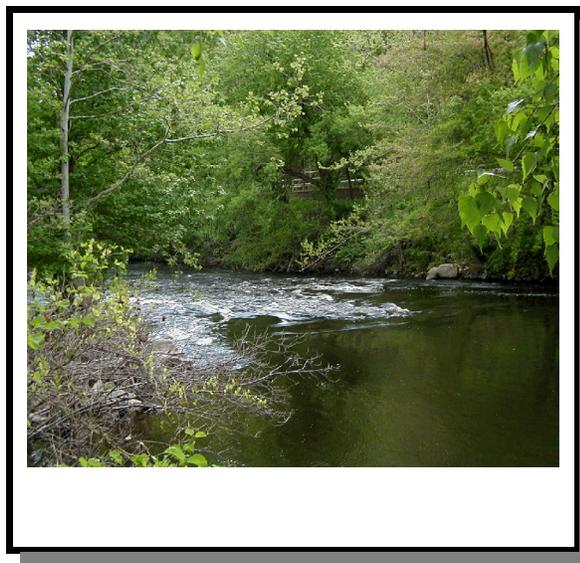


The site is situated on one of the state of Rhode Island's most productive aquifers. The current groundwater classification at the site is "GAA-NA"¹.

The Blackstone Valley aquifer is currently providing drinking water for the town of Cumberland from the Manville and Lonsdale well fields. Town reservoirs also contribute. The Manville wells #1 and #2 provide water to approximately 12,000 Cumberland residents. Manville wells #3, #5, and #10 have been temporarily taken out of service due to various contaminants at levels above drinking water standards. The Providence Water Authority supplies water to much of the population of Lincoln through the Scituate Reservoir.



Much of the Blackstone River and its tributaries, including the area within the site, are impaired due to biodiversity impacts, pathogens, hypoxia, nutrients, ammonia (un-ionized), and metals (Cu, Pb). The river is a Class B stream throughout the site which has set a goal of "fishable and swimmable", and the state of Rhode Island has an overall objective to "restore impaired sections of the Blackstone River and its tributaries" [Source: Draft Blackstone River Action Plan, Rhode Island Department of Environmental Management (RIDEM), September 2001].

The Blackstone River is a federally-designated "American Heritage River"². In addition, the Blackstone River and nearly 400,000 surrounding acres in central Massachusetts and northern

¹ The "GAA" classification, as designated by the *Rhode Island Department of Environmental Management Rules and Regulations for Groundwater Quality*, is defined as "groundwater resources which the Director has designated to be suitable for public drinking water use without treatment." The "-NA" classification is defined as "areas that have pollutant concentrations greater than the groundwater quality standards for the applicable classification."

²The American Heritage Rivers initiative was established by executive order on September 11, 1997 to protect and restore rivers and their adjacent communities. The executive order called for the preparation and implementation of plans to achieve these goals. The action plan subsequently created four principal elements for the Blackstone River: environmental restoration and land-use planning, recreational development, historic preservation and cultural conservation and economic development, and interpretation and education. The American Heritage Rivers initiative is intended to coordinate activities and resources of various federal agencies with state, local, tribal communities and other non-governmental entities. The Blackstone River Valley Heritage Commission is convener for the Blackstone River Steering Committee. EPA-New England has designated Joanna Hunter as the River Navigator to help coordinate EPA's involvement in this initiative. [Source: Press release September 11, 1997 "Executive Order 13061, Federal Support of Community Efforts Along American Heritage Rivers" and U.S. EPA Fact Sheet "American Heritage Rivers - Blackstone and Woonasquatucket Rivers"]

Rhode Island make up the Blackstone River Valley National Heritage Corridor³ (Heritage Corridor). Because the site occupies a key location along the Blackstone River, it is integrally-linked to both federal initiatives. Two projects involving the site that are associated with these regional initiatives are the Blackstone River Bikeway and the Blackstone River Canoe Trail.

