

## **SUMMARY**

Initial/Public Comment Draft  
**Public Health Assessment**  
**Newtown creek**

City of New York  
Borough of Queens/Brooklyn, Queens/Kings County, New York

**February 3, 2012**

### **INTRODUCTION**

The New York State Department of Health (DOH) and Agency for Toxic Substances and Disease Registry (ATSDR) want to provide the community around Newtown Creek with the best information possible about how contaminants in the creek in Queens and Brooklyn, New York might affect their health.

Public Health Assessments (PHA) fulfill the congressional mandate for a public health assessment for each site being proposed by the United States Environmental Protection Agency (EPA) to the federal National Priorities List (NPL).

The agencies have information that some city residents use Newtown Creek for recreation, such as boating tours, canoeing, kayaking, and scuba diving, and that some people catch and eat fish and crabs from the creek. There are small boat access points and places where people have been observed fishing and catching crabs on Newtown Creek.

For environmental sampling data, we have chemical contamination data for underwater creek sediments and biological contamination data for surface water. Newtown Creek's physical characteristics and a history of industrial uses and storm sewer overflows also help to inform recommendations the DOH and ATSDR make in this PHA.

### **CONCLUSION 1**

DOH and ATSDR conclude that swimming and other full body immersion recreation (for example, wind surfing, scuba diving) in Newtown Creek could harm people's health.

### **BASIS FOR DECISION**

There are physical and biological hazards for swimmers and other people recreating in Newtown Creek.

Waterfront uses of Newtown Creek are primarily commercial and industrial, supported, in part, by waterborne transportation. This represents physical safety concerns related to swimming and other water recreation, and includes large commercial boat traffic and in some places high bulkheads (marine retaining walls). These bulkheads may make it difficult to get out of the creek when necessary for safety. In addition, there are a number of physical hazards that could be present that could cause injury and drowning hazards that have not been assessed including; underwater hazards, steep slopes or drop offs or poor water clarity.

Water samples collected from Newtown Creek indicate that levels of coliform and enterococci bacteria exceed standards on occasion and that an increased risk of illness is likely to occur through recreational contact with the water during these time periods. Sample results indicate that the creek exceeds coliform and enterococci standards for frequent recreation (although there are no regulated bathing beaches or swimming areas on the creek and limited access for other forms of recreation). These failures to meet the bacterial standards can be attributed to combined sewage overflows and urban runoff after rainfall events. Biological hazards are likely present at all times, but are greater after combined sewer overflows. Water from Newtown Creek contains microorganisms, such as coliform bacteria, and likely contains viruses and parasites that can make a person ill if they enter the body. Water pollution caused by fecal contamination is a serious public health concern due to the risk of contracting diseases through swallowing or coming in contact with disease causing agents such as bacteria, viruses and protozoa. This may include gastrointestinal illness caused by organisms such as *E.coli*, *Shigella spp.*, *Hepatitis A*, *Giardia* and *Cryptosporidium*.

When swimming, human exposures to chemical hazards in the surface water is also possible, however, sampling for hazardous chemical constituents in places where people are contacting water is needed.

## **CONCLUSION 2**

DOH and ATSDR conclude that recreational boating (for example, canoeing, kayaking, and touring) or “catch and release” fishing in Newtown Creek is not expected to harm people's health, although there may be some physical hazards, such as large commercial boat traffic. Also, certain precautions are recommended because incidental ingestion and dermal contact with the water when boating or fishing in some areas of the creek would lead to increased exposure to biological contaminants and are discussed below under general recommendations.

## **BASIS FOR DECISION**

There are small boat access points on Newtown Creek, at the end of Manhattan Avenue and at the Newtown Creek Wastewater Treatment Plant Nature Walk in Brooklyn. There is an increased risk of illness from water contact while canoeing, boating and fishing during exceedances of indicator bacteria. Because people do not usually submerge their heads in the water during these activities, the presumed volume of incidental water consumption is lower than swimming. Subsequently, the risk of illness can also be assumed to be lower. Recreational boaters may also have increased exposure to chemical contaminants when contacting sediments, although observations and discussion with community representatives suggest that there are no places where sediment is contacted by recreational boaters.

