Chemours (formerly DuPont) Pompton Lakes Works Site Cleanup Newsletter

Welcome to the latest newsletter regarding environmental cleanup activities at the Chemours Pompton Lakes Works Site. This edition of the newsletter is being jointly issued by the United States Environmental Protection Agency (EPA) and the New Jersey Department of Environmental Protection (DEP) Site Remediation & Waste Management Program. EPA and DEP are committed to issuing a joint newsletter twice a year to keep Pompton Lakes residents informed about areas undergoing environmental cleanup due to historic contamination from the Chemours Pompton Lakes Works site (also known as the former DuPont Pompton Lakes Works site).

The Chemours Pompton Lakes Works site (Site) is located at 2000 Cannonball Road. The property, which encompasses 588 acres in portions of Pompton Lakes and Wanaque, is vacant except for an office and several support buildings. The Acid Brook and Wanaque River flow through the property from north to south. The E.I. DuPont de Nemours & Company manufactured explosives and metal wires at the facility between 1902 and 1994. Discharges at the facility contaminated soils and sediments in Acid Brook, sediments in the Wanaque River and the Pompton Lake flood plain with metals, including lead and mercury, and the ground water with chlorinated volatile organic compounds (VOCs). Over the years a plume of VOC-contaminated ground water migrated into the residential area between the facility and Pompton Lake.

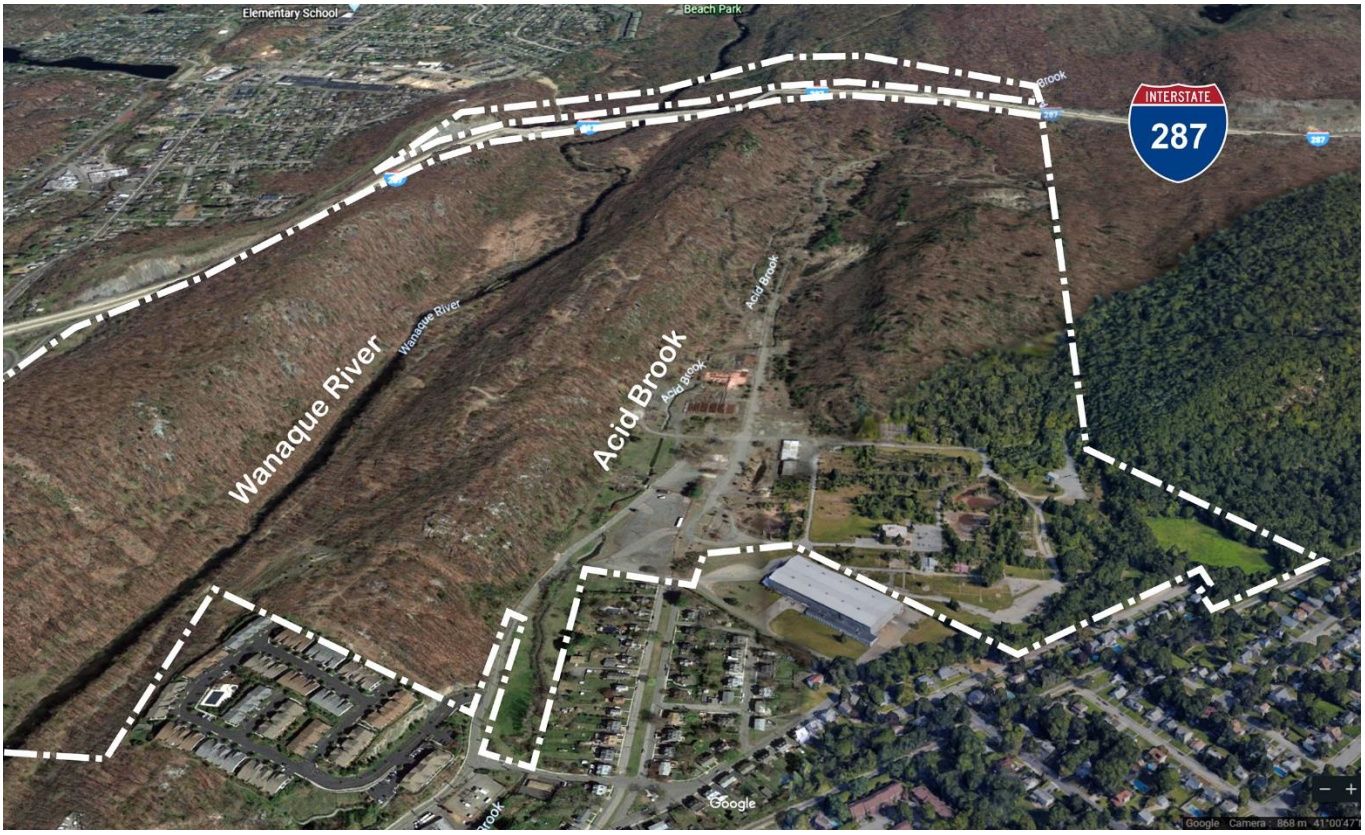
EPA and DEP are overseeing efforts by the Chemours Company FC, LLC (formerly DuPont) as it addresses the contaminated soil, sediments and ground water and vapor intrusion issues pursuant to the federal Resource Conservation and Recovery Act (RCRA). The requirements to remediate the contamination were established in an Administrative Consent Order (ACO) DEP and DuPont signed in 1988 (amended in 2015 to include Chemours while continuing to obligate DuPont), and a RCRA Permit EPA issued to DuPont in 1992.

