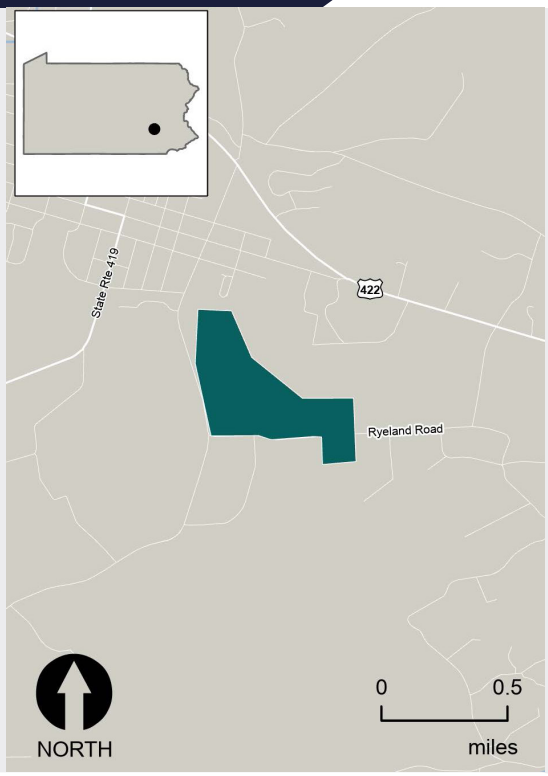
EPA United States Environmental Protection Agency

Site Redevelopment Profile

Ryeland Road Arsenic Superfund Site

Ryeland Road, Heidelberg Township, Pennsylvania 19567



Location of the site in Pennsylvania.

Property Overview

Size
7.3 acres

Current Site Uses
- The site is now a cleaned-up meadow, wetland and forested wetland.

Use Restrictions
- Institutional controls restrict soil disturbance, sediment disturbance and groundwater use.

Surrounding Population

1 MILE	3 MILES	5 MILES
2,156	10,200	19,475

Site History and Redevelopment Timeline

1927
A chemical plant began making pesticides, fungicides, insecticides, paint and varnishes on site.

1940
A fire destroyed the plant.

1942-1970s
The site was vacant.

Late 1970s
Homes built on site.

1985
Pennsylvania Department of Natural Resources discovered contamination.

1985-2002
EPA started removal actions on site.

2004
EPA placed the site on the NPL.

2006-2012
EPA cleaned up contaminated soil and source materials.

2009-2014
EPA used phytoremediation to remove arsenic from sediments.

2018
Groundwater investigations are ongoing.

History and Cleanup

The Ryeland Road Superfund site in Heidelberg Township, Pennsylvania, was the location of a chemical manufacturing plant that operated from 1927 until 1940, when a fire destroyed the plant. The plant made fungicides, insecticides, paint and varnishes. Its operations resulted in arsenic contamination across several residential properties as well as a forested wetland and a plant nursery downgradient from the facility's waste disposal area.

In 1983, the Pennsylvania Department of Environmental Resources found contamination in soil, sediment and waste piles. Between 1985 and 2002, EPA led several removal actions that took away over 8,300 tons of contaminated soil and waste material from the source areas, waste piles and residential properties. After EPA investigations found that contamination of soil, surface water, sediment and groundwater at or near the site posed unacceptable long-term risks, EPA placed the site on the National Priorities List (NPL) in 2004.

Conventional cleanup methods could have included clear-cutting of the forested area, soil excavation and construction of an extensive riprap drainage system. Instead, EPA chose to preserve existing habitat. In 2009, EPA vacuum-dredged the spring-fed creek on site to minimize the impact of arsenic contamination on the stream and nearby woods and wetlands. An arsenic-contaminated pond near the headwaters of a spring-fed creek contributed to contamination along the creek. Arsenic-contaminated groundwater seeps also drain into the spring-fed creek.

To address contamination and restore the forested wetland and meadow wetland habitats, EPA drained the pond and filled it in with clean material. Water is now diverted through a planted meadow wetland. Sediment contamination along the creek has been addressed using phytoremediation. Phytoremediation uses plants to clean up contaminated environments. From 2009 to 2014, EPA planted Chinese brake ferns (Pteris vittata) in the forested wetland along the creek each spring and harvested them each fall. The plantings successfully reduced arsenic concentrations. However, EPA determined that plant uptake of arsenic would not be sufficient to achieve cleanup goals when groundwater seeps continue to discharge arsenic to the creek. EPA is currently investigating groundwater cleanup options and will consider restarting the phytoremediation program once contaminated groundwater has been addressed.

Redevelopment

EPA's remedial approach has allowed for the preservation and restoration of meadow wetland and forested wetland habitats at the site. Contaminated soils and sediments have been removed and groundwater cleanup planning is underway. In addition to the site's ecological revitalization, Heidelberg Township built a storage building at the site. EPA will continue to work with the locality and community to support the site's cleanup and beneficial use.

Restored wetland habitat on site.

Contacts

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