS & AWARDS
<b>EVONIK CORPORATION</b>	A specialty chemical manufacturer and one of the world's top suppliers of specialty ingredients found in everyday products such as skin care, hair care, cosmetics, detergents and cleaners.	<ul style="list-style-type: none"> <li>• ISO Certified Environmental Management System</li> <li>• American Chemistry Council's Responsible Care participant</li> <li>• Governor's Environmental Excellence Award</li> <li>• Virginia Recycling Association "Clean Water Initiative" Award</li> </ul>
<b>HOPEWELL COGENERATION FACILITY</b>	Generates power and steam to supply electricity to the local electrical grid and to Ashland Corporation.	<ul style="list-style-type: none"> <li>• Subject to Federal and State Pollutant Discharge Limits</li> <li>• ISO Certified Environmental Management System</li> <li>• Virginia Environmental Excellence Award</li> <li>• Governor's Environmental Excellence Award</li> <li>• FOLAR Business and Industry Awards</li> </ul>
<b>HONEYWELL INTERNATIONAL</b>	Produces ammonium sulfate, a crop fertilizer, and nylon 6, a substance used in many textiles and plastics.	<ul style="list-style-type: none"> <li>• Environmentally Certified Lab</li> <li>• American Chemistry Council's Responsible Care participant</li> <li>• American Chemistry Council's Responsible Care Leadership Award</li> </ul>
<b>ASHLAND INCORPORATED</b>	A major manufacturer of specialty chemicals and plastics used in the automotive and energy industries, as well as in food, beverage and personal care products.	<ul style="list-style-type: none"> <li>• Site certified for ISO 14000 Environmental Management System (as part of the Ashland RC certification)</li> <li>• Uses the Responsible Care Management System as a member of the American Chemistry Council</li> <li>• Daily review of utilities usage with a focus on reduction</li> <li>• On site Emergency Response team</li> </ul>
<b>ROCKTENN</b>	A paper and packaging manufacturer and one of North America's leading producers of corrugated and consumer packaging materials.	<ul style="list-style-type: none"> <li>• Subject to Federal and State Pollutant Discharge Limits for storm water and non-contact cooling water</li> <li>• Radiation safety program (gauging sources)</li> <li>• Industry Safety Performance Awards</li> <li>• Packaging Design Awards</li> </ul>

# Protecting Your Source Water in Hopewell

Through cooperation, collaboration and communication



**WATER: QUALITY, CARE AND VALUE DELIVERED IN EVERY DROP.**





## WHERE YOUR WATER COMES FROM

The source of drinking water for our Hopewell customers comes from the Appomattox River at its confluence with the James River.

The combined drainage area of these two watersheds is approximately 9,000 square miles, where the rivers meet at Hopewell.

Ensuring these two rivers and their drainage areas are protected is a job we share with many community partners, including you, our customers.

## CONTAMINANT MONITORING

Since Hopewell's drinking water comes from a river, it can reasonably be expected to contain at least small amounts of some contaminants. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals, and can pick up substances resulting from the presence of animals or from human activity. Continuous monitoring is necessary because the following materials could exist in source water and pose potential health risks:

- **Microbial contaminants**, such as viruses, bacteria and parasites, which may come from sewage treatment plants, septic systems, agricultural livestock operations or wildlife.
- **Inorganic contaminants**, such as salts and metals, which can be naturally occurring or may result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban storm water runoff and residential uses.
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and may also come from gas stations, urban storm water runoff and septic systems.

To ensure your drinking water is safe, Virginia American Water is constantly monitoring for more than 160 different contaminants in these categories, as required by the U.S. Environmental Protection Agency (EPA) under the Safe Drinking Water Act. The results of our monitoring are published and made available online in the company's Annual Water Quality Report, also known as the Consumer Confidence Report (CCR). Your current CCR is available for review at [www.amwater.com/ccr/hopewell.pdf](http://www.amwater.com/ccr/hopewell.pdf).

## UNREGULATED CONTAMINANT MONITORING

Beyond the regulated contaminants we monitor, there are thousands of unregulated contaminants for which EPA has not established drinking water standards. We monitor for more than two dozen of these unregulated contaminants to assist EPA in determining their occurrence in drinking water and whether regulation is warranted. The list of unregulated contaminants that were monitored during 2013-2016 under the current unregulated contaminants monitoring rule can be found on EPA's website at [water.epa.gov/lawsregs/rulesregs/sdwa/ucmr/ucmr3/index.cfm](http://water.epa.gov/lawsregs/rulesregs/sdwa/ucmr/ucmr3/index.cfm).

## MULTI-BARRIER APPROACH

Virginia American Water's multi-step treatment process, together with its robust source water protection, system monitoring, and response planning and preparedness, comprise the company's multi-barrier approach to source water protection.