The importance of the site to these regional initiatives can be understood by noting it's physical relationship within the Blackstone River Valley. As viewed from an aerial perspective, the valley has retained a slender line of open space connecting a chain of larger parcels of riverine habitat from Central Falls north through Manville, including the area encompassed by the site. This is clearly seen by noting the relative positioning of the former Lonsdale Twin Drive-In, the Lonsdale marsh (just south of the former twin drive-in), a buffer zone behind the commercial strip mall on Mendon Road, the unnamed island, the J. M. Mills Landfill, the Quinnville well field, the Rhode Island Blackstone River State Park, the Blackstone River Bikeway, and a 10-acre parcel of farm land that was recently designated by the town of

Lincoln as a conservation land trust. Capturing and maintaining this buffer as habitat coupled with any number of light recreational uses would help maintain the integrity and quality of the watershed while still promoting the heritage of the valley. EPA has been closely coordinating its activities with key representatives of these initiatives to help achieve this goal.

The town of Cumberland has submitted a Clean Water Act, Section 319, storm water abatement grant proposal as a separate project with potentially-significant implications to the site. This project, if awarded, will help to improve water quality in the Blackstone River by reducing sediment and nutrient flow and would include a public education component on river stewardship. The area targeted under the proposed project is in close proximity to or within the

The Blackstone River Bikeway

Groundbreaking for the bikeway took place on November 3, 1997. Once completed, it will cover 17.1 miles and extend from the City of Pawtucket to the Massachusetts border. An important feature will be the historic Blackstone Canal and an interpretative museum located in the Kelly House (circa 1830).

The proposed construction of new pedestrian bridges will carry bikeway users over the canal and four river crossings. The bikeway will provide important recreation and open space for the surrounding communities and enhance local businesses, residential areas and existing parklands. It is expected that some quarter million people will use the bikeway each year. Completion is planned for October 2002.

³The Heritage Corridor was designated by an Act of Congress in 1986 to "...preserve and interpret for present and future generations the unique and significant value of the Blackstone Valley". The Heritage Corridor is a collaboration of the National Park Service, Massachusetts and Rhode Island state governments, dozens of local communities, businesses, non-profit historical and environmental organizations, educational institutions, many private citizens, and a unifying commission. Among the many diverse projects initiated under the Heritage Corridor umbrella is the Blackstone River Canal in Lincoln, RI and the Blackstone River Bikeway (Bikeway). This Bikeway now runs along the entire length of the site. [Source: National Park Service fact sheet "Blackstone River Valley - National Heritage Corridor"]

OU1 contaminated water plume. Besides the environmental improvement expected to be obtained, this project may also potentially impact the reuse of the site by addressing present and future storm run-off concerns that could otherwise limit future use. This is especially important since the area covered by OU1 includes commercial and industrial businesses.

The RIDEM has initiated a comprehensive total maximum daily load (TMDL) study for the Blackstone River. In addition, plans are underway to determine the feasibility of restoring anadromous fish species runs and habitat throughout the course of the Blackstone River.

A number of site-related activities, which are described elsewhere in this report, are all contributing to the achievement of the Heritage Corridor and Heritage River project goals. In addition to these projects, EPA has successfully negotiated (July 13, 2001) a unique provision as part of the Second Amendment to the Administrative Order for OU2 which creates an “Environmental Improvement Project” (EIP) paragraph. The EIP paragraph directs portions of the funds obtained from any future EPA enforcement actions to be used for projects benefitting the Blackstone River and environs⁴.

Environmental History

The site is currently divided into operable units OU1, OU2 and potential OU3. As shown on Figure 3, OU1 is located in the central area and includes the Cumberland Industrial Park, the Martin Street ballfield, and a portion of the town of Lincoln’s Quinville well field. OU2 is located immediately south of OU1 and contains the J.M. Mills Landfill, a sand and gravel operations, an unnamed island, the southern extent of the Quinville well field, and various undeveloped areas (see Figure 4). The potential OU3 would encompass the northern-most portion of the site. This area includes the former Owens-Corning Mill and the Rhode Island Blackstone River State Park.

Operable Unit #1: Two sources of contamination were identified in the Record of Decision (ROD) at OU1: a tank spill at the former Peterson/Puritan, Inc. facility (currently CCL Custom Manufacturing, Inc.), and the Pacific Anchor Co. leach fields.