## **CONCLUSION 3**

The DOH and ATSDR conclude that eating fish and crabs taken from Newtown Creek could harm people's health by increasing their risk for adverse health effects if people don't follow DOH's fish consumption advisories.

## **BASIS FOR DECISION**

DOH has extensive, restrictive fish advisories for the East River, and these advisories apply to Newtown Creek (DOH 2011a). Based on the close association of these waters we would expect that contaminant levels in Newtown Creek fish and crabs would be similar to levels in fish and crabs from the East River.

People who are considering eating fish and crab caught in the creek should follow the DOH consumption advisories for fish taken from the East River to reduce their exposures to chemical contaminants (available at <http://www.nyhealth.gov/environmental/outdoors/fish/fish.htm>), and described as follows:

Women under 50 years old and children under 15 years old should not eat any fish from these waters. The advisory for men over 15 and women over 50 is less restrictive and is shown in the table on Page 4.

## **GENERAL RECOMMENDATIONS**

For those people using Newtown Creek for recreation, the DOH and ATSDR recommend measures to reduce exposures to the biological hazards that are present. People recreating in and around the creek can reduce the risk of becoming ill by avoiding the creek water after periods of effluent discharge, rainfall, when the water is cloudy or turbid, or when pollution is observed. Since the greatest exposure to these hazards is by swallowing the water, people should avoid any activity that would result in swallowing creek water. People should wash their hands after contacting the water, especially before eating. If people get water or sediments on more than just their hands and arms, it may also be helpful to take a shower to wash off the creek water.

The ATSDR and DOH recommend that additional samples be taken in Newtown Creek so that these agencies can better evaluate people's potential exposure to contaminants in the creek. Data that are needed include data for hazardous chemical constituents in creek surface water and sediment if locations are identified where people may be contacting them while fishing and entering/launching and exiting/beaching recreational watercraft. Also needed are fish and crab sampling data specific to Newtown Creek.

## **NEXT STEPS**

1. The ATSDR and DOH will work with the New York State Department of Environmental Conservation (DEC) and EPA to collect the environmental data needed to evaluate possible human exposures to chemical contaminants in the creek. EPA will be further evaluating the nature and extent of contamination in Newtown Creek, possible contributions to it, and the need for future cleanup of the creek.
2. ATSDR and DOH will evaluate EPA data as they become available to us to determine whether actions are needed to reduce people's exposure to contamination in the creek.
3. The ATSDR, DOH and NYCDHMH will coordinate with the DEC, EPA, NYCDEP and other involved agencies to make sure that public health messages regarding recreational use (e.g. swimming, boating and fishing) of Newtown Creek are protective of public health.

## **FOR MORE INFORMATION**

If you have questions about the environmental investigation of Newtown Creek, please contact the EPA at (212) 637-4275. If you have questions about this Public Health Assessment or other health concerns about this site, please contact Mr. Christopher Doroski of the DOH at 518-402-7860 or 1-800-458-1158.

## DOH Fish Consumption Advisory for the East River, including Newtown Creek

Fish		Women Under 50 & Children Under 15	Men Over 15 & Women Over 50
	American eel	<b>don't eat</b> DEC regulations prohibit the harvest/possession of American eel for food.	
	Atlantic needlefish	<b>don't eat</b>	up to 1 meal/month
	Blue crabs	<b>don't eat</b> <b>don't eat tomalley</b>	up to 6 crabs/week <b>don't eat tomalley</b>
	Bluefish	<b>don't eat</b>	up to 1 meal/month
	Carp	<b>don't eat</b>	up to 1 meal/month
	Channel catfish	<b>don't eat</b>	<b>don't eat</b>
	Gizzard shad	<b>don't eat</b>	<b>don't eat</b>
	Goldfish	<b>don't eat</b>	up to 1 meal/month
	Rainbow smelt	<b>don't eat</b>	up to 1 meal/month
	Striped bass	<b>don't eat</b>	up to 1 meal/month
	White catfish	<b>don't eat</b>	<b>don't eat</b>
	White perch	<b>don't eat</b>	up to 1 meal/month
Other fish not listed above		<b>don't eat</b>	up to 4 meals/month