

Recreational Use of Waterbodies On or Near Joint Base Cape Cod (JBCC) (Formerly the Massachusetts Military Reservation)

Community Fact Sheet Summer 2016

This community fact sheet addresses environmental health concerns related to recreational use of selected Upper Cape Cod waterbodies and the results of recent chemical testing. **Based on the available data, water bodies tested near JBCC are safe for swimming, wading, boating, and catch-and-release fishing.** The Massachusetts Department of Public Health (MDPH) has posted fish consumption advisories due to elevated mercury levels in many waterbodies across Massachusetts, including several ponds near JBCC.

This fact sheet does not describe the sampling of microbes such as cyanobacteria (algae) and fecal indicator bacteria that is performed at many of the waterbodies during the summer months. For specific information about microbial water quality measurements, contact your local health department or visit:

www.mass.gov/dph/beaches

CAN I SAFELY SWIM, WADE OR BOAT IN SURFACE WATERS AT OR NEAR JBCC?

Yes, based on the currently available chemical data, all of the water bodies shown in Table 1 are safe for swimming, wading and boating. Table 1 summarizes available data for the 29 water bodies on or near JBCC that have been routinely sampled and analyzed for contaminants. Low levels of contaminants associated with JBCC were occasionally detected in one or more surface water bodies. None of these detections appear to pose any health concern for these recreational activities.



WATERBODIES TESTED IN 2015 AND 2016

- Ashumet Pond
- Backus River
- Coonamessett River
- Deep Pond
- Johns Pond
- Quashnet River
- Red Brook Harbor
- Snake Pond
- Squeteague Harbor

CAN I SAFELY FISH IN WATERS AT OR NEAR JBCC?

Catch-and-release fishing is safe for all water bodies near JBCC. Catch and release fishing means fish are caught recreationally and are released back into the water body unharmed. However, mercury has been detected in fish throughout the commonwealth at levels warranting a Public Health Fish Consumption Advisory from Johns, Ashumet, Snake, Mashpee-Wakeby, and Peters ponds. Table 1 contains a more detailed explanation of the fish advisories for the sampled ponds near JBCC. Mercury levels in the fish in these ponds are not believed to be JBCC related.

In addition, many Bullhead Catfish in Johns and Ashumet ponds have papillomas (wart-like growths). Although papillomas may be visually unappealing, there are no known health concerns from eating fish with papillomas.

WHAT IS THE MDPH STATEWIDE FISH CONSUMPTION ADVISORY FOR MERCURY?

The MDPH issued a statewide advisory recommending that until more information is available on mercury concentrations in fish in Massachusetts freshwater bodies, women who are pregnant, women of childbearing age who may become pregnant, nursing mothers, and children under 12 years of age should refrain from eating locally caught freshwater fish. The advisory also includes several marine fish species. However, please be aware that this advisory does not apply to fish stocked in freshwater lakes and ponds. MDPH has issued other important recommendations for fish consumption.



For more information on mercury and fish consumption advisories, call the MDPH Environmental Toxicology program at 617-624-5757 or visit http://webapps.ehs.state.ma.us/dph_fishadvisory/default.aspx

WHERE DOES MERCURY COME FROM? AND HOW CAN THE PONDS BE SAFE FOR SWIMMING BUT CONTAIN FISH THAT ARE NOT SAFE FOR EATING?

Mercury enters the environment naturally from rock erosion, as well as through industrial power generation and incineration. The mercury travels through the air and is deposited into waterbodies. Fish ingest the mercury that's in the water and sediment, which accumulates inside them over time.

While there is a fish consumption advisory, there is no known health concern related to activities such as swimming, boating or catch-and-release fishing in ponds. This is because the health advisories are based on mercury levels in the fish. Fish build up mercury levels in their tissue which can accumulate to levels that are sometimes much greater than the surrounding waters. Only eating fish will expose someone to mercury. Swimming, boating and handling of fish are not likely to expose individuals to elevated levels of mercury.

