

Former Plainwell Impoundment Time-Critical Removal Action

U.S. EPA Public Meeting – September 23, 2008
Plainwell, Michigan

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U.S. Environmental Protection Agency**

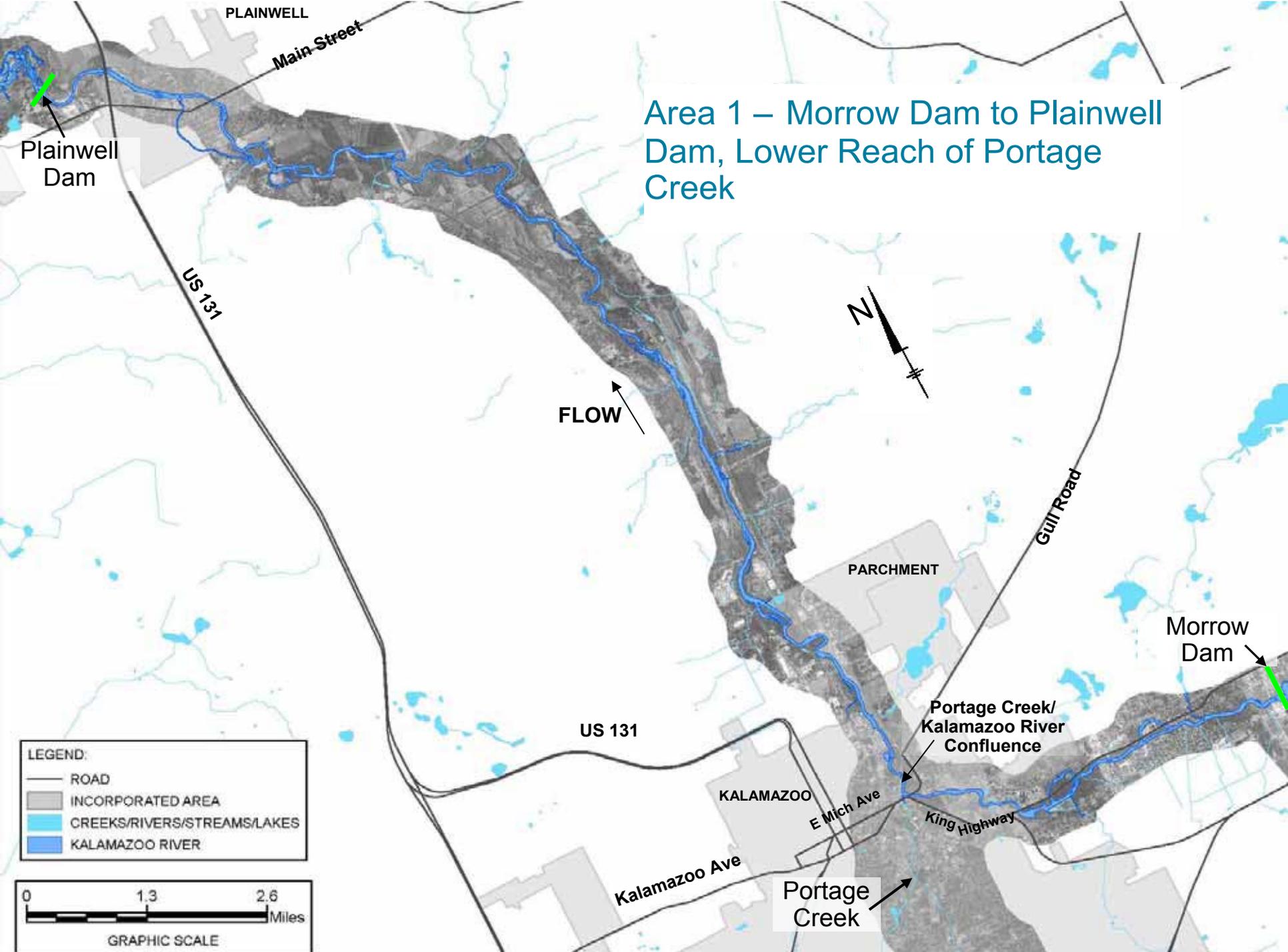


Photo by: Bill Bomar

Allied Paper, Inc./Portage Creek/ Kalamazoo River Superfund Site

- Operable Unit 1: Allied Paper Landfill
- Operable Unit 2: Willow Boulevard and A-Site Landfill
- Operable Unit 3: King Highway Landfill
- Operable Unit 4: 12th Street Landfill
- **Operable Unit 5: Portage Creek and 80 miles of Kalamazoo River**
- Georgia Pacific/Hawthorn Mill Properties
- Operable Unit 7: Plainwell Mill Property

Area 1 – Morrow Dam to Plainwell Dam, Lower Reach of Portage Creek



Kalamazoo River – The Problem

- Approximately 113,000 lbs. of PCBs are currently located in the aquatic system, primarily as the result of waste practices associated with the de-inking of carbonless copy paper between the 1950s and early 1980s.
- The State of Michigan has issued a “DO NOT EAT” advisory since 1977 for many species of PCB-contaminated fish in the Kalamazoo River.
- The ongoing, uncontrolled erosion of contaminated paper wastes and soils from the river banks is the most significant source of PCB loading to the Kalamazoo River.