In 1997, soils and sediments contaminated with lead and mercury were removed from Acid Brook and several adjacent residential areas, and clean soils were placed in the excavated areas. Contaminated soils both on-site and off-site in the Wanaque River Valley were also remediated. In 1998, a ground water extraction and treatment system was installed at the southern boundary of the facility to prevent contaminated ground water from continuing to migrate off-site into the residential area. Since 2008, Chemours has been addressing vapor intrusion concerns by installing vapor mitigation systems and conducting vapor intrusion testing at residences in the off-site contaminated ground water plume area.

Although significant investigation and remediation activities have been conducted to date, additional remedial actions are required to fully address the historic Site discharges. This newsletter and future editions will focus on the areas still undergoing investigation and/or remediation.

Reminder: Weekly EPA "Open Hours"
Pompton Lakes Municipal Building
Thursdays, 10 a.m. – 4 p.m.

Additional Resources:
EPA Pompton Lakes website: www.epa.gov/nj/chemours-pompton-lakes-works-site-pompton-lakes-nj
New Jersey Department of Environmental Protection: www.nj.gov/dep/srp/community/sites/dupont_pompton_lakes



An aerial view of the Chemours (formerly DuPont) Pompton Lakes Works site looking north. The property boundaries are indicated in white.

Acid Brook Delta & Pompton Lake Cleanup

In August of 2018, a significant milestone was reached in the cleanup of the Site. Chemours finished dredging/excavating sediments and soils contaminated with lead and mercury. The remediation of the dredged areas at the Pompton Lakes Study Area (PLSA) is identified on the figure on page 4 below is complete. The PLSA encompasses portions of Pompton Lake from the Lakeside Avenue bridge to the Pompton Lake Dam, and includes:

- The Acid Brook Delta (ABD): roughly 36 acres of contaminated sediments at the mouth of Acid Brook.
- "Area A": roughly half an acre of contaminated sediments in the lake near ABD.
- The Island Area: approximately 2.5 acres of contaminated sediments in the lake.
- ABD Upland Soils Areas: 16 areas where soil was contaminated mainly with lead and mercury at depths ranging between half a

foot to nine feet deep. This phase included Rotary Park, the woodlands adjacent to and west of Rotary Park, and other adjoining areas.

Sediment dredging underway near the "Island Area" of Pompton Lake.

