United States
Environmental Protection
Agency

Floodplain Cleanup is Planned; EPA Wants Your Input

Tittabawassee River, Saginaw River and Bay Cleanup
Midland, Saginaw and Bay City, Michigan February 2013

The U.S. Environmental Protection Agency, working with the Michigan Department of Environmental Quality, is in the early stages of developing cleanup options for contaminated soil in the frequently flooded areas along the Tittabawassee River downstream from Midland. Many properties used by residents, farmers, businesses, parks and the Shiawassee National Wildlife Refuge in the Tittabawassee River floodplain will be affected by EPA's cleanup decisions.

EPA wants to hear from you

People living, working and playing in the Tittabawassee River floodplain will have a say in how the cleanup is carried out. EPA expects to formally propose a cleanup plan for the Tittabawassee River floodplain for public comment in 2014. Before then EPA wants to:

- Understand the community's values about the current state of the floodplain and desires for future conditions and uses.
- Obtain feedback on the tradeoffs that may come with the cleanup options.
- Identify what other information is needed by the community.

EPA will give residents and other interested people an opportunity to discuss what concerns they may have about a long-term cleanup. Their comments may influence what cleanup is proposed and selected for the Tittabawassee River floodplain.

EPA will schedule several interactive small group sessions throughout the spring and summer starting in March. To give people convenient times and places to participate, EPA will hold daytime, evening and weekend sessions in different locations near the Tittabawassee River. Invitations will be sent to all of the floodplain landowners. Keep an eye out for this invitation because we want to hear from you. Or call our Saginaw office at 989-401-5509 to meet individually with an EPA representative or to learn more about the meetings.

What properties may qualify for cleanup

The entire floodplain is not equally contaminated and some areas may not require cleanup. EPA and MDEQ are currently evaluating which floodplain areas may need work. Cleanup of the Tittabawassee River is under way and is being done in segments starting upstream in Segment 1, which runs through Dow's Midland plant (*see map on Page 3)*. This ongoing river work will continue upstream to downstream. Cleanup of the floodplain areas will occur during or shortly after the adjacent river work.

There are about 4,500 acres in the frequently flooded areas along the Tittabawassee River. Land use in the floodplain is varied. Residents, farmers and businesses are affected along with the Shiawassee National Wildlife Refuge and public parks. Large areas in the floodplain are undeveloped and support natural ecosystems. EPA wants to hear community opinions about current and future land uses and environmental conditions.

Contact information

You can contact EPA staff involved with community outreach and the cleanup process.

EPA Community Information Office

804 S. Hamilton St., Suite 3
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EPA Chicago office contacts

You may call the Chicago EPA office toll-free, 800-621-8431, 9:30 a.m. – 5:30 p.m., weekdays

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Floodplain cleanup options

The cleanup options being considered are soil removal and disposal, soil cover and land-use management.

Soil removal and disposal

This option involves digging up contaminated soil and replacing it with clean soil. The contaminated soil would be transported off-site for disposal at a landfill.

Heavy equipment like backhoes, bulldozers and front-end loaders would be used to dig up contaminated soil and put it on trucks to be hauled to licensed landfills. Existing vegetation may need to be removed. Clean soil is typically placed to re-grade the properties. The area would then be replanted, but the current ecosystem would be affected. Because contaminated soil is removed from the site permanently, long-term monitoring in those floodplain areas may not be needed.

Reach J/K – About 32,000 cubic yards of soil and 300 mature trees were removed.

Soil cover

This option involves placing a cover of clean material over contaminated soil. Covers help keep people and animals from coming into contact with the contamination. They also stop rainwater and wind from washing or blowing away the contaminated soil.

Heavy equipment would be used to construct the cover. Clean soil is the most likely cover material, but other materials may be used. Existing vegetation may need to be removed. The cover would be replanted with suitable vegetation, but the current ecosystem would be affected. Soil covers need to be monitored and may need to be maintained in order to retain their long-term effectiveness.

Trucks hauling off contaminated soil.

