United States Environmental Protection Agency

GRASSE RIVER SUPERFUND SITE
ICE JAM INVESTIGATION OVERVIEW & IN-RIVER CAP REPAIR WORK
MASSENA, NEW YORK

AUGUST 2022 **REGION 2**

Upcoming Activity

The U.S. Environmental Protection Agency (EPA) will be overseeing repairs to portions of the cap at the Grasse River Superfund site (aka Alcoa Aggregation) that were damaged in a March 2022 ice jam event in Massena, New York. In-river work is scheduled to begin September 7, 2022. The March 2022 ice jams caused limited scouring of the cap and sediment immediately upstream of the Route 131 Bridge in Massena.

Arconic Inc. (formerly Alcoa), hired contractor J.F Brennan to repair the cap. As an interim measure, EPA approved placing a six-inch isolation layer made of sand and activated carbon mix, in areas where scouring and high concentrations of polychlorinated biphenyls (PCBs) were observed after the ice jams occurred. These areas can be seen on Figure 1-1 (Cap Certification Unit Overview) labeled as parts of CCU-09, CCU-10, and CCU-32. This initial phase of the work is estimated to take two weeks.

As part of the second phase, Arconic is performing further investigations to assess the geologic conditions of the river bottom (referred to in site-related documents as a geotechnical investigation) as well as an evaluation of different combinations of dredging and capping options to address the areas impacted by the March 2022 ice jams. The results will be submitted as part of a work plan for the second phase of the repair work in September. In the second phase, they will address the area where the chemical isolation layer was placed during the first phase, as well as areas where scoured material has deposited.

Noise, air quality, and water quality will be monitored during the construction like previous years of in-river capping. Work will be conducted during the day from 6 a.m. to 6 p.m. with no overnight work planned at this time.

Online Public Information Session

EPA will hold a virtual public information session on **Tuesday, September 6, from 6 p.m. to 7:30 p.m.** to discuss the results of the ice jam investigation and upcoming cap repair work. Community members can join the meeting online or by phone.

How to join the online meeting:
Click on the meeting link: https://bit.ly/3Tp7L2t

Call-in information (audio only):
315-565-0493; Phone Conference ID: 459 589 793#

Visit the EPA Grasse River webpage for more information: www.epa.gov/superfund/alcoa-aggregate

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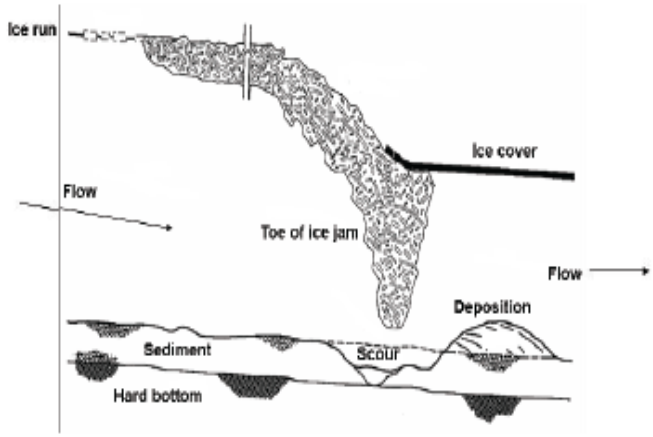
Arconic, with EPA oversight, completed the dredging and capping work in a 7.2-mile stretch of the Grasse River to address PCBs in 2021. However, multiple ice jams occurred in March 2022 which eroded small discrete areas of the river bottom. Out of the 257 acres of the site that was capped in the river's main channel, approximately 4.3 acres of the cap was damaged due to scouring from the increased force beneath the ice jam. The portions of the modified armored cap and sand cap that eroded were not designed to withstand scouring from severe ice jams. The armored cap placed upstream of the Route 131 Bridge in Transects (T) T1-T19 (*see Figure 1-1)*, was designed to withstand forces from severe ice jams, performed well and was not scoured. Arconic is monitoring in the long-term under EPA oversight, and they are required to make repairs to the cap as needed.