I KNOW THAT ETHYLENE DIBROMIDE (EDB) HAS BEEN DETECTED IN THE GROUNDWATER BELOW SNAKE POND AND IN THE COONAMESSETT RIVER SURFACE WATER IN THE PAST. SNAKE POND HAS ALSO BEEN TESTED FOR EXPLOSIVES AND PERCHLORATE IN THE SURFACE WATER. ARE THERE POSSIBLE HEALTH IMPACTS RELATED TO RECREATIONAL USE OF EITHER SNAKE POND OR THE COONAMESSETT RIVER?

EDB was discovered in the groundwater below Snake Pond in 2001 and in surface water of the Coonamessett River in 1996. Testing has been routinely conducted for EDB in the surface waters of Snake Pond at the public beach and Camp Good News areas as well as multiple locations on the Coonamessett River. EDB has not been detected since 2010, and testing done in the spring of 2016 confirmed that there continues to be no detection of EDB in any of those surface waters. As a precautionary measure, sampling of surface water for EDB will continue as in previous recreational seasons.

Sampling done at Snake Pond in April 2016 did not detect Royal Demolition Explosives (RDX) or perchlorate. Perchlorate has not been detected above the Massachusetts Drinking Water Standard and RDX has not been detected at all in Snake Pond since 2010. Adverse health effects are not expected from recreational exposure to either Snake Pond or the Coonamessett River.

SHOULD I BE CONCERNED ABOUT TRICHLOROETHYLENE (TCE) AND TETRACHLOROETHYLENE (PCE) FROM GROUNDWATER PLUMES ASSOCIATED WITH JBCC?

Groundwater plumes containing chlorinated solvents such as TCE and PCE have been defined in the areas of Ashumet Pond, Johns Pond, Backus River, Deep Pond, Red Brook Harbor and Squeteague Harbor. The surface water of these water bodies has been routinely monitored for these contaminants. TCE and/or PCE have not been detected in Ashumet or Johns Ponds surface water sampled collected since 2000. Sampling done in 2016 detected low levels of TCE and/or PCE in Squeteague Harbor, Red Brook Harbor, and Backus River. Any TCE or PCE detected is below the drinking water standard. TCE and/or PCE were not detected in 2016 at Ashumet Pond, Johns Pond or Deep Pond. Contact with the ponds, river, and bogs during recreational use or cranberry growing is not likely to present a health hazard. Sampling of the surface water will continue as in previous recreational seasons.

SHOULD I BE CONCERNED ABOUT PERFLUOROCTANOIC ACID (PFOA) AND PERFLUOROCTANE SULFONATE (PFOS) THAT HAVE BEEN DETECTED IN THESE RECREATIONAL WATERBODIES?

PFOA and PFOS are chemicals that are part of a larger group of chemicals referred to as perfluoroalkyl substances (PFAs). They have been used to make carpets, clothing, fabrics for furniture, paper packaging for food and other materials (e.g., cookware) that are resistant to water, grease or stains. They are also used in firefighting foam and in a number of industrial processes. Because these chemicals have been used in an array of consumer products, most people have been exposed to them.

On May 19, 2016 the United States Environmental Protection Agency (EPA) issued health-based guidance (known as a drinking water health advisory) establishing a level that is safe and protective against adverse health effects for individuals consuming water for an entire lifetime.

Previously, in August 2015, PFOS and PFOA were detected in the surface water of the Backus River. Levels measured at the Backus River were below the current drinking water health advisory. Johns and Ashumet Ponds were sampled in April 2016 and both had levels of PFOS that were greater than the drinking water health advisory. The Backus River, Johns Pond, and Ashumet Pond are waterbodies that are only used for recreation or for cranberry bog irrigation, where exposure to the water is significantly less than would be expected if these surface waterbodies were used for drinking water. Currently, fish have not been tested for PFAs in the JBCC area ponds. The occasional exposure to PFOA and PFOS from recreation in these waterbodies is not expected to result in any adverse health effects.