Sources of PCBs



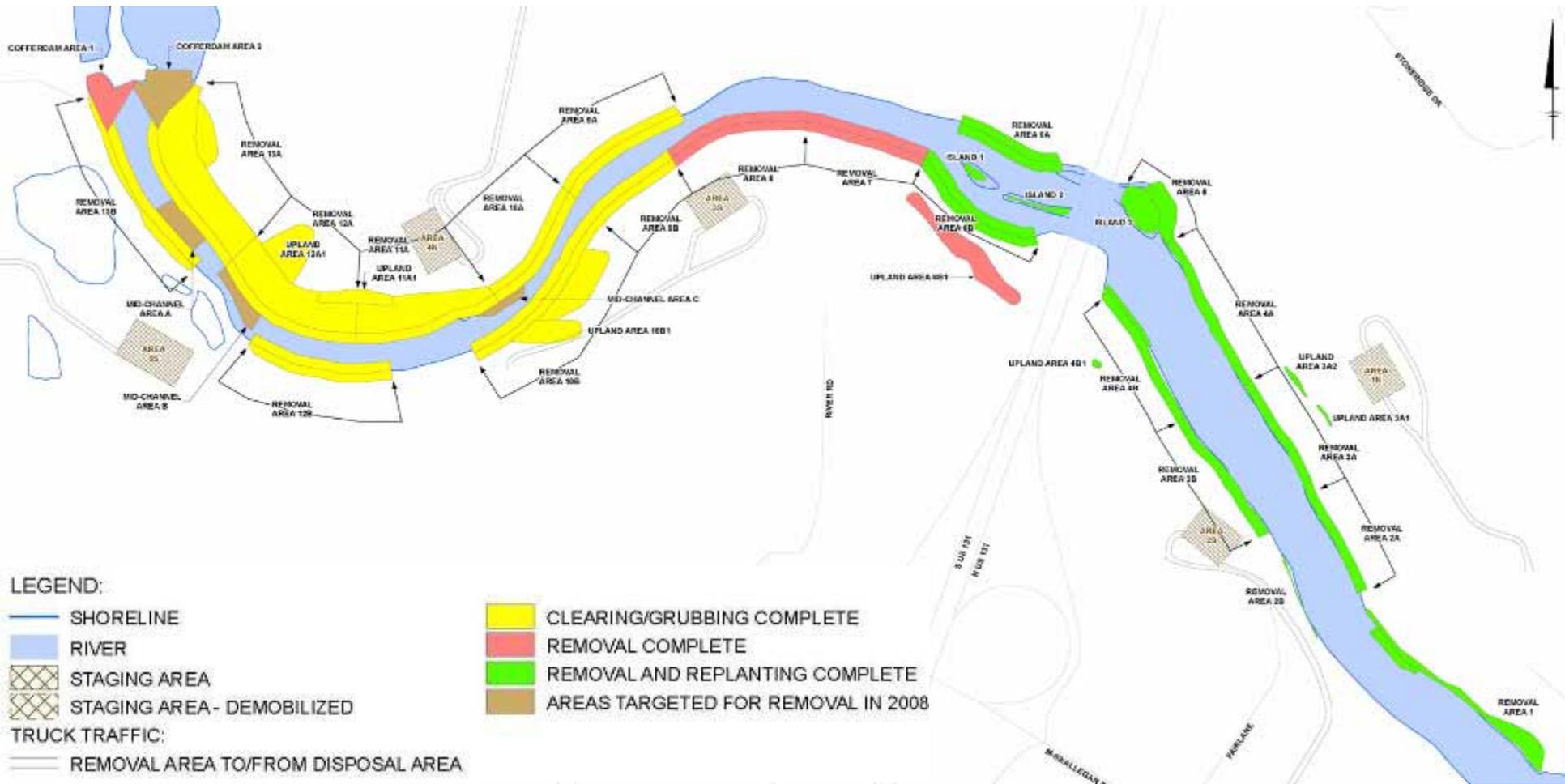
**paper waste on
river banks**

**Residuals
eroding
into river**



Photos by MDEQ

Plainwell TCRA – 2007 Overview





2007 Disposal Volumes

•Non-TSCA cy removed	33,915
•TSCA cy removed	3,010
•Total cy removed	36,925



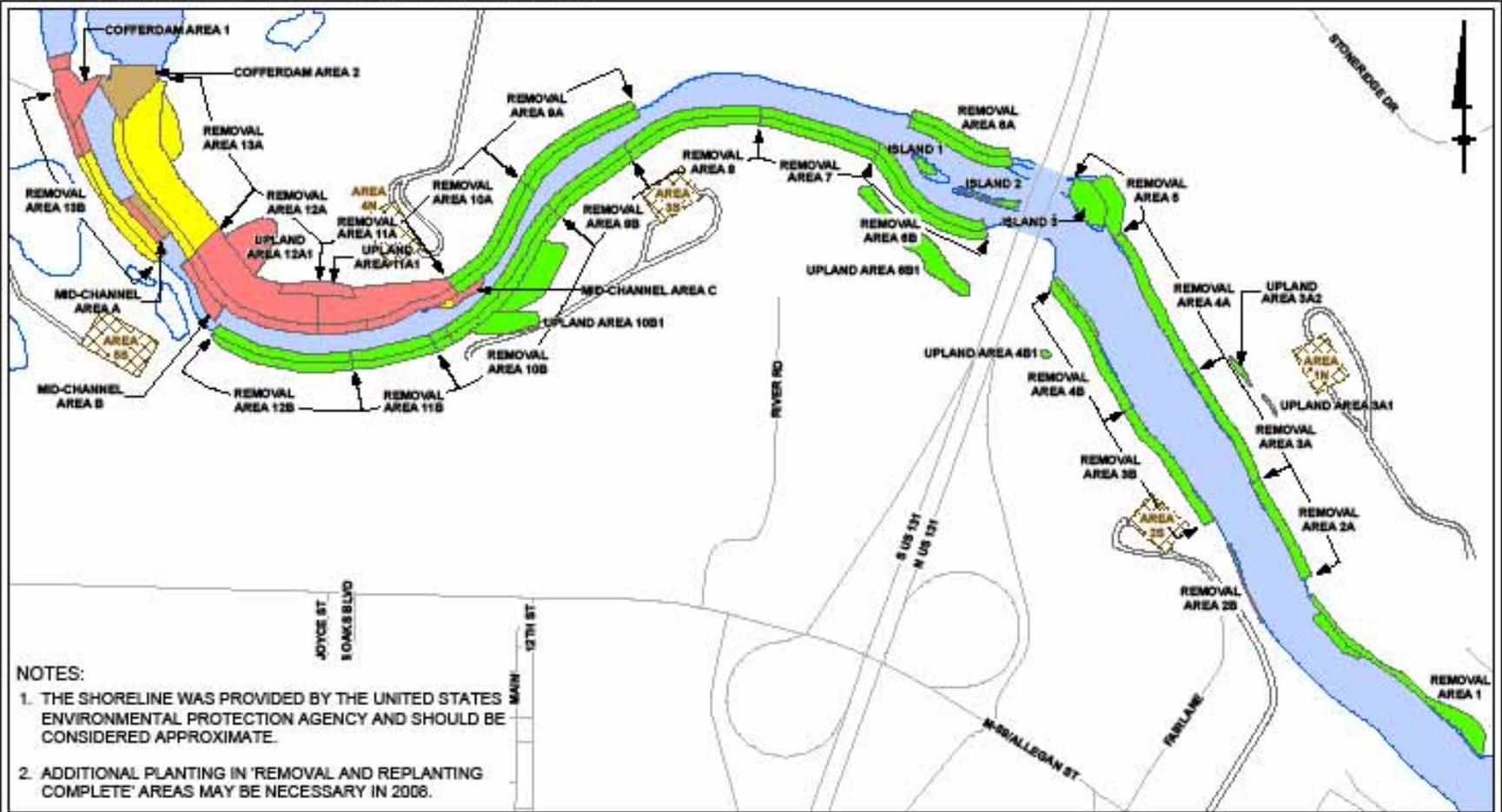
2007 Removed/Restored

- 7,500 linear feet of bank removed
- 7,000 linear feet of bank restored



Plainwell TCRA - Progress To Date

[BYR-85 MTK] BYR-85 MTK K2W MTK
 KRSG (84530.875)
 C:\RSD\Plainwell_TCRA\WeeklyConstructionReports\Removal Progress.mxd - 9/17/2008 @ 3:40:38 PM



- NOTES:**
1. THE SHORELINE WAS PROVIDED BY THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY AND SHOULD BE CONSIDERED APPROXIMATE.
 2. ADDITIONAL PLANTING IN 'REMOVAL AND REPLANTING COMPLETE' AREAS MAY BE NECESSARY IN 2008.