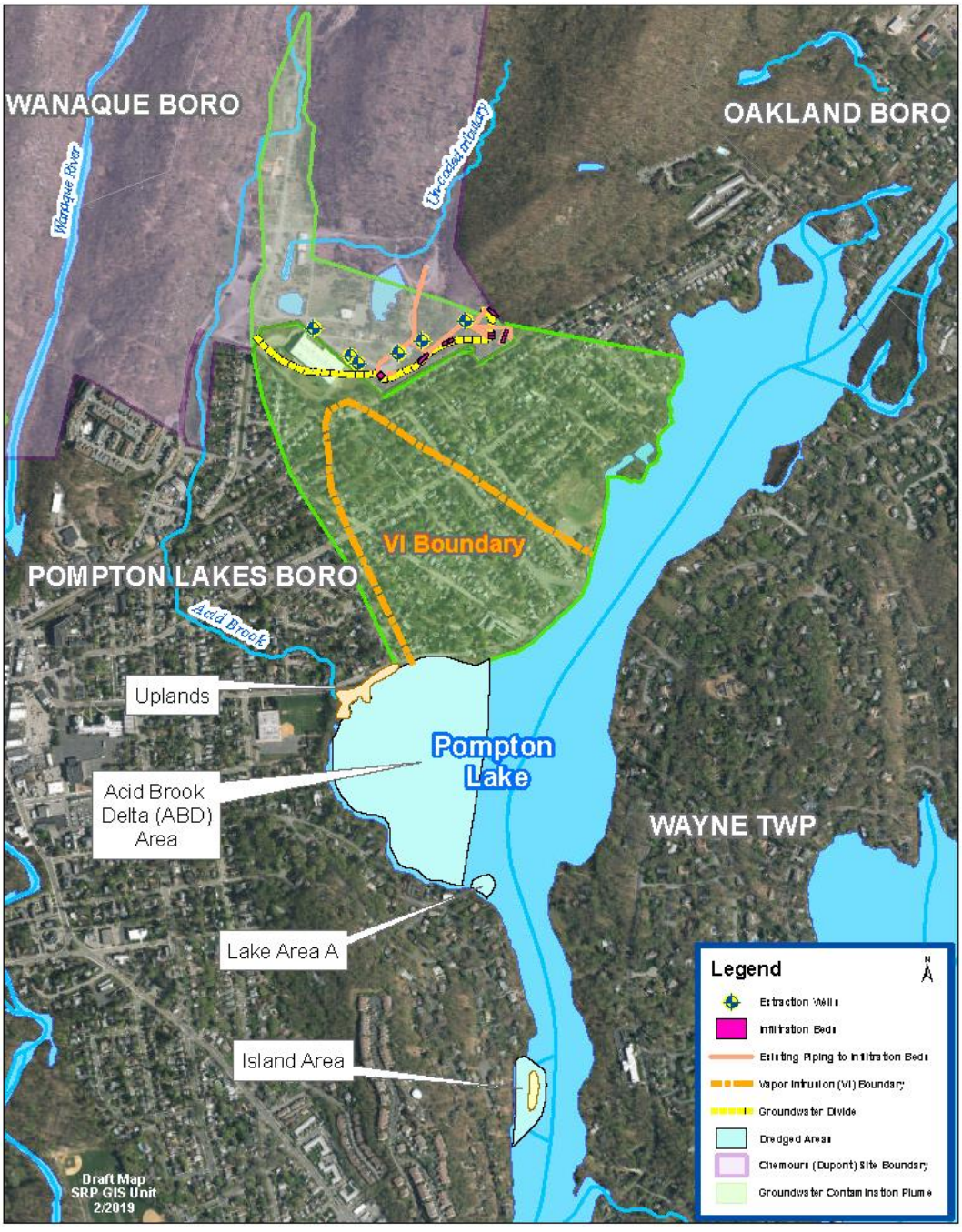
Approximately 146,400 cubic yards of contaminated sediments/soil were excavated/ dredged and processed and disposed at approved off-site landfills. A six-inch layer of sand was placed over the lake bottom at ABD, Area A and the Island Area after the dredging to act as an ecological layer to facilitate biological growth in the lake. Remedial activities also included planting trees and shrubs, re-routing Acid Brook and installing park benches and other public amenities in Rotary Park. Chemours is working with EPA and DEP to finalize a Long-Term Monitoring Program that will assess the impacts of the dredging and remedial activities on the lake's ecosystem over an initial five-year period.