For more information on PFOA and PFOS visit the Agency for Toxic Substances and Disease Registry's (ATSDR) website:
http://www.atsdr.cdc.gov/pfc/docs/pfas_fact_sheet.pdf

WHERE CAN I GET MORE INFORMATION?

ENVIRONMENTAL TOXICOLOGY PROGRAM BUREAU OF ENVIRONMENTAL HEALTH

Massachusetts Department of Public Health

250 Washington Street, 7th Floor, Boston, MA 02108

Phone: 617-624-5757 | Fax: 617-624-5777 | TTY: 617-624-5286

http://www.mass.gov/dph/environmental_health



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SOURCES OF ADDITIONAL INFORMATION

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**Table 1:
Recreational Waterbodies on or Near JBCC* With Available Chemical Sampling Data**

Town	Water Body	SAFE FOR			
		Swimming	Wading	Fish Consumption	Boating
<i>Bourne</i>	Cuff Pond	yes	yes	no data	yes
	Long Pond	yes	yes	no data	yes
	Flax Pond	yes	yes	no data	yes
	Red Brook Pond	yes	yes	no data	yes
	Red Brook Harbor	yes	yes	no data	yes
	Squeteague Harbor	yes	yes	no data	yes
<i>Falmouth</i>	Backus River (Bogs)	yes	yes	no data	yes
	Coonamessett Pond	yes	yes	no data	yes
	Coonamessett River (Bogs)	yes	yes	no data	yes
	Crooked Pond	yes	yes	no data	yes
	Deep Pond/Lily Pond	yes	yes	no data	yes
	Flax Pond	yes	yes	no data	yes
	Fresh Pond	yes	yes	no data	yes
	Grews Pond	yes	yes	no data	yes
	Jenkins Pond	yes	yes	no data	yes
	Mares Pond	yes	yes	no data	yes
	Round Pond	yes	yes	no data	yes
	Pond 14	yes	yes	no data	yes
	Bourne Pond	yes	yes	no data	yes
<i>Mashpee</i>	Mashpee-Wakeby Pond	yes	yes	NO ¹	yes
	Ashumet Pond	yes	yes	NO ²	yes
	Johns Pond	yes	yes	NO ³	yes
	Moody Pond	yes	yes	no data	yes
	Quashnet River (Bogs)	yes	yes	no data	yes
<i>Sandwich</i>	Pimlico Pond	yes	yes	no data	yes
	Triangle Pond	yes	yes	no data	yes
	Peters Pond	yes	yes	NO ¹	yes
	Weeks Pond	yes	yes	no data	yes
	Snake Pond	yes	yes	NO ³	yes

*Fish consumption recommendations are based on available data for mercury concentrations in fish tissue, which are not expected to be related to activities at Joint Base Cape Cod.