LEGEND:

SHORELINE	CLEARING/GRUBBING COMPLETE
RIVER	REMOVAL COMPLETE
STAGING AREA	REMOVAL AND REPLANTING COMPLETE
STAGING AREA - DEMOBILIZED	AREAS TARGETED FOR REMOVAL IN 2008

TRUCK TRAFFIC:
 REMOVAL AREA TO/FROM DISPOSAL AREA



KALAMAZOO RIVER STUDY GROUP
 ALLIED PAPER, INC./PORTAGE CREEK/
 KALAMAZOO RIVER SUPERFUND SITE

TARGETED REMOVAL AREAS

Plainwell TCRA – 2008 Overview

- Begin excavation work during the week of March 17
- 17.5 acres to be excavated in 2008
 - Removal Areas 9-13
 - Mid-Channel Areas A-C
 - Upland Areas 10B1, 11A1, 12A1
- Approximately 83,000 cubic yards (cy) of material targeted for removal. 17,430 cy TSCA.
- Conclude work in December

Plainwell TCRA – RTK GPS

- Real Time Kinematic Global Positioning System used to confirm removal targets
- In 2008, collection frequency will increase compared to 2007 protocol



Plainwell TCRA – Resuspension Controls

- Physical resuspension controls will include:
 - Silt Curtains
 - Diversion Walls
 - Steel Sheeting
- Effectiveness of controls assessed by:
 - Turbidity monitoring
 - Visual inspections
 - Surface water sampling



Plainwell TCRA – Staging Areas & Processing Activities



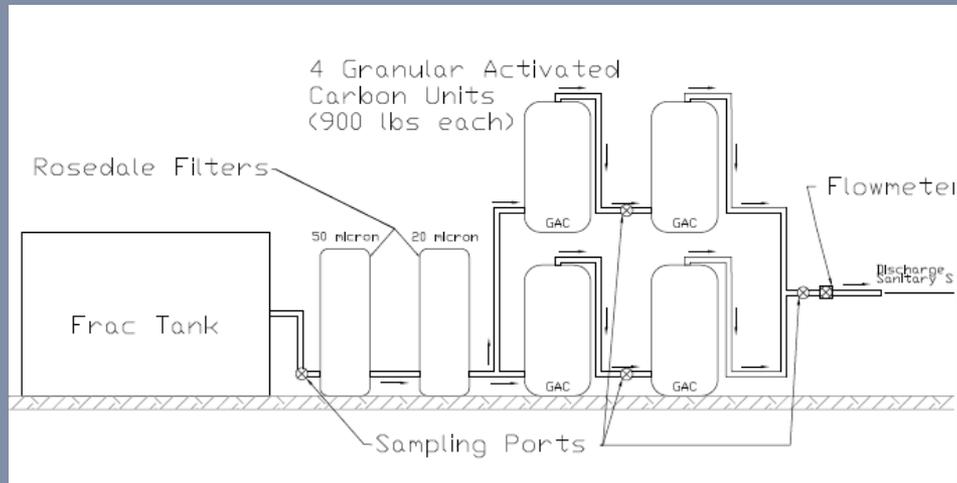
- Staging Areas 3S and 5S active in 2007 and 2008
- Staging Area 4N active in 2008
- Sediment processing – pug mill operation
- Water Treatment
- Sediment Hauling



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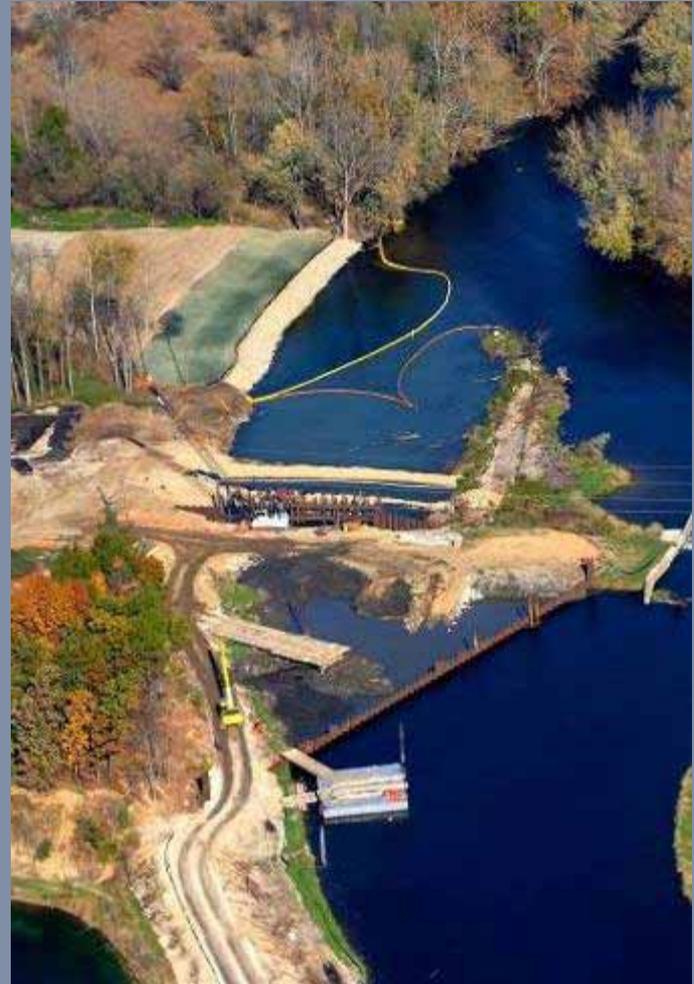
Plainwell TCRA – Water Treatment

- Batch operation
- Self-monitoring discharge reporting system



Plainwell TCRA – Cofferdams and WCS

- Phase 1 Cofferdam removal scheduled for April
- Phase 2 Cofferdam installation in August
- WCS and Phase 2 Cofferdam removal in December



Plainwell TCRA – Cofferdams and WCS



Phase 2 Cofferdam

Plainwell TCRA – Truck Hauling

- On average, 20 to 30 trucks per day leaving the project area to landfills
- Non-TSCA (less than 50 ppm PCBs) material transported to either Allied Waste's C&C Landfill near Marshall, MI, and their Ottawa Farms Landfill near Coopersville, MI
- TSCA material transported to EQ's Wayne Township Landfill, Belleville, MI.