Field oversight during the dredging/excavation phase was provided by EPA and the United States Army Corps of Engineers, with support from the Passaic County Health Department and Pompton Lakes Borough's Environmental Coordinator. There were no exceedances of any parameters evaluated to ensure worker and community health and safety (i.e., perimeter dust and mercury air vapor monitoring and lake turbidity measurements) during implementation of the work. Over 100,000 safe hours were recorded over the course of this project with no injuries/incidents.

Community engagement activities by EPA during the three-year project included 95 weekly community updates via e-mail that summarized work activities, as well as public meetings, information sessions, and EPA accessibility on-site and during regularly scheduled availability sessions on Thursdays at the Pompton Lakes Municipal Building. Chemours also maintained a website where residents could review the monitoring data that was posted daily.

On-Site and Off-site Contaminated Ground Water

Rotary Park after the lake dredging and remedial activities were completed.



The southern portion of the Chemours site with the ground water contamination plume indicated in light green. The vapor intrusion boundary, where VOC contamination in the shallow ground water exceeds DEP's Vapor Intrusion Ground Water Screening Levels, is indicated in orange. The dredged/excavated areas of Pompton Lake are indicated in light blue and light yellow.

Ground water at and near the Site is contaminated with chlorinated VOCs, primarily tetrachloroethene (also known as perchloroethylene, or PCE) and trichloroethene (TCE). For the purposes of the remediation of this Site, the contaminated ground water located within the boundary of the Site is referred to as the "on-site contaminated ground water" and the plume of contaminated ground water that historically migrated from the facility is referred to as the "off-site ground water contamination plume." The ground water layers are categorized as shallow, intermediate and deep, and the contaminant levels are measured by sampling ground water monitoring wells that are located at various depths of the aquifer.

The ground water extraction and treatment system that was installed at the southern boundary of the former manufacturing facility in 1998 features six extraction wells pumping a combined average of 130-140 gallons per minute. The extracted water is sent through an air stripper located at the Site to remove the chlorinated VOCs, and the treated water is reinjected into the shallow aquifer via a series of infiltration galleries along the southeastern portion of the facility. Since this ground water extraction and treatment system has prevented the contaminated ground water from flowing off-site, the levels of chlorinated VOCs in the off-site shallow, intermediate and deep ground water monitoring wells have shown decreasing trends.

In 2016, Chemours proposed implementing a hydraulic surcharging pilot study to enhance the impact of the existing ground water extraction and treatment system on the off-site ground water contamination plume. Chemours proposed installing a 1,400-foot horizontal well parallel to Barbara Drive to inject treated ground water from the existing ground water treatment system into the shallow ground water. Chemours applied for a Discharge to Ground Water Permit-by-Rule from DEP to conduct the hydraulic surcharging pilot study, and DEP held a public comment period that included a public hearing on the Permit-by-Rule application in 2017. After carefully considering the information in the Permit-by-Rule application and the most recent ground water sampling results, DEP determined that hydraulic surcharging is not appropriate at this time. Chemours must continue to operate the existing on-site groundwater extraction and treatment system and monitor the ground water to evaluate conditions of the off-site plume.