Land-use management

Land-use management limits people's use and development of contaminated land. It can be effective at keeping areas in a natural condition. Land-use management does not keep wildlife away from the contamination.

This option puts legal limits on the use of property, for example conservation easements that protect the current ecosystem. The state of Michigan already limits construction and development in the floodplain.

Monitoring is used to make sure that future land use is appropriate.

Covering road with new asphalt.

Tradeoffs between cleanup options

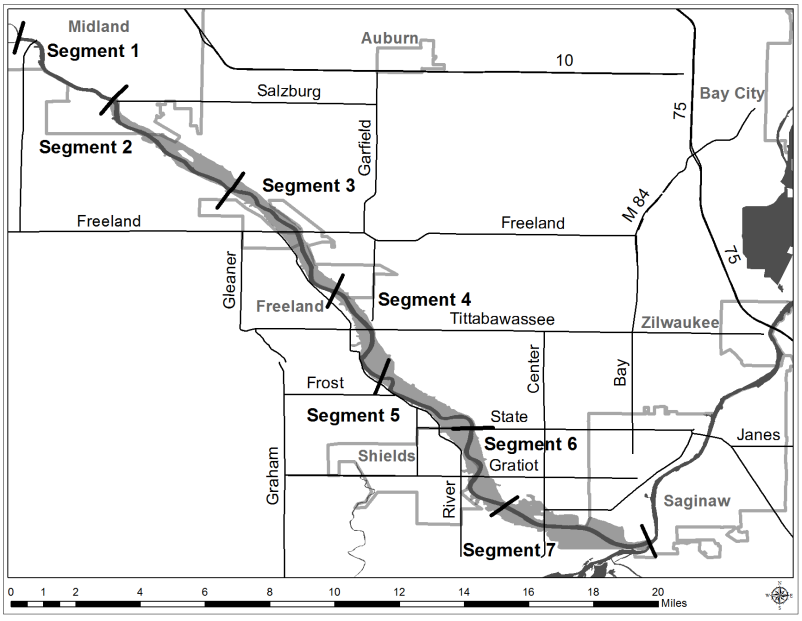
While each cleanup option can protect people and the environment under the right conditions, they all have some tradeoffs or impacts to consider. Some of the differences relate to flexibility for future land use, impacts to the existing ecosystem, time required to implement the cleanup and achieve protection, reliance on monitoring and maintenance, short-term worker and community impacts during construction and cost. The table below shows some of the tradeoffs between cleanup options. A mixed approach combining the options may be the best balance among the tradeoffs for the floodplain cleanup.

Next steps

You will be receiving an invitation to attend a discussion session. EPA wants to hear from you. We hope that you will take time to find out more about the cleanup options and share your feedback. You are welcome to contact EPA's Saginaw or Chicago office contacts at any time.

Tradeoffs for Floodplain Cleanup Options

	Cleanup Options		
Tradeoffs	**Land-Use Management**	**Soil Cover**	**Soil Removal**
Flexibility for future land use	Least flexible	Somewhat flexible	Most flexible
Impacts to existing ecosystem	Least impact	More impact	Most impact
Time to implement and achieve protection	Least time to implement	More time to implement	Most time to implement
Reliance on monitoring and maintenance	Most reliance	Some reliance	Least reliance
Short-term worker and community impacts	Least short-term impact	More short-term impact	Most short-term impact
Cost	Least cost	More cost	Most cost



Tittabawassee River segments and floodplain map.

More information

On the Web

www.epa.gov/region5/cleanup/dowchemical

Information repositories with site-related documents

Hoyt Main Library
505 Janes Ave.
Saginaw

Grace A. Dow Memorial Library
1710 W. Saint Andrew St.
Midland

Alice and Jack Wirt Public Library
500 Center Ave.
Bay City

United States
Environmental Protection
Agency

Region 5
Superfund Division (SI-7J)
77 W. Jackson Blvd.
Chicago, IL 60604-3590

First Class Mail
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Tittabawassee River, Saginaw River and Bay Site
Midland, Saginaw, Bay City, Michigan

(details inside)