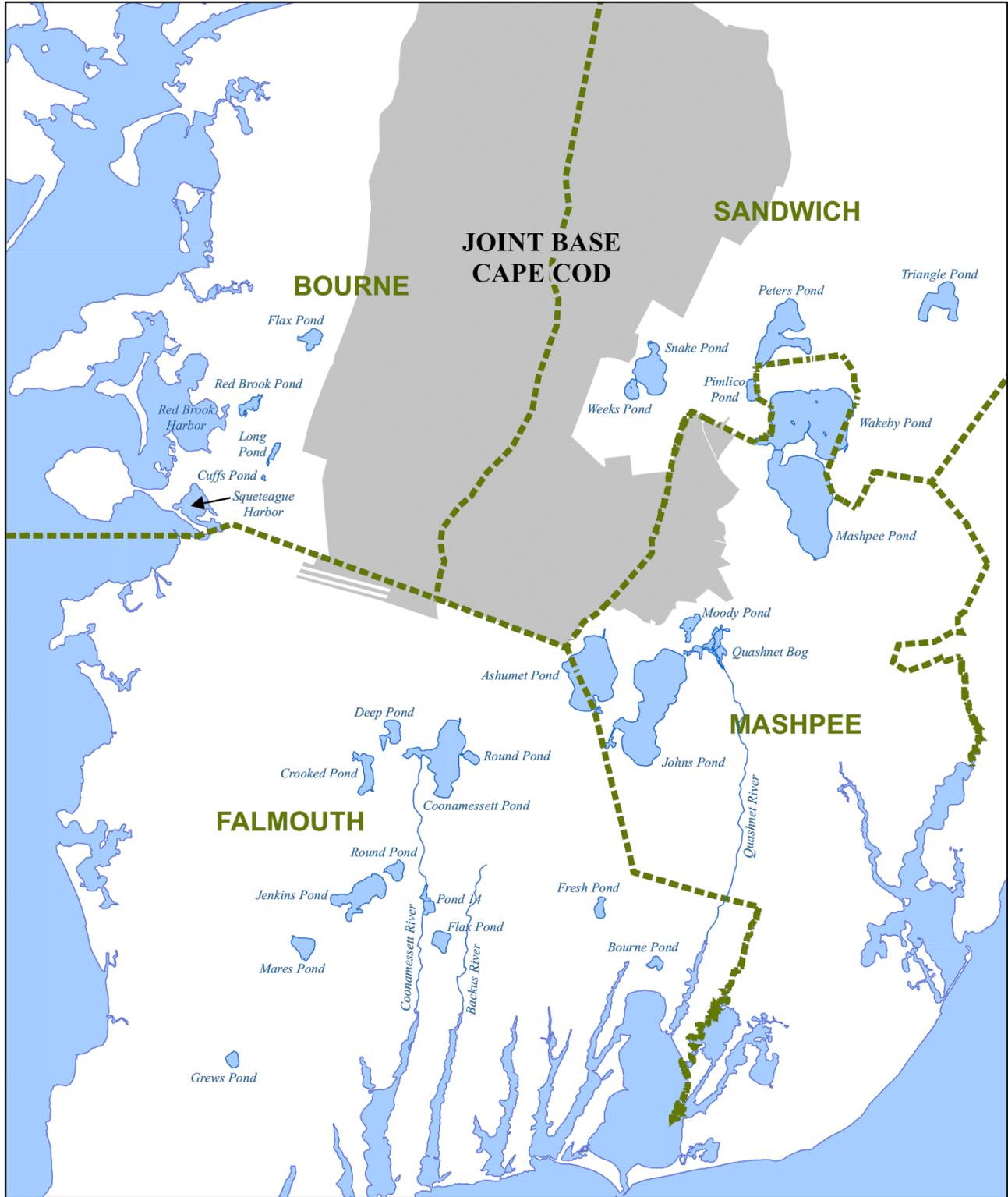
¹ Mashpee-Wakeby Pond and Peters Pond: Children younger than 12 years, pregnant women, nursing mothers, and women of childbearing age who may become pregnant should not eat any smallmouth bass from this pond. The general public should limit consumption of smallmouth bass from this pond to two meals per month.

² Ashumet Pond: Children younger than 12 years, pregnant women, nursing mothers, and women of childbearing age who may become pregnant should not eat any largemouth bass from this pond. The general public should limit consumption of largemouth bass from this pond to two meals per month.

³ Johns and Snake Ponds: Children younger than 12 years, pregnant women, nursing mothers, and women of childbearing age who may become pregnant should not eat any fish from these ponds. The general public should not eat any smallmouth bass from these ponds, and limit consumption of all other fish from these ponds to two meals per month.

NOTE: For more further information on recreational waterbodies please see "Public Health Fish Consumption Advisory" at http://webapps.ehs.state.ma.us/dph_fishadvisory/default.aspx

Figure 1.
Recreational Water Bodies on or Near Joint Base Cape Cod with Available Chemical Data.



Legend

- Joint Base Cape Cod
- Lakes, Ponds, and Bogs
- Town Boundary

