

# Superfund Program Update

for the

## Grasse River Study Area

Massena, New York

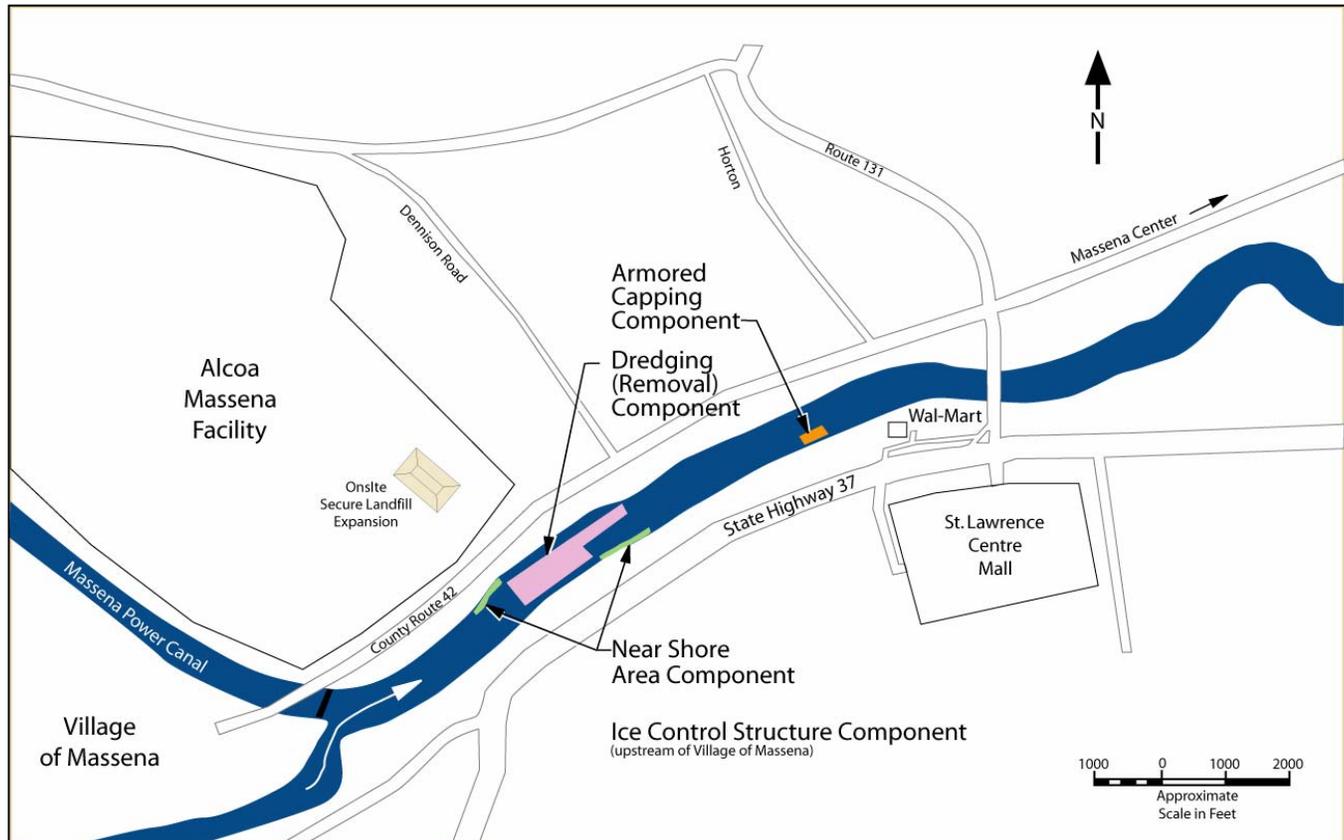


June 2004

This update is produced periodically by Alcoa and the EPA to provide an overview of activities associated with the Grasse River Study Area, including key elements of the cleanup process and the next steps in the program. Your comments on the activities described in this update are welcome. If you would like more information on the Grasse River project or have any questions, please visit the project website at [www.thegrasseriver.com](http://www.thegrasseriver.com) or contact one of the individuals listed on the back of this newsletter.

### Alcoa to Conduct Remedial Options Pilot Study

Alcoa Inc. with oversight from the US Environmental Protection Agency (EPA) will conduct a study in 2005 to further evaluate the potential remediation (cleanup) options to be considered for the lower Grasse River near its Massena, New York plant. This study will build upon previous work in order to address outstanding issues concerning the evaluation of potential cleanup options, and will include an assessment of possible options to address the ice jam related sediment scour that occurred in the river in the spring of 2003. The study will have multiple components to be conducted during 2004 and 2005, as shown below, with the majority of the work taking place in the summer of 2005.