Plainwell TCRA – Replanting Activities

- Tree and shrub planting in 2007 Removal Areas in April
- Grading, seeding, and placement of erosion control blanket and rock will be done as necessary throughout the season
- Observation-based monitoring of replanted areas conducted during summer
- Some restoration work scheduled for 2009



Plainwell TCRA – Winter 2008 Activities

- Work performed in January and February 2008
- Cleared and grubbed Removal Areas 9-13
- Constructed access road from Miller Road to Staging Area 4N
- Developed Staging Area 4N
- Built haul roads in Removal Areas 9-13



Area 9B



Removal Area 10B Upland Area 10B1



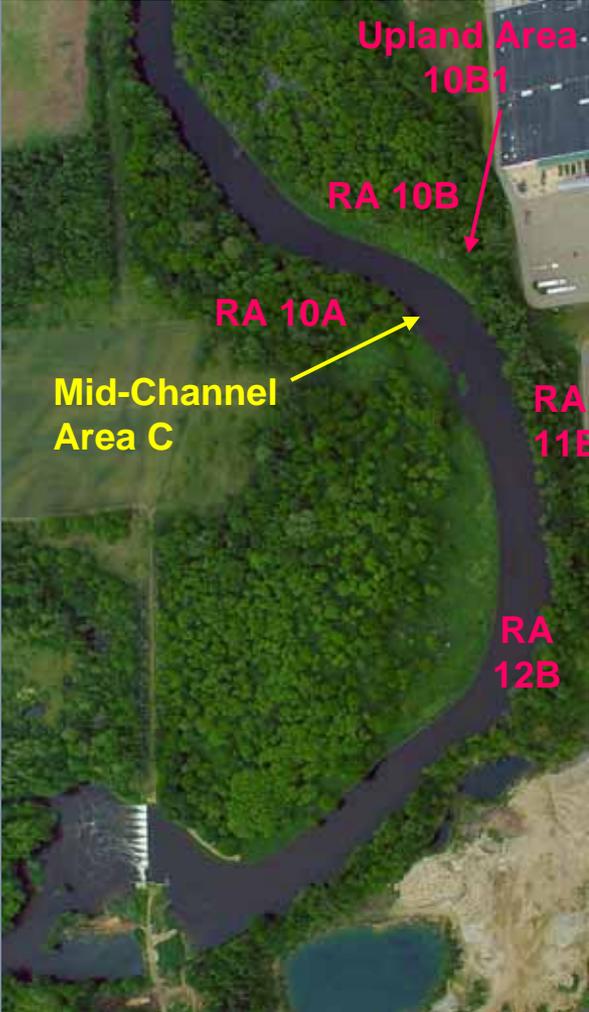
Removal Area 9A



