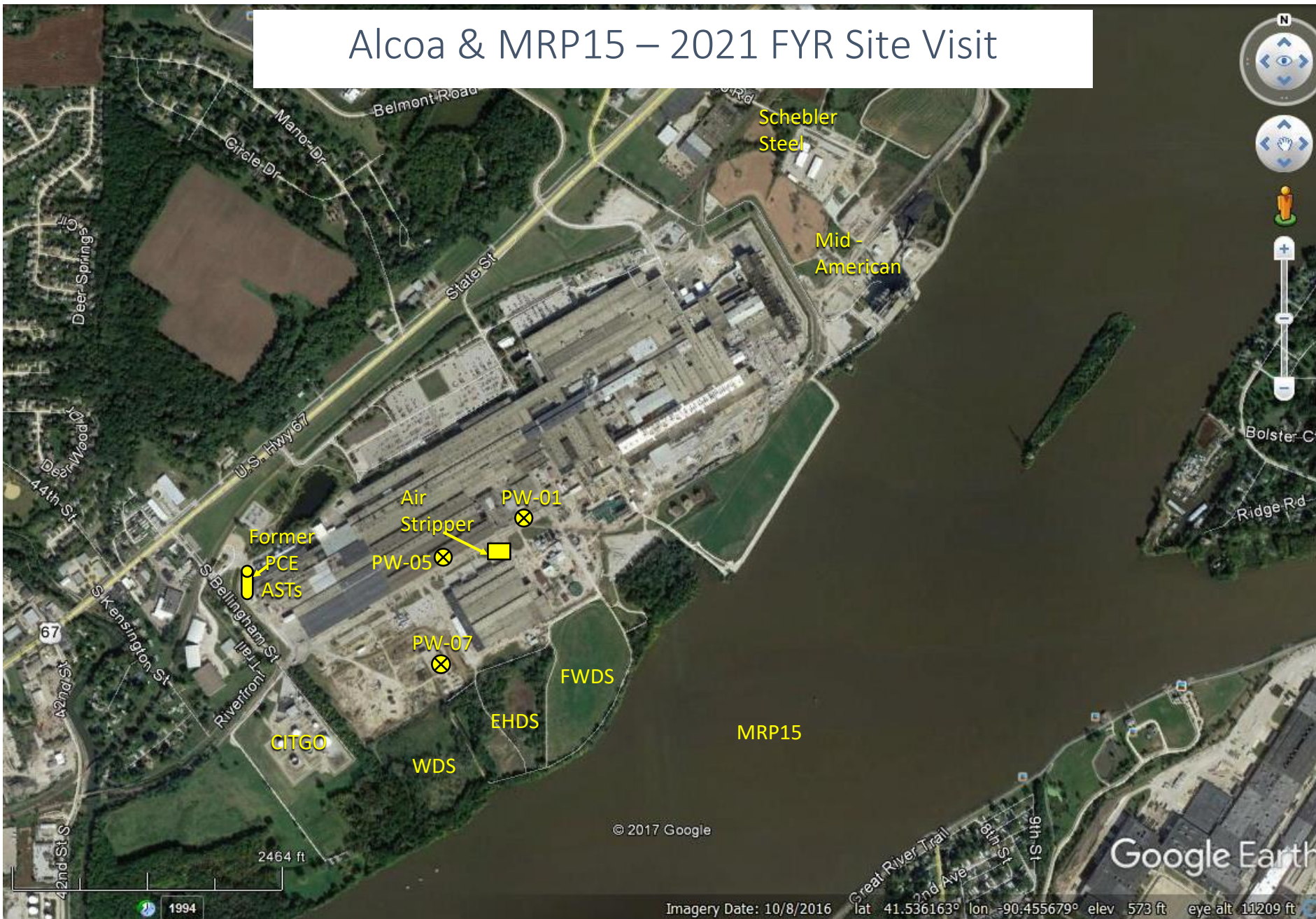


Alcoa & MRP15 – 2021 FYR Site Visit



Alcoa and MRP15 Sites

- Arconic-Davenport Works has been manufacturing aluminum sheet and plate products since 1948.
- Manufacturing processes resulted in contamination of groundwater and soil at the Alcoa Site, and sediments and fish in MRP15 Site.
- The Alcoa and MRP15 Sites have been the subject of investigations and evaluations pursuant to a series of administrative orders on consent between Alcoa (now Arconic) and the EPA.
 - Mississippi River Pool 15 (MRP15 RI/FS) *complete*
 - 1990 CERCLA 106 Order, revised 1996
 - Remedial Investigation –river, land, groundwater
 - Groundwater (GW RI/FS) *complete*
 - 1995 CERCLA Consent Order
 - Site-wide RI/FS with property boundary point of compliance
