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REGARDING THE POTENTIAL HUMAN HEALTH RISKS ASSOCIATED WITH THE OVERFLOW OF UNTREATED WASTEWATER INTO WATERS AND ONTO LANDS OF METROPOLITAN WASHINGTON, DC AREA

PRESS BRIEFING

September 22, 2004

Washington, D.C

The sheer size of the sewerage system operated by the Washington Suburban Sanitary Commission (WSSC) makes any disruption or malfunction of the services a potential public health problem. The problem is especially serious when the disruption results in untreated sewage being spilled into rivers and streams, and onto land, contaminating the soil and groundwater.

Area residents use our rivers, streams, and creeks for swimming, fishing, and boating. Unfortunately, they are taking a health risk every time they do. They are exposing themselves to a range of disease-producing microorganisms not visible to the naked eye.

Microorganism present in untreated wastewater are primarily disease-producing organisms from the intestinal tract. They may be transmitted from human to human or animal to humans by way of water or sewage.

The list attached to this statement is a clue to the large number and types of microorganism that may be in untreated sewage.

Some of the most common infectious agents in wastewater are bacteria, viruses and parasites. Sewage may also contain intestinal worms, which conventional water treatment can remove.

The source of disease-producing bacteria in wastewater is human and animal feces. And some bacteria in raw sewage may be associated with illnesses that cause arthritis.

Tests of WSSC sewage have found fecal coliforms . Some forms of *Escherichia coli (E.coli)* are disease-producing organisms and can cause severe gastrointestinal disorders. A particular strain, *E.coli 0157:H7* causes bloody diarrhea. Some of these infections have resulted in hemolytic uremic syndrome (HUS) a condition in which red blood cells are destroyed and the kidneys fail. This disease has one of the highest death rates of all water-related disease. *E.coli* may also cause inflammation of the lining of the heart.

Clearly, fecal coliform poses a significant threat to public health. Area residents fish, swim, and paddle in Maryland rivers and streams and when those waterways are contaminated with human waste, the individuals are at risk of contracting such waterborne diseases as gastroenteritis, which includes vomiting and diarrhea and hepatitis.

Boaters on the Anacostia River in Maryland have contracted skin infection of their hands and bodies after coming in contact with the contaminated water.

Then there is *Crytosporidium.* It causes severe diarrhea and damage to the intestine. This organism was responsible for one of the largest-water related epidemic ever recorded in the United States, causing approximately 400,000 illness in Milwaukee in 1978. The cause was exposure to waters contaminated with human waste.

Cryptosporidium **may cause life threatening health problems in people with impaired immune system. There are no medications to treat this disease.**

Intestinal viruses are also a health risk in untreated sewage. There are some 120 identified human intestinal viruses. Most can cause disease of the intestines but some may cause disease of heart, liver and brain and spinal cord.

It should be noted that although some diseases have been conquered by the use of antibiotics and other medications, new disease are constantly emerging, which add further to the health threats posed by untreated sewage.

But WSSC's raw sewage is not only a serious public health threat, it poses a serious threat to the Anacostia River itself as a community resource.

Since January 2004, the WSSC system has discharged more than 4 million gallon of raw sewage into area waterways, including the Anacostia, which is downstream from WSSC operations.This untreated sewage, with its heavy fecal load,could literally destroy the river. Let me explain. The human feces in the sewage discharged into the Anacostia is decomposed by bacterial action. This process requires oxygen, which could depress the oxygen levels in the river. This low level of oxygen can destroy aquatic species and produce

unpleasant odors which may cause nausea and vomiting among some people who are highly sensitive to such exposure.

Unless WSSC stops raw sewage overflows, any plan to develop the Anacostia waterfront will be dead in the water.

Finally, it might reasonably be asked, if adequate means of water purification are available and employed, why worry about WSSC's sewage overflows into the community's source of drinking water. It is quite true that water of a heavily polluted stream may be treated and made to serve as a domestic water supply. But a similar treatment applied to less polluted water possesses a greater margin of safety and a decreased likelihood of infectious disease transmission.

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Walker – statement on health effects of exposure to untreated sewage
September 22, 2004

Common Infectious Agents Potentially Present in Untreated Municipal Wastewater

Agent	Disease
Protozoa	
Entamoeba histolytica	Amebiasis (amebic dysentery)
Giardia lamblia	Giardiasis
Balantidium coli	Balantidiasis (dysentery)
Cryptosporidium	Cryptosporidiosis, diarrhea, fever
Helminths	
Anscaris (roundworm)	Ascaris
Trichuris (whipworm)	Trichuriasis
Taenia (tapeworm)	Taeniasis
Bacteria	
Shigella (4 spp.)	Shigellosis (dysentery)
Salmonella Typhi	Typhoid fever
Salmonella (1700 serotypes)	Salmonellosis
Vibrio cholerae	Cholera
Escherichia coli (enteropathogenic)	Gastroenteritis
E. Coli 0157:H7 (enterohemorrhagic)	Bloody diarrhea
Yersinia enterocolitica	Yersiniosis
Leptospira (spp.)	Leptospirosis
Legionella pneumophila	Legionnaire's disease, Pontiac fever
Campylabacter jejuni	Gastroenteritis
Viruses	
Enteroviruses (72 types)	
Poliovirus	Paralysis, aseptic meningitis
Echovirus	Fever, rash, respiratory illness, aseptic meningitis, gastroenteritis, heart disease
Coxsackie A	Herpangina, aseptic meningitis, respiratory illness
Coxsackie B	Fever; paralysis; respiratory, heart, and kidney disease
Norwalk	Gastroenteritis
Hepatitis A virus	Infectious hepatitis
Adenovirus (47 types)	Respiratory disease, eye infections
Rotavirus (4 types)	Gastroenteritis
Parvovirus (3 types)	Gastroenteritis
Reovirus (3 types)	Not clearly established
Astrovirus (7 types)	Gastroenteritis
Calicivirus (2-3 types)	Gastroenteritis
Coronavirus	Gastroenteritis