Arconic is looking into the impacts of the March 2022 ice jams. The studies showed that the ice jams scoured less than two percent of the capped area located immediately upstream of the Route 131 Bridge in Massena and deposited most of the scoured material (primarily capping material with some native sediment) mostly downstream in T19.5-T24 and T25-27.*5 (see Figure 1-1)*. In order to reduce the potential for contaminants to be carried or redeposited further downstream, cap repair work in this section of the river needs to be performed this year. As an interim measure, Arconic will begin repairing the cap in September so that this work can be completed before the onset of winter. Before making a final decision regarding the damaged portions of the cap, EPA, the State of New York, and Saint Regis Mohawk Tribe will evaluate the different alternatives for their viability in preventing the recurrence of ice jam damages.

What is Ice Jam/Ice Scour?

An ice jam is an accumulation of ice in the river channel that causes an ice jam toe to form, creating a very high-water flow rate and turbulence under the ice jam toe.

The high-water flow rates are created by the same amount of water being pushed through a smaller portion of the river channel. The high-water flow rate and turbulence under the ice jam toe can result in localized scour along the river bottom sediment and redistribution of sediment.



Ice Jam Investigation Overview

After the ice jams occurred in March 2022, Arconic monitored the water column, conducted bathymetric surveys (measurements of the river bottom) and a tree scar survey, sampled the sediment, and conducted other work to investigate the ice jams and to identify areas that have eroded and where the eroded capping material and sediment deposited.

One of the major findings from the 2022 investigations was that scouring from the ice jams occurred up to 0.35 miles further downstream than previously anticipated. Information used in developing the 2013 Grasse River Record of Decision showed that the scouring due to severe ice jams was limited to T19 (*see Figure 1-1)*. Arconic is also looking at whether the current conditions of the underlying soil in the area that is targeted for repair, located between T19 and T22.5, is stable and strong enough to handle receiving the added weight of an armored cap (referred to as the geotechnical investigation on the previous page).

As part of the investigations, ice experts are evaluating the potential impacts associated with the proposed cap repairs using a computer model. The ice experts are also evaluating other alternatives including dredging and capping repairs, to address possible impacts from future ice jam forces.

To fully understand the impacts from the March 2022 ice jam scour, including material that was moved and deposited elsewhere, Arconic initially sampling the river bottom at 114 locations. Arconic subsequently collected samples from 26 locations in late July. In September Arconic is scheduled to sample additional locations.

Cleanup Action History

EPA selected a cleanup plan for the site in 2013 in a document called a Record of Decision that called for removing contaminated sediment from near-shore areas in a 7.2-mile stretch of the lower Grasse River and placing a cap on the river bottom in the main channel. Additional dredging of contaminated sediment was added to the project in 2020 in the Snug Harbor area, which is a small embayment located on the north shore of the river, to accommodate a new, larger tugboat purchased by the St. Lawrence Seaway Development Corporation, which operates its tugboat out of Snug Harbor.

The dredging and capping work began in 2019 and was completed in fall 2021. During the cleanup, contaminated soil was also removed from two areas along the north shore of the river near the Alcoa Bridge in Massena. Dredging and capping equipment had been removed from the river and from two shoreline support areas located on Route 131 and Haverstock Road in 2021. The Haverstock Road Staging Area, which was used for storing capping material was fully restored in 2021. The Route 131 Staging Area will continue to be used for river monitoring activities and any cap maintenance, when needed for the next few years.

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For information on general environmental concerns or the federal Superfund hazardous waste program, for concerns or complaints about the Superfund program, or if you seek assistance in resolving site-specific issues that were not fully addressed by EPA, please contact: **George Zachos**, EPA Regional Public Liaison, (732) 321-6621 or (888) 283-7626, zachos.george@epa.com

www.epa.gov/superfund/alcoa-aggregate

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Figure 1-1: Cap Certification Unit Overview