 - Source Area Investigation (Removal Action Process) *complete*
 - 1995 CERCLA Consent Order
 - 81 FSA Units: Inv and risk assessment of contaminated source area soils

Alcoa and MRP15 Sites

- EPA's selected remedies for the Alcoa and MRP15 Sites in 2004 ROD:

- Alcoa site remedy:

- Groundwater containment, extraction and treatment (GCETS), source area remediation, groundwater monitoring, and institutional controls.
 - The remedy established a Technical Impracticability (TI) zone where groundwater cleanup is not expected to meet performance standards within a reasonable timeframe.
 - STMP for FSA Units requiring management.

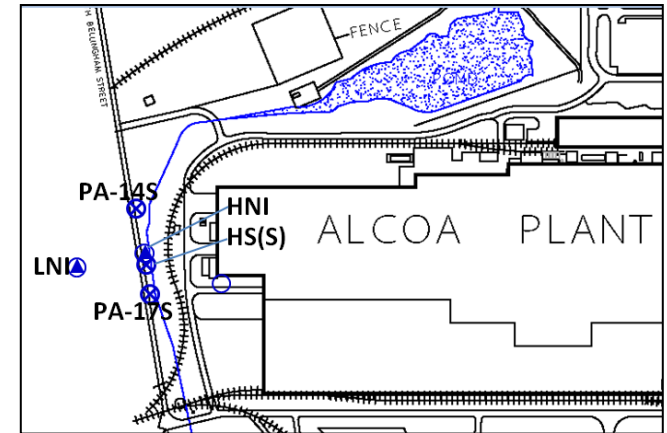
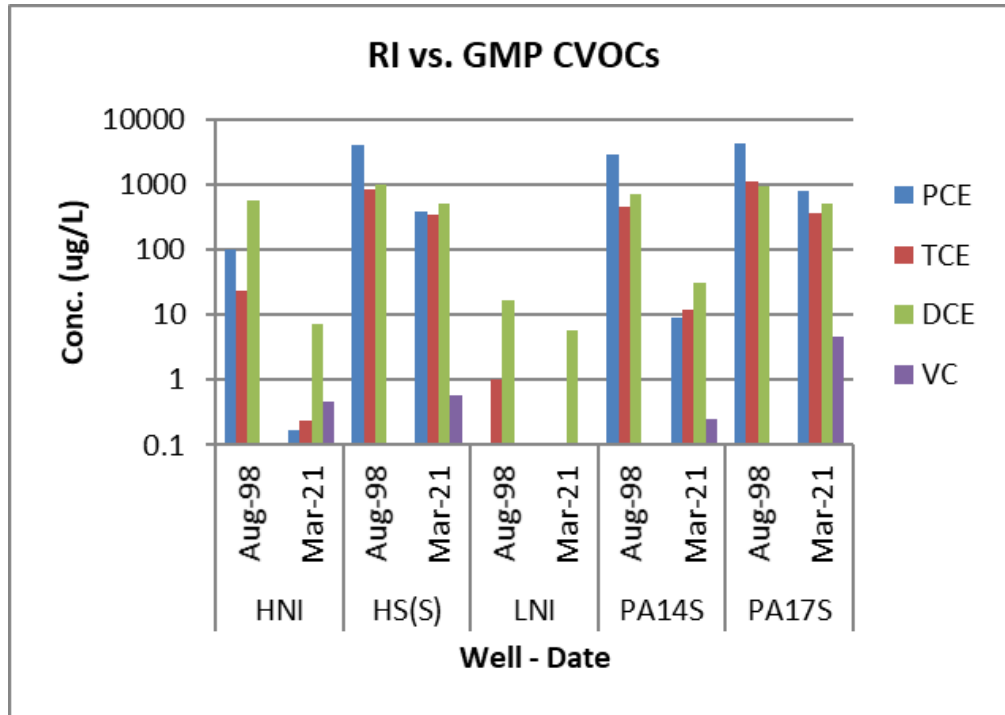
- MRP15 site remedy:

