COMMONWEALTH of VIRGINIA
DEPARTMENT OF HEALTH
DIVISION OF SHELLFISH SAFETY

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What Happened?

On January 4, 2021 Hampton Roads Sanitation District suffered a major sewer line break which spilled 29 million gallons of untreated sewage into the Hampton Roads waterway in Newport News. Virginia Department of Health (VDH), Division of Shellfish Safety and Waterborne Hazards (DSS) immediately issued an emergency closure for the impacted shellfish harvesting waters which includes all waters in the Hampton Roads waterway, the waters between the James River Bridge and the Hampton Roads Bridge Tunnel, waters West to the Mills E. Godwin Bridge across the Nansemond River, and all of the Chuckatuck River. A map of the closure can be found at: https://www.vdh.virginia.gov/environmental-health/emergency-closures/. The closure is a measure to protect public health by preventing shellfish harvesting in areas with bacteria and viruses from the sewage.

How did the closure boundaries get chosen?

The National Shellfish Sanitation Program which is overseen by the U.S. Food and Drug Administration set standards for closures as a result of a sewage spill. The boundaries of the closure area are based on the volume of the sewage spill, concerns of the bacterial and viral levels in the water, and the sewage spill's proximity to shellfish growing areas. A computer model which takes into consideration tides, currents and dilution was used to help establish these boundaries.

Why the concern about shellfish?

Bivalve shellfish, such as oysters and clams, feed and breathe by pumping water through their gills. But it's not just microscopic food particles (algae) that are filtered during pumping. If hazards such as bacteria, viruses, heavy metals, or toxic substances are present in the water – they are filtered too. While these hazards don't harm the shellfish, they can accumulate and persist in the shellfish meat faster than they are excreted and cause illness if shellfish is consumed raw or undercooked.

What's been done since the initial closure?

Based on National Shellfish Sanitation Program standards, DSS is collecting seawater and shellfish meat samples from the closed area and testing for indicators of bacterial and viral contamination. The reopening decisions will be based on analysis of the shellfish meat samples, not just the seawater, to ensure shellfish are safe to consume.

Why would contamination affect shellfish meats differently than the water?

The difference has to do with the filter-feeding activity of the shellfish. The contamination in the water may be flushed out to sea in a relatively short amount of time, returning the seawater samples back to normal but the shellfish have taken up the contamination into the meat and that takes longer to purge.

When will shellfish growing areas be reopened for harvest?

DSS has determined the water samples have returned to background levels but the viral indicator concentrations in shellfish meats are still too high, making them unsafe for harvesting. The rate at which shellfish purge contamination depends on their activity level which is related to water temperature. Purging activity increases with increasing water temperatures and unfortunately, activity is at its lowest in these cold winter months. Since oysters and clams are not actively pumping and filtering water, they aren't sufficiently purging the contamination.

What's next?

DSS will continue to sample at least monthly, or more frequently as water temperatures increase, and plan on opening this area to shellfish harvest back to its pre-spill classification as soon as oysters are safe to eat. The expectations are that concentrations of the viral indicator levels in shellfish will return to background levels when the water temperatures increase and shellfish pumping and purging rates increase.

For more information see our web site at www.vdh.virginia.gov/shellfish or contact us at 804-864-7480 during normal business hours.