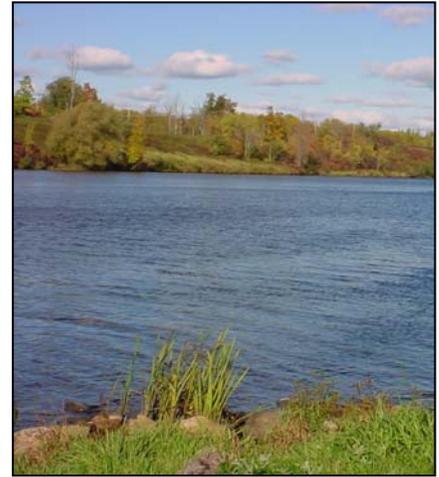
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## ***PROJECT OVERVIEW***

As part of an Administrative Order issued by EPA in 1989, the Alcoa West Plant is doing investigation and an analysis of remedial alternatives for an area called the Grasse River Study Area. The studies identified a 7-mile stretch of the Grasse River from the Power Canal to the St. Lawrence River as the area for remedial focus. This section is often referred to as the lower Grasse River.

The major contaminant of concern in the Grasse River Study Area is polychlorinated biphenyls (PCBs).

Alcoa has been conducting sampling of the Grasse River sediments, water column and biota. Following this extensive sampling effort, Alcoa began evaluating potential remedial alternatives. In 1995, Alcoa conducted a dredging action from a 1-acre area of the river directly offshore from Alcoa's main wastewater discharge outfall. In 2001, Alcoa performed another pilot study to evaluate subaqueous (under water) capping as a potential remedial alternative to address polychlorinated biphenyls levels in the biota of the lower Grasse River. The capping pilot study consisted of constructing a subaqueous cap in an approximate 7-acre portion of the river. Data collected in 2001 and 2002 indicated the subaqueous cap was intact, there was no evidence of polychlorinated biphenyls migration into or through the cap, and the benthic organisms were re-colonizing the capped area.



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## ***2003 RIVER STUDIES***

Monitoring of the river in the spring of 2003 found that the subaqueous cap and in some areas, underlying sediment had been disturbed. Through a series of studies it was determined that an ice jam had occurred in the lower Grasse River in the spring of 2003 and this ice jam had caused hydraulic scour of a portion of the river bottom. The ice jam related scour was not expected and the pilot cap was not designed to withstand the forces generated by the ice jam event.

Upon completion of the 2003 studies, there are still outstanding issues about how to develop, screen and compare cleanup options for the lower Grasse River that will address both the polychlorinated biphenyl flux and mitigate ice

scour effects. One of the best ways to get this information is to conduct large-scale projects in the field. These large-scale projects can demonstrate remedy effectiveness, can help resolve construction questions, and allow progress to be made while the studies are underway. The information from the studies is used to develop a final remedy proposal.

Alcoa has remediated areas at the Massena West Plant under an agreement with the New York State Department of Environmental Conservation (NYSDEC). Cleanup activities on the property are not covered in the Grasse River Study Area and are not addressed in this update.

Besides the cleanup activities on the property, the plant has undertaken a series of actions to eliminate PCB discharges to the river. Recently a treatment system was installed to treat contaminated process water and stormwater from the site. Plans are in place to reduce water usage at the plant, reducing the overall volume of water that needs to be treated.

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## ***REMEDIAL OPTIONS PILOT STUDY***

To make progress toward identifying the preferred remedial approach for the Grasse River, EPA has decided to pursue a Remedial Options Pilot Study. The study will include provisions to prevent ice jam

related scour, which could disturb buried polychlorinated biphenyls during final remedy development, selection and implementation. The information obtained from this study will also help address outstanding questions regarding remedy effectiveness, implementation and impact. The Remedial Options Pilot Study will include:

- ◆ A dredging (removal) component
- ◆ An ice control structure
- ◆ An armored cap component
- ◆ A near shore area removal and capping component
- ◆ Monitoring



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## ***SEDIMENT DREDGING***

The sediment dredging component will involve the removal of sediments containing elevated levels of polychlorinated biphenyls from a portion of the river just downstream of the main Alcoa wastewater discharge outfall. Sediment will be removed from the bottom by mechanical methods (clamshell bucket and crane) and/or hydraulic methods (pumping or vacuuming). Dredging will be performed in a targeted area (see page 1) that could be subjected to ice jam-related sediment disturbance and where sediments have elevated polychlorinated biphenyls. The effectiveness and logistics of dredging will be evaluated. The work will include:

- ◆ Expanding Alcoa's landfill for disposal of dredged solids
- ◆ Dredging (removal) of sediments from a 9-acre area
- ◆ Using appropriate containment systems to contain sediments disturbed during dredging
- ◆ Placing 1-foot of new clean material on river bottom after dredging



