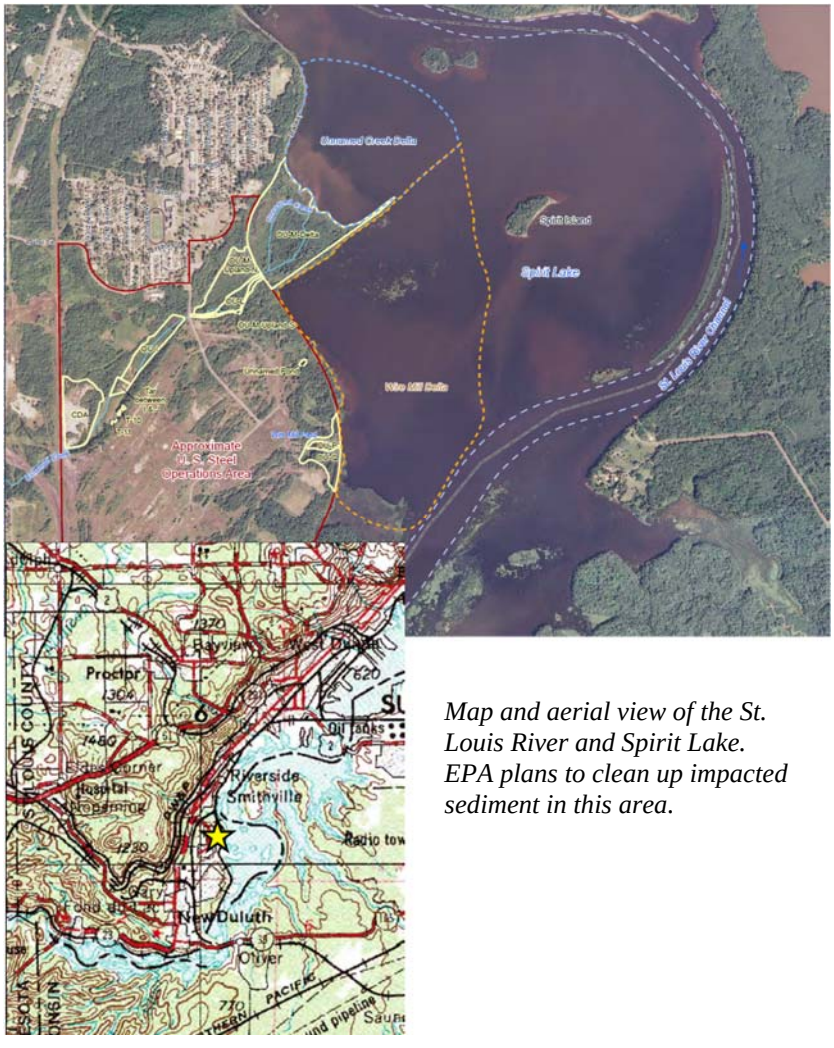
EPA Proposes Cleanup Plan For St. Louis River Sediment

Spirit Lake, Former U. S. Steel Duluth Works Sediment Site
Duluth, Minnesota August 2016

The U.S. Environmental Protection Agency, working with U. S. Steel, is proposing a combination of dredging, capping and on-site disposal to clean up contaminated sediment in Spirit Lake, a section of the St. Louis River near Duluth. While the massive Duluth Works steel plant operated, it released a variety of pollutants into Spirit Lake including polycyclic aromatic hydrocarbons, or PAHs, and heavy metals including lead, copper and zinc.

EPA and U. S. Steel have been working on a partnership through the Great Lakes Legacy Act to develop a comprehensive plan to clean up contaminated sediment. This proposed plan will manage potential risks to human health and the environment posed by the legacy impacts.

EPA and U. S. Steel coordinated with MPCA during the remedy selection process to ensure the plan meets both state and federal requirements for protection of human health and the environment.



Map and aerial view of the St. Louis River and Spirit Lake. EPA plans to clean up impacted sediment in this area.

Comment period open

EPA is seeking comments on the proposed cleanup plan for contaminated sediment at Spirit Lake, the former U. S. Steel Duluth Works site. The comment period closes Sept. 25, 2016.