⁴This concept is similar to a Supplemental Environmental Project (SEP), which is a means of using a portion of a settlement from an EPA enforcement action for environmentally-beneficial projects. Importantly, like a SEP, no money owed to the United States from the EIP would be redirected from the government fisc. The difference between a SEP and an EIP is primarily a matter of timing. A SEP is handled after a violation occurs, while the EIP has already been incorporated as part of the voluntarily signed enforceable agreement (i.e., the Second Amendment to the AOC signed on July 13, 2001) that outlines what will happen *if* a violation should occur in the future. The EIP paragraph is in addition to, but independent of, the stipulated penalty paragraph. The amount of stipulated penalties to be paid is not be reduced by the money paid pursuant to the EIP paragraph and the two paragraphs would proceed on parallel unrelated tracks. The money the respondent pays in accordance with the EIP paragraph would go to an environmentally beneficial project approved by EPA and carried out by the respondent or under contract by a nonprofit organization or state entity selected by the respondent and approved by EPA (specifically, a project that will “improve, protect, or reduce risks to public health, and/or the environment in the RI segment of the Blackstone River Valley National Heritage Corridor”).

The Peterson/Puritan, Inc. plant was built in 1959 as a packager of aerosol consumer products. A rail car incident occurred on the facility's property in 1974 resulting in a product tank spill that released an estimated 6000 gallons of solvent. In 1976, following a major fire, the plant was rebuilt and currently remains in operation.

In 1979, volatile organic contaminants were detected in area wells during statewide sampling. The Martin Street well and Lennox Street well in the town of Cumberland and the Quinnville well field in the town of Lincoln were closed in 1979 due to contamination, and remain out of service. Attempts to flush contaminants from Lincoln's three wells were abandoned after repeated efforts to remove the contaminants from the aquifer failed. The town of Lincoln has since been connected to an alternate water supply (through a third party settlement) while the town of Cumberland absorbed the loss of its wells by increasing production from remaining town water supplies. The site includes the extent of contamination that has impacted well fields in Cumberland and Lincoln. The Peterson/Puritan spill was identified as a primary source of contamination impacting the Quinnville well field. The source of the Lennox Street well contamination is still under investigation.

The potentially responsible parties (PRPs) completed the investigation of the OU1 contamination under EPA and state oversight in 1993. The groundwater was determined to be contaminated with chlorinated solvents; volatile organic compounds (VOCs) including 1,2 dichloroethene, trichloroethene, acetone, and benzene; phthalates; and heavy metals such as arsenic. Later in that year, after evaluating cleanup alternatives, EPA selected final cleanup remedies to address the primary sources of contamination at two areas: the CCL Custom Manufacturing, Inc. (CCL)-area and the Pacific Anchor Company (PAC)-area. The remedy for the CCL-area included soil vapor extraction technology to clean soils surrounding a tank farm, pumping and treating a contaminated groundwater plume emanating from the tank farm, and pumping groundwater down gradient from the tank farm to the local sewer system. For the PAC-area, the leach fields were excavated and in-place oxidation was chosen to reduce arsenic concentrations in groundwater. The EPA also requires monitoring of contaminant levels in groundwater to ensure that each of the cleanup efforts is effective. All design activities were completed as of May 1996. Phased construction of the selected remedies began in the fall of 1995 and were completed in January 1997.

After the start up period, all remediation systems have been operating as designed since July 1997. However, the in-place oxidation system, which was designed to reduce arsenic concentrations in the PAC area, has not been achieving the desired arsenic reductions. The system is currently off-line while EPA determines whether the arsenic plume is stable and contained within the PAC area over several groundwater monitoring rounds (as current data indicates that it is). Operation and maintenance of the other remedial systems will continue until the EPA determines that containment concentrations are within EPA's acceptable risk range. The estimated time frame for this is between 4 and 12 years. A mandatory five year review process has begun and is slated to be completed in 2002 to ensure protectiveness.

Easements and covenants are being put in place at OU1 on 14 properties to ensure that the remedy is not compromised by future activity. These institutional controls have been structured

to protect the OU1 remedy and protect people from contaminated groundwater while minimizing adverse impacts on existing and future businesses. The specific nature of these easements and covenants are discussed in Section 2 of this report.

Operable Unit #2: OU2 is immediately south of OU1 and contains the 18 acre J. M. Mills Landfill which accepted wastes from 1954 through 1986. EPA has reason to believe the landfill was used for disposal of wastes, including wastes containing hazardous substances. Within this period of time, the property was primarily used as a privately-owned, co-disposal landfill. Sewer sludge was also disposed at the facility as part of the daily operation. Various types of large, bulky solid materials (including, but not limited to, tanks, crushed drums, pre-formed concrete structures, railroad ties, and demolition debris) are deposited aside of the landfill, along the north and south access roads and along the bank of the river. The now closed Lennox Street municipal well in Cumberland is located approximately 1000 feet southeast from the flank of the landfill. The Quinville well field is immediately across the river in Lincoln.