## ***ICE CONTROL STRUCTURE***

Ice control structures are used effectively in a number of communities, mostly to avoid property damage and flooding from ice jams during the spring thaw. An ice control structure upstream of the Village of Massena will help avoid ice jams (and sediment disturbance) in the lower Grasse River. The type of control structure being considered for the Grasse River is a "pier type" of structure where round concrete piers would extend above the water to trap large ice fragments. Spaces between the piers will allow for free passage of fish and recreational boaters. The work will include:

- ◆ An engineering study and developing a lab-scale model (with help from US Army Corps of Engineers)
- ◆ Working with landowners to obtain access
- ◆ Building the ice control structure in 2005, likely upstream of the Route 37 bridge

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## ***ARMORED CAPPING***

The armored cap component will evaluate the placement of subaqueous cap materials that are capable of withstanding the forces of an ice jam. A cap would consist of sand/topsoil with an outer "armor" of larger sized stone. Armored capping will use construction techniques similar to the 2001 Capping Pilot Study. The following work will be conducted:

- ◆ An engineering study and possible testing on lab-scale model
- ◆ Constructing an armored cap in a 1-acre area (see page 1)
- ◆ Using silt curtains to contain sediments disturbed during capping

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## ***NEARSHORE AREA REMOVAL AND/OR CAPPING***

Some areas along the lower Grasse River contain a shallow or "nearshore area" with water depths of less than 5-feet. Although polychlorinated biphenyl concentrations are generally lower in the nearshore areas, these areas offer different habitat for fish and other wildlife. A specific study is being performed to evaluate cleanup options for the nearshore areas to include:

- ◆ North shore - removing 1-foot of soft sediment from 1-acre area and replacing it with a 50/50 mix of sand and topsoil
- ◆ South shore - placing a thin layer of sand/topsoil mix over the top of existing sediments

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## ***MONITORING***

All of the pilot study components will be monitored before, during and after construction. The monitoring will investigate the effects of construction on sediment, water, air, and habitat. The monitoring program will have specific requirements to ensure that the work is done in a safe and protective manner. EPA and Alcoa will work with the community on issues that may be of concern including truck traffic, river traffic, noise and safety of the Ice Control Structure.

## FUTURE NEWS

The next newsletter will report the progress of the Remedial Options Pilot Study. The information from this study will be used to revise the Analysis of Alternatives Report. A proposed Remedial Action Plan will then be prepared by EPA and provided to the public for comment. After a review and comment period, a final decision is made by the EPA. The plan is recorded in a Record of Decision and the cleanup plan is then implemented.

Because this update contains only summary information on the Grasse River Study Area, you are encouraged to consult the information repositories which contain site-related documents issued by the EPA. Documents pertaining to this project are available at the following locations:

**Massena Public Library**  
41 Glenn Street  
Massena, New York 13662  
(315) 769-9914

**US Environmental Protection Agency**  
290 Broadway, 18<sup>th</sup> Floor  
New York, New York 10007-1866  
By appointment: (212) 637-4217

**St. Regis Mohawk Tribe  
Environmental Division**  
82 Indian Village Road  
Akwesasne, New York 13655  
By appointment:  
Contact Ken Jock, Division Director  
(518) 358-5937



A comprehensive history of the Grasse River project and additional information can also be obtained on the project website:

[www.thegrasseriver.com](http://www.thegrasseriver.com)

## GLOSSARY

**Superfund:** The common name for the federal program established by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, as amended in 1986. The Superfund law authorizes EPA to investigate and cleanup sites where hazardous substances have been or might have been released into the environment and may pose a risk to human health or the environment.

**Polychlorinated biphenyls (PCBs):** A group of chemicals used for a variety of purposes including electrical appliances, hydraulic fluids and caulking compounds. PCBs are persistent in the environment because they are very stable, non-reactive and heat-resistant. PCB production and sales were banned in the United States in 1979 due to concerns that some types of PCBs may cause cancer.

**Pilot Study:** An engineering study of a technology with specific objectives and monitoring requirements.

**Dredging:** To remove sediment using a hydraulic and/or mechanical dredging technique from the river bottom.

**Sediments:** The layer of soil and mineral at the bottom of surface waters such as streams, lakes and rivers, which absorb contaminants.

**Capping:** Installation of a material over an area of concern to prevent direct contact and provide containment.

**Dewatering:** The separation of water from the sediments removed during a dredging operation.

**Resuspension:** The lifting of previously settled sediments up into the surrounding water.

**Containment System:** Flexible fabric barriers (such as silt curtains) that are used to isolate and contain materials within the work area on the river.

**Armored Cap:** A cover material placed on the river bottom that is capable of withstanding flow, erosion and ice jam forces. Natural rock of various sizes is typically used as the armor material.

## FOR MORE INFORMATION

If you would like additional information or would like to be added to the Grasse River site mailing list, please contact:

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