Submit comments in writing to:
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Documents related to the proposed plan are available at:
West Duluth Public Library
5830 Grand Ave.
Duluth, Minn.

More information is available at:
www.epa.gov/st-louis-river-bay-aoc/spirit-lake-legacy-act-cleanup.

Great Lakes Legacy Act

With additional funding from the Great Lakes Restoration initiative, www.glri.us, the Great Lakes Legacy Act provides up to 65 percent of the cost of a project. Completed cleanups have been a springboard for communities to build a foundation for future growth by transforming former toxic hot spots into attractive locations to live, work and play.

Questions?

Call EPA toll-free,
800-621-8431
Weekdays, 8:30 a.m. to 4:30 p.m.

Your input wanted

Before EPA makes a final decision on the draft cleanup plan, the Agency will accept comments from the public. See the left-hand box on the first page for ways you can participate in the decision-making process.

About the proposed plan

The proposed remedy consists of a combination of commonly used sediment cleanup methods. These include dredging, in-place capping, thin-layer capping, and on-site disposal in confined disposal facilities. All of these methods have been used for decades throughout the Great Lakes for the successful cleanup and disposal of contaminated sediment.

The proposed plan recommends the dredging of about 697,000 cubic yards of contaminated sediment. The sediment would be disposed of at the former Duluth Works location. It would also go into disposal facilities constructed on a portion of mud flats next to an unnamed tributary, as well as on upstream areas next to the tributary.

The plan would also cap around 132 acres of lightly contaminated material in the St. Louis River Estuary. This action will result in aquatic system improvements through the creation of 30 acres of new, open water, which will increase fish spawning habitat and potentially improve public access to the river.

About the site

The Spirit Lake, Former U. S. Steel Duluth Works site is located in Duluth, Minn., about 10 miles upstream of the mouth of the St. Louis River where it enters Lake Superior.

PAHs and heavy metals have been identified as the primary contaminants of concern at the Spirit Lake site. PAHs are a class of chemicals toxic to aquatic organisms that can cause internal and external tumors on fish, and potentially can cause cancer in humans. Heavy metals have similar toxicity effects on aquatic organisms and can cause neurological problems, kidney and liver damage and developmental problems in people if they are exposed to high concentrations over time. These contaminants are present in moderate to high levels in the Spirit Lake sediment.

The proposed cleanup plan sets technical goals for lowering concentrations of PAHs, lead, copper and zinc in the river. See the site documents online for an explanation of those goals.

Other heavy metals also exist at the site, but sampling studies indicate these other contaminants are located with the primary contaminants and will be managed when the cleanup occurs.

Details of the proposed cleanup actions

Dredging

Dredging is a common remediation method that uses large excavating equipment to remove sediment from lake and river bottoms. Unlike navigational dredging, which emphasizes a speedy removal, environmental dredging uses special equipment and slower, more precise techniques to minimize the loss of contaminants to the water column and effects on the environment.

Capping

Capping uses clean material like sand, gravel or rocks to cover contaminated sediment and prevent exposure to humans, animals and fish. Capping, combined with long-term monitoring, has proven very successful in reducing risk. Final design plans will evaluate the potential for contaminant movement. Enhancements may be included to ensure long-term effectiveness of the capping. Caps that are more complex can include multiple layers composed of liners, geotextile matting, organic carbon or other materials. The final layer of the cap can be designed to provide material suitable for beneficial aquatic plants and bottom-dwelling organisms.

Confined disposal facilities

The proposed project calls for the construction of three confined disposal facilities, or CDFs, along the unnamed tributary and out into the mud flat area on the river side of the railroad tracks. CDFs have been used effectively throughout the Great Lakes for over 50 years to safely contain over 90 million cubic yards of contaminated sediment. CDFs are similar to landfills, but are specifically designed for the containment and control of contaminated sediment.

Long-term Monitoring

As part of the final design and permitting for the project, EPA and U. S. Steel will develop a long-term monitoring plan. Long-term monitoring will ensure proper functioning of each component of the remedy and safe containment of pollution stored in CDFs or managed under the caps. Monitoring is expected to last for many years.

Cost

The proposed cleanup plan is estimated to cost around $69 million. If completed under the GLLA authority, U. S. Steel and EPA would jointly fund the design and construction activities.