EPA conducted a removal action at the site in 1992 to construct a fence around the former J. M. Mills Landfill and to remove drums containing contaminated materials from the base of the landfill. In November 1997, a second removal action was conducted at the site to address recently disposed asbestos-containing wastes found outside of the fenced-in area. The security fence was extended to limit further dumping and maintain access restrictions at this portion of the site. In preliminary sampling, soils along the river have been found to be contaminated with polychlorinated biphenyls (PCBs), polyaromatic hydrocarbons (PAHs), and heavy metals.

An investigation into the nature and extent of contamination at the J.M. Mills Landfill and surrounding areas is currently underway. Field work for this remedial investigation/feasibility study (RI/FS) will begin in the spring of 2002 and is currently scheduled for completion in the fiscal year 2005. Following the completion of this study, a final cleanup remedy will be selected, a remedial design (RD) will be completed, and the remedial action (RA) will be initiated. Construction of the selected remedy is anticipated to be completed by FY2008.

Potential Operable Unit #3: On the Lincoln side of the river is the Kelly House property (AKA: Mackland Farm) and associated bottom land. To the east in Cumberland is the old Ashton Mill complex which was vacated by Owens-Corning in 1984 and which is currently used for multi-use light industrial operations. Groundwater contamination across the river and to the north from OU1 has led to the consideration of a third operable unit. This groundwater contamination, located at the Kelly House property, was identified in 1988 during the previously conducted remedial investigation. This groundwater contamination includes chlorinated solvents and volatile organic compounds; one or more of these compounds having detectable concentrations above safe drinking water standards. The source of this contamination has not been determined.

Further investigation into the nature and extent of the groundwater contamination concerning this area of the site remains in the planning stage. In the interim, the Agency intends to secure another round of groundwater analysis from this area (which includes the Blackstone River State Park, and may also include a portion of the river up to the Ashton Dam) in 2002.

Enforcement History

After a preliminary investigation in 1982, the EPA identified the Peterson/Puritan, Inc. facility as the major source of the contamination in the Quinville well field. The site was proposed for listing on the National Priority List (NPL) on December 30, 1982 and was listed on September 8, 1983. The town of Lincoln filed a lawsuit against Peterson/Puritan, Inc. based on findings and in 1984 the company reached a settlement with Lincoln to assist with the cost of the town's new water supply. The company also installed a recovery well on its property for the purpose of capturing contaminated groundwater underlying its property. On May 29, 1987, Peterson/Puritan, Inc. signed an Administrative Order on Consent (AOC) to perform a comprehensive RI/FS covering the entire site. In a First Amendment to the AOC made effective March 10, 1992, CPC International agreed to pay for certain RI/FS costs at the entire Superfund site (CPC International later changed its name to Bestfoods and then was purchased by Unilever during the summer of 2000).

Following the signing of the First Amendment to the AOC, EPA administratively divided the site into two operable units in order to direct its resources to the primary source of groundwater contamination known today as OU1. The ROD signed in 1993 formalized this delineation. In December of 1995, five defendants settled with EPA and the state to pay past costs and conduct the cleanup of OU1. In 1998, after completing construction on OU1, EPA began focusing on OU2. Part of this focus included an exhaustive effort to have the respondents of the AOC voluntarily perform the remainder of the AOC obligations at OU2. After extensive negotiations, Bestfoods and CCL Custom Manufacturing, Inc. agreed to conduct and pay the past and future costs for the RI/FS concerning OU2. These negotiations resulted in a Second Amendment to the AOC that was signed on July 13, 2001 and a Section 122(h) agreement to reimburse EPA for its past response costs that was finalized on September 26, 2001. The enforcement work for the identification of parties responsible for OU2 continues. Once the RI/FS is completed, the Agency will enter into negotiations for the cleanup of OU2. The search for PRPs for potential OU3 has not yet been undertaken.

The RIDEM has been supportive of EPA cleanup activities on the site. The RIDEM was involved in the negotiations of the AOC on the RI/FS and the Consent Decree (CD) for the RD/RA in OU1. The state has also been providing technical assistance support on all issues regarding the RI/FS and was instrumental in pursuing a natural resource damage (NRD) claim.