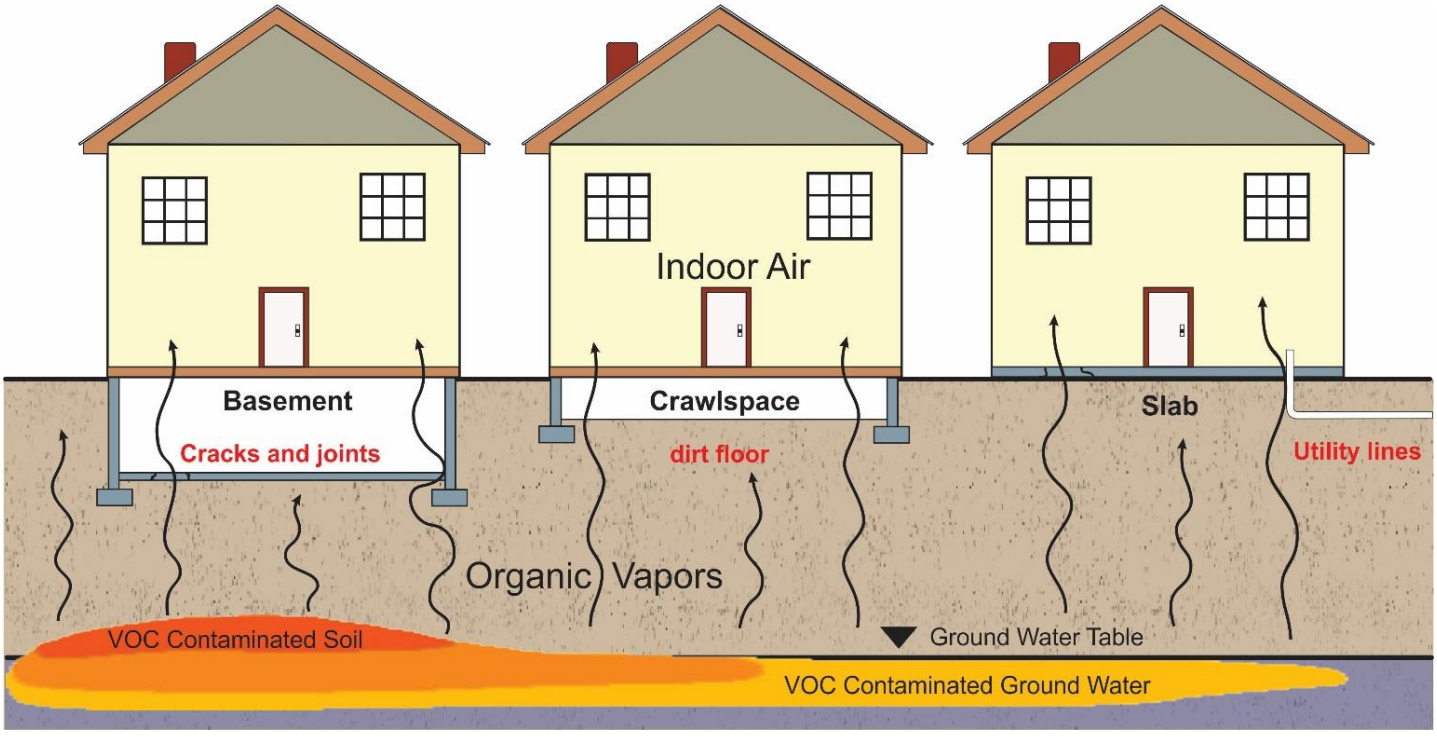
Chemours has also tested several "bioremediation" methods (i.e. use of microorganisms to break down contaminants) to evaluate the potential to expedite the cleanup of the on-site and off-site contaminated ground water. Various studies, including the injection of molasses, yeast, a seed culture of dechlorinating bacteria, sodium lactate and a microbial culture, have demonstrated limited utility to date. Chemours recently conducted a study to evaluate the effectiveness of another treatment technology (chemical oxidation) to break down the on-site ground water contaminants. DEP and EPA are reviewing the results of this study.

Vapor Intrusion Program Update:
As of December of 2018, vapor mitigation systems were operating at 337 of the 425 residential properties in the off-site ground water contamination plume area, and five residences were undergoing long-term indoor air monitoring as an alternative to installing a system. The vapor mitigation systems are operated and maintained by

either Chemours or a 3rd Party Contractor. EPA and DEP initiated the 3rd Party Contractor Program after some residents expressed an interest in having vapor intrusion sampling conducted and/or a system installed but preferred to choose their own contractor. Oversight of the vapor intrusion contractor program is conducted by EPA.

The vapor mitigation systems in residents' homes are routinely tested and monitored to ensure they are functioning effectively. The vapor mitigation systems are inspected quarterly for the first-year post-installation, and annually thereafter. The results of the inspections are submitted to DEP and EPA for review and approval.