Removal Area 10A



Mid-Channel Area C



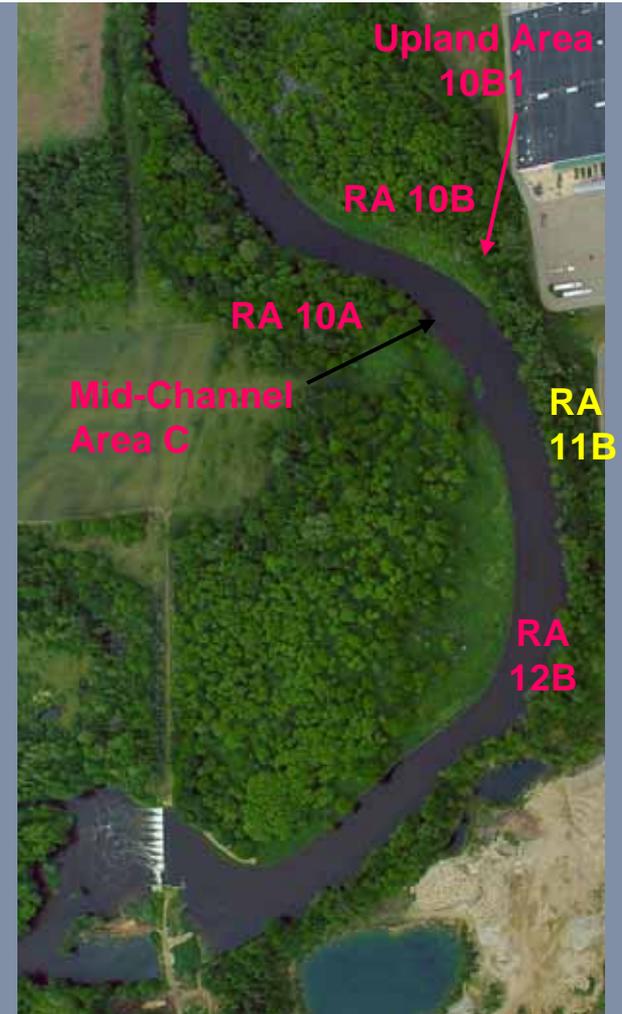
Mid-Channel Area C



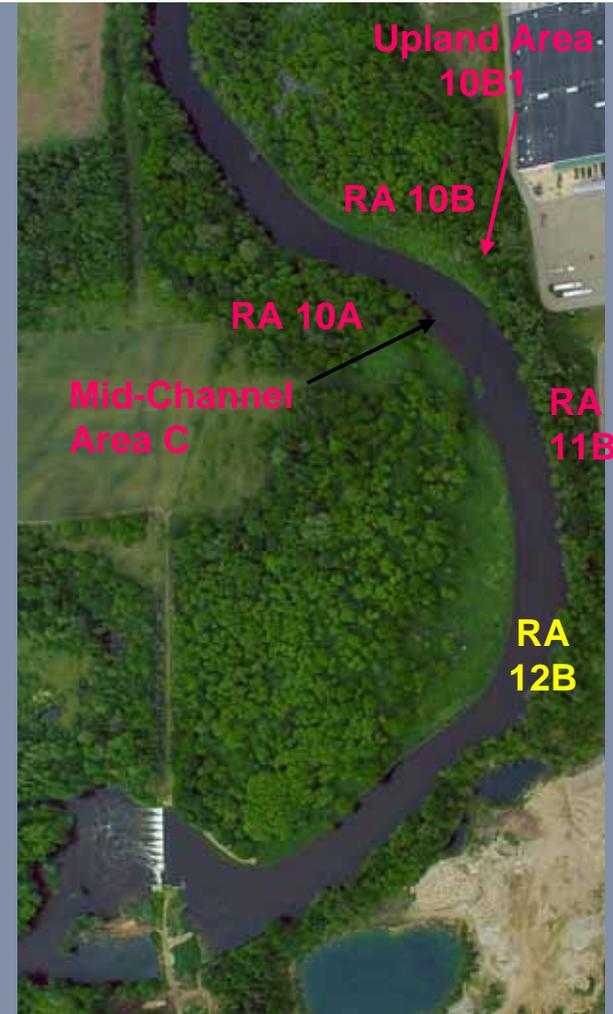
Phase 1 Cofferd Dam Removal



Removal Area 11B

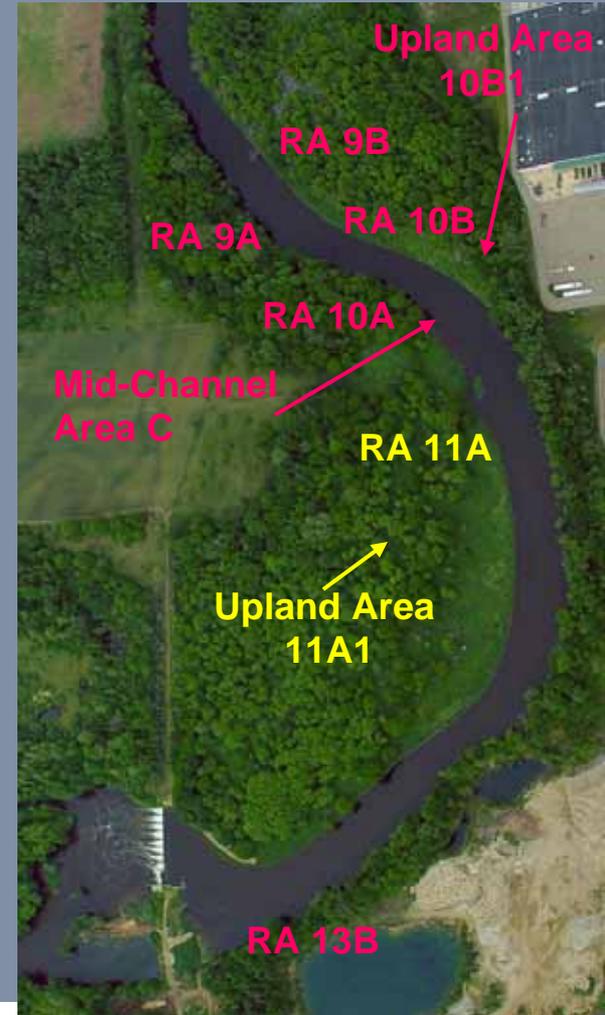


Removal Area 12B

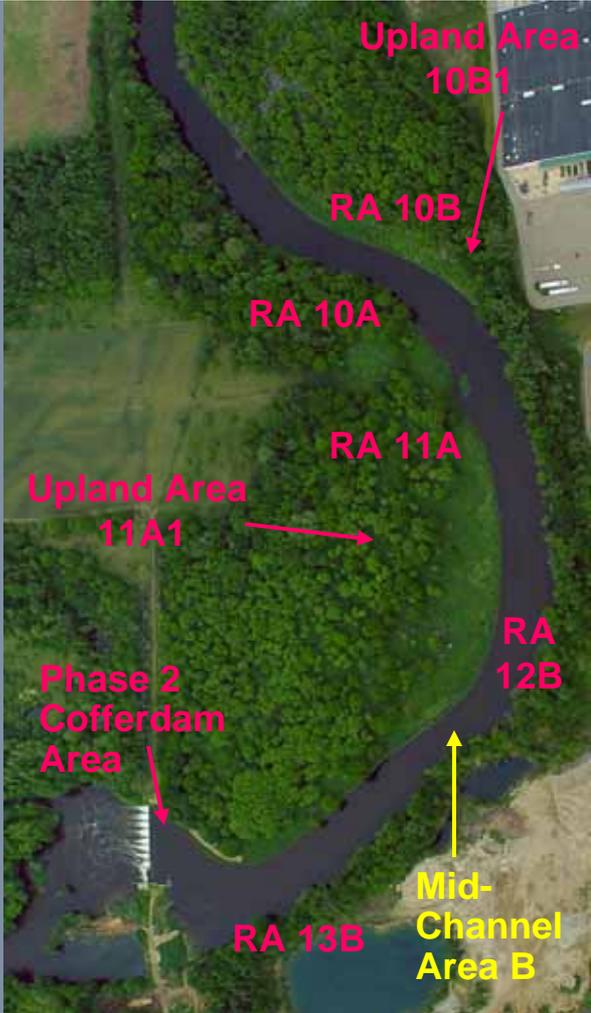


Removal Area 11A

Upland Area 11A1



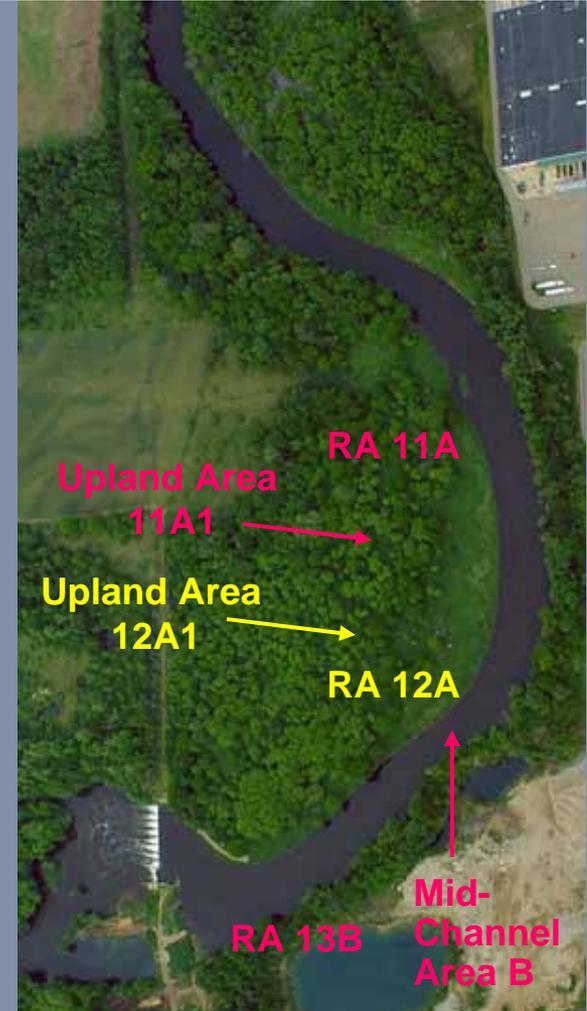
Mid-Channel Area B



Mid-Channel Area B



Removal Area 12A Upland Area 12A1



Removal Area 13A



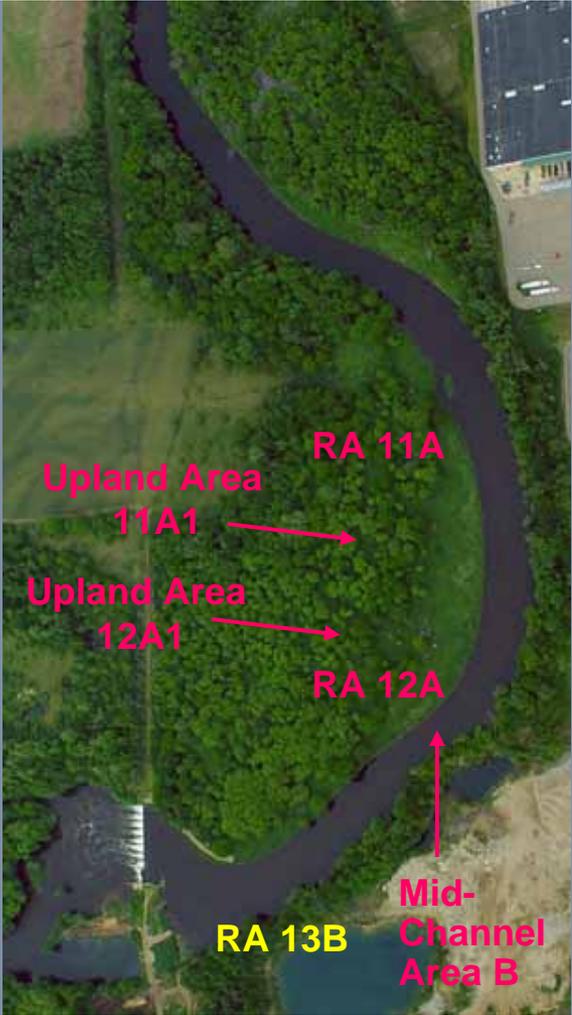
Removal Area 13A



Mid-Channel Area A



Removal Area 13B



Phase 2 Cofferdam Area



Phase 2 Cofferdam Area

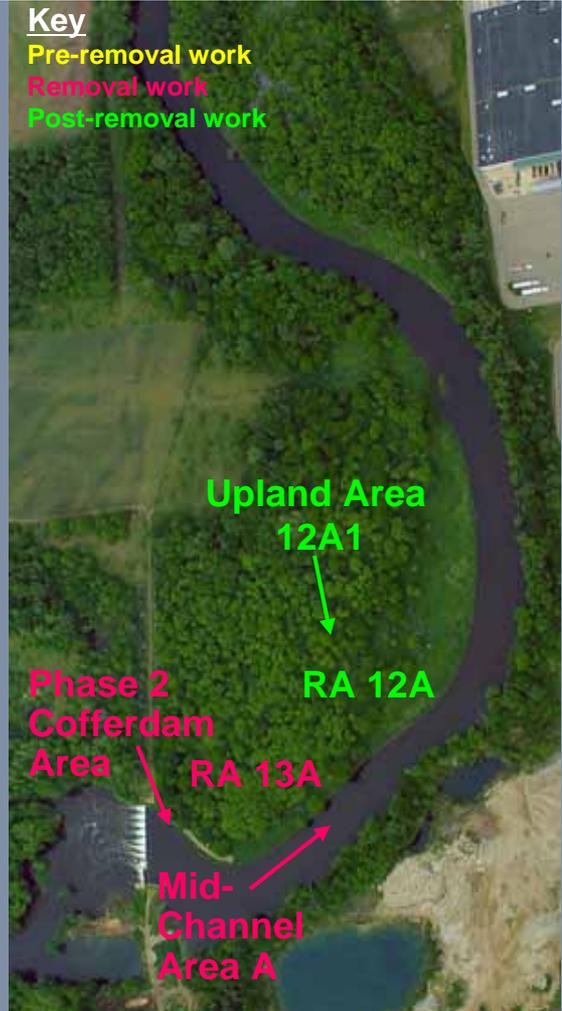


Phase 2 Cofferdam Area



