Frog Mortar Creek Surface Water Conditions

Frog Mortar Creek Swimming Advisory

Lockheed Martin conducts surface water monitoring in Frog Mortar Creek by Martin State Airport six times each year. This includes each of the four summer season months of June, July, August, and September. A total of 40 samples are collected along the western Frog Mortar Creek shoreline, and four samples are collected from the eastern shore near Edwards Lane.

2018 marks the first summer season during which the groundwater treatment system at Martin State Airport was capturing and treating contaminated groundwater before it reached Frog Mortar Creek. Chemical concentrations of volatile organic compounds (VOC), including trichloroethene, cis-1,2-dichloroethene and vinyl chloride were markedly lower in 2018 than in prior summer seasons. For example, the typical summer average of vinyl chloride was 0.7 parts per billion (ppb) (equal to the swimming screening level) in 2014 and 2015, then 1.4 ppb in 2016 and 2017. The average summer 2018 concentration of vinyl chloride in the advisory area was 0.2 ppb.

The current levels of VOCs do not warrant prohibiting swimming in Frog Mortar Creek. Instead, the Maryland Department of the Environment (MDE), in the 2012 swimming advisory available on its website, continues to suggest that swimming in these waters be for no more than four hours a day, 70 days a year. MDE has posted signs in the waters off the airport providing advice to limit swimming in the advisory area marked on the accompanying graphic.

Where were the contaminants found? The contaminants were found within the swimming advisory area close to the airport shoreline on the west side of Frog Mortar Creek. On average, the VOC levels are well within the swimming screening levels. Samples taken throughout the summer on the east side of the creek near Edwards Lane were also well within swimming screening levels.

What are the primary contaminants being monitored? Trichloroethene (TCE) was a common solvent used for cleaning parts and machinery. It can break down over time into cis-1,2-dichloroethene and vinyl chloride.

Where do the contaminants come from? Solvents and degreasers were used in factory operations of Lockheed Martin heritage companies located in Middle River. These chemicals have been found in the Dump Road Area on Martin State Airport, in Frog Mortar Creek and in an underground plume of contaminated groundwater originating in the Dump Road Area and moving towards Frog Mortar Creek. Martin State Airport originally belonged to the Glenn L. Martin Company, a Lockheed Martin heritage company. Lockheed Martin has been investigating the source and extent of these contaminants since they were first found in 1991. Lockheed Martin has constructed a groundwater treatment system for the Dump Road Area to intercept and treat the contaminated groundwater before it reaches the creek. The plant began operations in December 2017.

What are the potential health impacts of these chemicals? Studies have shown that prolonged exposure to high concentrations of these chemicals may increase the risk of cancer. People can be exposed to low levels of these chemicals while swimming in the water where these chemicals have been detected.

Is there a ban on swimming in this area? No. According to the Maryland Department of the Environment, the contaminants in this area are not high enough to pose a significant health risk.

What's being done to clean up these chemicals? Following detailed investigations, planning, permitting and a two-year construction effort, the groundwater treatment plant is operating to capture and treat contaminated groundwater before it reaches Frog Mortar Creek. An array of sixteen capture wells parallel to Frog Mortar Creek in the Dump Road Area of the airport extract groundwater and send it to the treatment system. The groundwater treatment plant is located between Frog Mortar Creek and the airport's Taxiway Tango.

For further information about the health risks associated with swimming in Frog Mortar Creek you are encouraged to read the Frog Mortar Creek Water Contact Advisory found on the Maryland Department of the Environment website at:
https://mde.maryland.gov/programs/land/marylandbrownfieldvcp/pages/frogmortarcreekwatercontactadvisory.aspx

For further information about Lockheed Martin's remediation project at Martin State Airport you are encouraged to visit the Lockheed Martin website www.lockheedmartin.com/martinstate

Feel free to contact Meghan Macdonald, Lockheed Martin Communications at 1.800.449.4486 or by email at meghan.o.macdonald@lmco.com if you have questions or concerns.