In August of 2018, EPA notified approximately 75 homeowners in the 3rd Party Contractor Program that two of the 3rd Party Contractors are no longer participating in the program. A follow-up notification was sent to simplify the instructions for retaining a new 3rd Party Contractor in September 2018. In September and November of 2018, EPA and DEP hosted two public availability sessions to



Vapor intrusion occurs when the volatile organic compounds evaporate from contaminated ground water and the resulting gases migrate upward, gradually seeping through cracks and holes in foundations, and accumulate in basements, crawlspaces and living areas.

Diagram adapted from EPA's Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Ground Water and Soils, November 2002

respond to individual residents' questions and concerns about these changes.

Corrective Measures Study (On-Site Soils Study)
Chemours has investigated the nature and extent of contamination in the soil at 202 areas of potential environmental concern that were initially identified at the former manufacturing facility. To date, 60 of these areas have been determined not to present an unacceptable risk to human health or the environment based on the concentrations of contaminants in the soil; i.e., the contaminant levels are below health-based standards or are not present. In addition, 29 areas have undergone interim remedial measures (IRMs) to reduce environmental concerns. During one IRM, Acid Brook was desilted and then clean fill, geotextile material and riprap stone was placed in the brook. IRMs at the other 28 areas involved excavating contaminated soil or stabilizing contaminated soil to prevent erosion.

EPA and DEP have reviewed Chemours' Corrective Measures Study that outlines proposals to address areas of environmental concern at the facility where contamination still exceeds applicable soil cleanup criteria. The agencies have provided Chemours with comments that must be addressed and Chemours is expected to submit a revised Corrective Measures Study for review. Once the Corrective Measures Study is approved by EPA and DEP, the proposals will be subject to a public comment period, and a public hearing will be held in Pompton Lakes. The final RCRA corrective measure(s) for these areas of on-site contaminated soils will be documented in a modification to the existing RCRA corrective action permit.

Remediation of the Wanaque River
Chemours has performed environmental investigations of sediments in the river bottom and along the river banks in the sections of the Wanaque River that traverse the Site. IRMs entailing soil excavation/off-site disposal were previously implemented to address certain upland soil contamination along the Wanaque River. Additional soil/sediment sampling has been conducted, and EPA and DEP are evaluating Chemours' report summarizing the sampling data and detailing its proposals for further remediation.

We Want to Hear from You

EPA and DEP representatives are available to the community to answer any questions regarding the environmental cleanup at the Site. In addition to this joint newsletter, EPA holds regular public information sessions and provides weekly "Open Hours" in the Pompton Lakes Municipal Building (Thursdays from 10 a.m. till 4 p.m.) where people can drop by, ask questions and get information in person. If residents prefer not to come to the Municipal Building, EPA personnel are willing to meet at other locations. For more information, please contact either Pat Seppi, EPA's Community Involvement Coordinator, at 646-369-0068, or Heather Swartz, DEP's Community Relations Coordinator, at 609-984-7135.

Frequently Asked Questions

How can I tell if my house is located in the off-site ground water plume?

Answer: A map of the off-site plume area, and other Site maps, are available on EPA's and DEP's web pages at https://www.epa.gov/nj/chemours-pompton-lakes-works-site-pompton-lakes-nj and https://www.nj.gov/dep/srp/community/sites/dupont_pompton_lakes/. DEP and EPA will post updated maps as needed. This information will also be available at the Pompton Lakes Public Library, which is EPA's information repository for this site.

Are there any domestic wells in use in the off-site ground water plume?

Answer: All homes in the area are served by the public water supply. DEP is unaware of any old domestic wells used for potable purposes.

I have a vapor mitigation system in my home. What happens if there is a prolonged power outage? Will I be exposed to vapors?

Answer: Property owners with vapor mitigation systems are advised that a power outage that shuts down the system for a relatively short period of time (several days to weeks) does not create an immediate health hazard. The system was installed to reduce the occupants' exposure to organic vapors over an extended period, typically between 25 to 30 years. In addition, when the system was installed, cracks and other openings that could provide pathways for vapors to enter a building should have been sealed. If vapors do enter a building during a power outage, short-term exposure to organic vapors over several days to weeks will not significantly increase the occupants' risk for health problems.