Plainwell TCRA – October 2008 Work Activities

- Continue removal at Phase 2 Cofferdam Area
- Remove 15,455 cy @ 670 cy/day
 - RA 13A: 10,155 cy
 - Mid-Channel Area A: 1,350 cy
 - Phase 2 Cofferdam Area: 3,950 cy
- Finish post-removal activities in RAs 12A and 12A1
- Operate WCS



Plainwell TCRA – November 2008 Work Activities

- Remove 8,600 cy @ 430 cy/day
 - RA 13A: 6,625 cy
 - Phase 2 Cofferdam Area: 1,975 cy
- Begin post-removal work in RA 13A
- Begin removal of Phase 2 Cofferdam structure and WCS
- Operate WCS



Plainwell TCRA – December 2008 Work Activities

- No removal activities planned
- Complete post-removal work in RA 13A
- Complete removal of Phase 2 Cofferdam structure and WCS
- Restore Flow through Western Channel
- Complete Project Closeout Tasks
 - Remove staging areas
 - Decontaminate and demobilize





2008 Disposal Volumes

• Non-TSCA cy removed	44,345
• TSCA cy removed	11,690
• Total cy removed	56,035



Project Summary

(As of September 8, 2008)

•Non-TSCA cy removed	78,260
•TSCA cy removed	14,700
•Total cy removed	92,960
•Total # of Truck Loads	2,656

Plainwell TCRA – Summary of 2008 Plans



- Construction Season: March through December
- 83,000 cy of material to be removed containing 4,000 pounds of PCBs
- Cofferdam and WCS installation, operation, and removal

Plainwell TCRA – September Floods



US-131

Allegan St. / M-89

Plainwell Dam

River flowing freely through new Western Channel