## EVENT RESPONSE: DETECT. CONTAIN. TREAT.

### What if an accident impacts the river's quality?

Accidents can and do happen. Because the water intake is at the confluence of two rivers and in a tidal area, we are concerned with what's upstream and downstream of our water intake. There are no industrial entities upstream. There is a wastewater treatment plant several miles upstream that discharges wastewater into the Appomattox River. The discharged water has been treated to high standards set by the Clean Water Act. Downstream of the intake, several industrial customers exist, including, but not limited to, those listed on the back page.

Should a spill occur, our response is to **DETECT, CONTAIN AND TREAT** the contaminant.

## 1 DETECT

The first step is detection. There are many ways we can tell if something's wrong, such as changes in pH, alkalinity/conductivity, disinfection levels and dissolved oxygen levels. Something with a strong odor would also warrant action. For contaminants that are colorless and odorless, though, sometimes the only detection we have is a call from public health professionals about a widespread sickness.

## 2 CONTAIN

Once detected, containing the contaminant becomes the primary focus. This can be accomplished by isolating the area of impact using our valves; deploying booms in the river around our intake to prevent the contaminant from entering the plant; closing the intake to allow the contaminated water to pass by. A more extreme option is to shut down the water treatment plant completely. This measure has other implications. If extended, it would result in wide-spread outages, which means no water for general purposes, no water for sanitation, and no water for fire protection.

## 3 TREAT

Many contaminants can be treated if they reach our treatment plant. The treatment applied varies depending on the type of material. Virginia American Water uses a multi-step treatment process employing coagulation, sedimentation, filtration (conventional and additional carbon filtration), and disinfection. This process provides redundancy against treatment failure at any one step. In addition, a disinfectant residual is maintained throughout the distribution system to protect against water quality degradation and microbial intrusion. These steps, together with our robust source water protection, system monitoring, and response planning and preparedness, comprise the multi-barrier approach.

## COLLABORATION, COOPERATION AND COMMUNICATION

One of the biggest weapons we have in Hopewell against such an event is our relationships with our industrial neighbors and regulators, and our myriad opportunities for communications, collaboration and cooperation with them in planning and preparations for emergencies.

- **DEPARTMENT OF ENVIRONMENTAL QUALITY (DEQ)**  
DEQ is a regulator that monitors our waste streams, generators, diesel pumps and pollutants that could have an impact on our environment (including the river). DEQ inspects wastewater treatment facilities. Inspection frequency varies depending on whether there have been issues. Visits are unannounced, so we are ready at all times.
- **VIRGINIA DEPARTMENT OF HEALTH (VDH)**  
VDH is our primary regulator. Typically, twice a year, a VDH engineer performs an inspection of our drinking water facilities, including our plant, river station and distribution tanks. Record keeping and compliance matters are also reviewed during these inspections. Any new construction project that would have an impact on the treatment process or water quality must be approved/permitted by VDH prior to construction. VDH will contact us in cases of potential contaminants that could possibly reach our river intake. VDH officials are also invited to participate in our annual tabletop exercises where we perform mock emergency drills.
- **HOPEWELL MANUFACTURING ASSOCIATION (HMA)**  
Virginia American Water meets regularly with the Hopewell Manufacturing Association to review and address periodic supply and demand issues, and to discuss ways of working together so that water treatment and delivery is optimized for all customers. All of the industrial companies listed on the back are members of the HMA. They share our commitment to the protection of public health and are as committed as we are to planning and preparation to ensure we are all ready to respond immediately should an event occur.
- **HOPEWELL EMERGENCY NETWORK SYSTEM (HENS)**  
Communication plays a huge role in our preparation for a coordinated response. All of the HMA members are also a part of the Hopewell Emergency Network System. This network enables emergency communications between all players. Any type of contamination event can activate the Network alert to ensure hospitals, schools and appropriate emergency officials are notified so they can mobilize to assist where needed.
- **LOCAL EMERGENCY PLANNING COMMITTEE (LEPC)**  
This is a larger group that goes beyond the HMA to include the local community's first responders, such as police, fire and medical technicians. This group meets regularly to review procedures, and they perform periodic drills and exercises to test response times and communications.
- **HOPEWELL CITIZEN INDUSTRIAL PANEL (HCIP)**  
This panel meets semi-annually and provides a platform for citizens to communicate with city officials and industry. The industrial plant managers provide information on chemical storage or issues of concern during these meetings.
- **OUR CUSTOMERS**  
Our customers can contact us 24 hours a day, 7 days a week, all year long to report any suspicious activity, taste or odor concerns about the water, providing our trained professionals an opportunity for quick response.