DEP offers additional recommendations that residents can take to reduce exposure to organic vapors during a power outage:

1) Limit your time in the basement or lowest floor of the building as much as possible.
2) If the power outage continues for many days, create cross-ventilation in the basement or lowest floor of the building if outdoor temperatures are tolerable. Cross-ventilation draws outdoor air in one window and exhausts it out another window. The process does not have to be performed continuously and can be done periodically.
3) Do not simply open windows or turn on ventilation fans, as this may draw organic vapors from the subsurface into the building.

For more information about vapor intrusion, please see DEP's web page at https://www.nj.gov/dep/srp/guidance/vaporintrusion/ and EPA's web page at https://www.epa.gov/nj/chemours-pompton-lakes-works-site-pompton-lakes-nj .

What is the status of fishing in Pompton Lake?

Answer: Recreational fishing is permitted in Pompton Lake. There are fish consumption advisories in place for Pompton Lake. The fish consumption advisories are posted on signage (in both English and Spanish) in at least eight locations at the lake and indicate that high risk individuals (e.g. pregnant women) should not eat common carp and largemouth bass caught in Pompton Lake. The signage also provides contact information for both DEP and the New Jersey Department of Health.

In response to requests from concerned individuals, DEP and EPA are reassessing the need for placement of additional fish advisory signage.

For more information concerning fish consumption advisories, please visit: https://www.nj.gov/dep/dsr/Fish_Advisories_2018.pdf.

Will NJDEP be rescinding the 1988 Administrative Consent Order (ACO)?

Answer: DEP will continue to work closely with EPA to ensure that Chemours carries out its obligations under the terms of the ACO and 1992 RCRA Permit. This effort is complex and ongoing, and DEP and EPA will continue to provide oversight.

Why hasn't this site been added to the National Priorities List of Superfund sites?

Answer: Placing the site on the National Priorities List of Superfund sites is not necessary to ensure a protective cleanup, as the site remediation is being overseen by EPA and DEP under the functionally equivalent Resource Conservation and Recovery Act (RCRA) Corrective Action process. EPA's RCRA deferral policy, in effect since the 1980s, provides that sites in the RCRA corrective action program would not be placed on the Superfund National Priorities List; rather, they would be managed under the RCRA program when the responsible party is financially viable.

Why did the DEP bring a lawsuit against Chemours and DuPont with respect to the Pompton Lakes Works site?

Answer: On March 27, 2019, the DEP filed a lawsuit against Chemours and DuPont for natural resource damages. The pursuit of natural resource damages (or "NRDs") is separate and distinct from the remediation of a contaminated site. In remediation, a site is investigated and cleaned up to a risk-based standard that is determined to be protective of human health. As explained in detail above, the site

remediation process is proceeding well at the Dupont site. However, the remediation process does not necessarily return a natural resource (e.g., groundwater, surface water, sediments, wetlands, etc.) to the condition that existed prior to the contamination event. The State has the authority to require a separate NRD assessment, to require restoration of a natural resource to its pre-discharge condition, and to seek compensation for the period of time that a natural resource was injured. In short, where a typical cleanup seeks *remediation* of a discharge or hazardous substances, an NRD lawsuit seeks *restoration* of the injured natural resource. While the *remediation* process is ongoing at Pompton Lakes, the DEP has determined, as trustee of certain natural resources, that *restoration* should also be undertaken by Chemours and DuPont.

Why has DEP issued a Directive to Chemours and DuPont?

Answer: DEP issued a document known as a "Directive" to Chemours and DuPont, requiring these companies to fund the costs to prepare a Natural Resource Damage Assessment Plan relative to the Pompton Lake Works site. An NRD Assessment can be a first step toward restoring injured natural resources. For example, an NRD Assessment can identify the extent and duration of natural resource injuries, as well as identify potential restoration needs that could address the public's loss from natural resource injuries.