

Tittabawassee River

Sediment and Riverbank Cleanup

There are distinct areas in and along the Tittabawassee River that have required cleanup called Sediment Management Areas, or SMAs, and Bank Management Areas, or BMAs. EPA has two main cleanup goals for these areas: 1) limit the spread of dioxin-contaminated riverbank soil and sediment to reduce dioxin levels farther downstream; and 2) help keep dioxin from building up in Tittabawassee River fish.

SMA cleanups have typically involved removing contaminated sediment and disposing of it or covering contaminated sediment to keep it safely in place. BMA cleanups usually include technologies that stabilize the bank to stop erosion of contaminated riverbank soil. Bank stabilization always includes planting deep-rooted, erosion-resistant, and native vegetation. These plants increase habitat diversity along the river. In some cases, the banks were partly or completely removed.

Floodplain Cleanup

In 2015, EPA, working with EGLE, selected a plan to cleanup dioxin-contaminated soil in frequently flooded areas along the Tittabawassee River downstream of Dow's plant in Midland. EPA's cleanup plan will ensure that people are safe when they come in contact with Tittabawassee River floodplain soil.

Not every floodplain property has needed cleanup. We focused on properties in frequently flooded areas, known as the 8-year floodplain. Contamination is not found evenly throughout the 8-year floodplain. EPA and EGLE developed cleanup numbers to determine where a cleanup is needed. Properties that have dioxin levels lower than the cleanup numbers require no further action under this program. If dioxin levels are higher than the cleanup numbers, Dow will contact the property owner to begin discussions about a cleanup. Soil is removed and replaced, and the vegetation is replanted.

Over 370,000 cubic yards of soil and sediment have been removed and properly disposed of from the Tittabawassee River SMAs, BMAs, and floodplain.

Dow has conducted cleanups of SMAs and BMAs in Segments 1 through 7 from 2012 to 2024 and active construction work along the Tittabawassee is now complete. Approximately 5.4 miles of banks and 23 SMAs have been cleaned up. Dow began floodplain cleanups in 2015 and is largely complete as of the end of 2024. About 110 areas have been cleaned up

and hundreds more have been assessed that do not need cleanup.

Saginaw River and Bay

Upper Saginaw River

The project team has begun to focus on the Upper Saginaw River, the first 4.8 miles of the Saginaw River down to the sixth street turning basin and Floodplain, which includes the floodplain for the entire 22 miles of the Saginaw River.

Dow has started sampling the Upper Saginaw and the Saginaw floodplain and these investigations will be conducted in a phased approach. More studies are likely to take several years before a cleanup of these segments can be proposed. The studies may look at how to limit dioxins getting into the food chain and whether the sediments are eroding.

Middleground Island

In 2018 and 2019, Dow took soil samples from several residential areas in the Saginaw floodplain. Because soil sample results were higher than the cleanup number on Middleground Island residential properties, EPA, working with EGLE, selected a cleanup plan in 2020 before the rest of the Saginaw floodplain areas. Similar to the cleanup for the Tittabawassee River floodplain, contaminated soil was dug out and replaced with clean soil and the yards were restored. Construction was completed in 2022.

A total of 40,300 cubic yards of soil were removed from 17 yards on Middleground Island in 2022.

Project Monitoring

Monitoring throughout the Tittabawassee River, Saginaw River and Bay site takes place every year. Completed cleanups are inspected and monitored to ensure long-term effectiveness, including after floods. Dow is also monitoring trends in sediment and fish to see if conditions are improving over time.

Learn more about the cleanup:

www.epa.gov/superfund/tittabawassee-river

Please contact Diane Russell:

Phone: (989) 395-3493

Email: russell.diane@epa.gov



Site Progress

Tittabawassee River, Saginaw River and Bay Cleanup Progress



Spring 2025

This photo shows deep-rooted native vegetation stabilizing a riverbank.

Overview

Cleanups have been underway for several years to manage contaminants in the Tittabawassee River, Saginaw River & Bay site. These actions are being implemented by The Dow Chemical Company with oversight by EPA and EGLE.

Some early actions were conducted before 2010. In 2010, EPA and EGLE divided the 24-mile lower Tittabawassee River into seven segments ranging from 3 to 4 miles each. Work along the Tittabawassee River has been completed segment-by-segment from upstream to downstream. As discussed on the back page, cleanup work targets specific sediment deposits and riverbank areas in each segment. Evaluations and cleanup of properties in the adjacent Tittabawassee floodplain started in 2015 and is largely complete.

In 2022, Dow completed cleanup of properties on Middleground Island. The 22-mile Saginaw River is divided into segments; 4.8 miles of the Upper Saginaw River and 17 miles of the Lower Saginaw River (USACE dredges for navigation), floodplain and Saginaw Bay. Work has begun on the Upper Saginaw River. Dow is working with EPA to evaluate the Upper Saginaw River and Saginaw River floodplain and started field sampling to fill data gaps in the Summer of 2024.

This brochure provides information about the cleanup progress achieved. The map on the inside shows the lower Tittabawassee River and Saginaw River. Not every cleanup action is depicted. The pictures highlight some typical projects.