- Monitored natural recovery to address contaminated sediments and fish in MRP15.
 - Includes the evaluation of sediment bed stability, and fish sampling to demonstrate that contaminant reduction is occurring.

- Post ROD Activities:

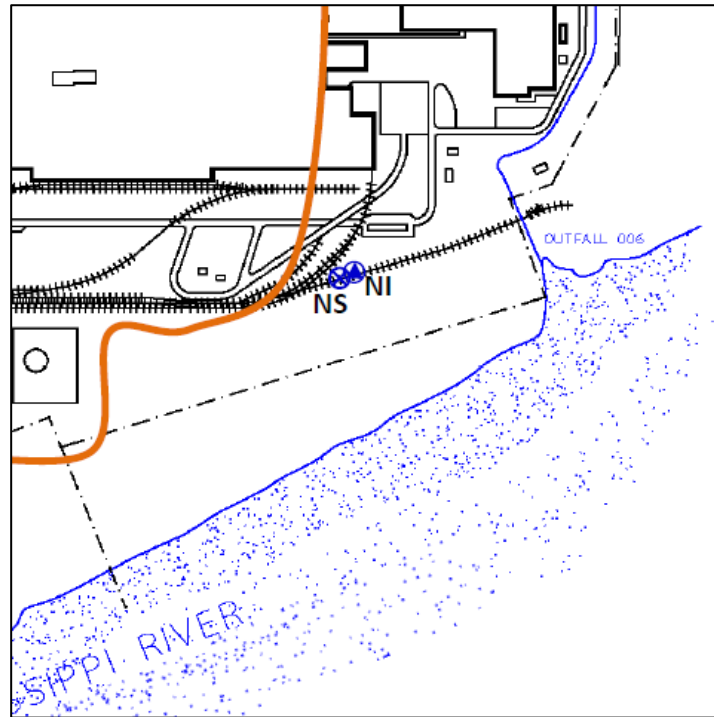
- 2008 Consent Decree (performance standards)
 - 2011 RD/RA Work Plan approved
 - 2012 RD/RA Work Plan started (MRP15 MNR and Alcoa Site well tests/install)
 - 2014 LTMP/GCETS formally implemented
 - 2016 Fish & Sediment Monitoring
 - 2017 1st 5-yr review
 - 2018-2020 VI Assessment
 - 2018 Formal de-listing from Iowa Registry of Hazardous Waste or Hazardous Substance Disposal Sites
 - 2019 Environmental Covenant executed; transition from Remedial Action to Site Management
 - 2020 MRP Sediment Monitoring, Expanded GMP and GCETS Sampling

RI vs. GMP at NW Facility Boundary (PCE AST Area)



- Significant overall reduction in most wells between 1998 RI and current GMP
- Off-Site well (LNI) stable
- Plume degradation (PCE & TCE dropping; VC now present on-site)

PCBs at Southeastern Facility Boundary

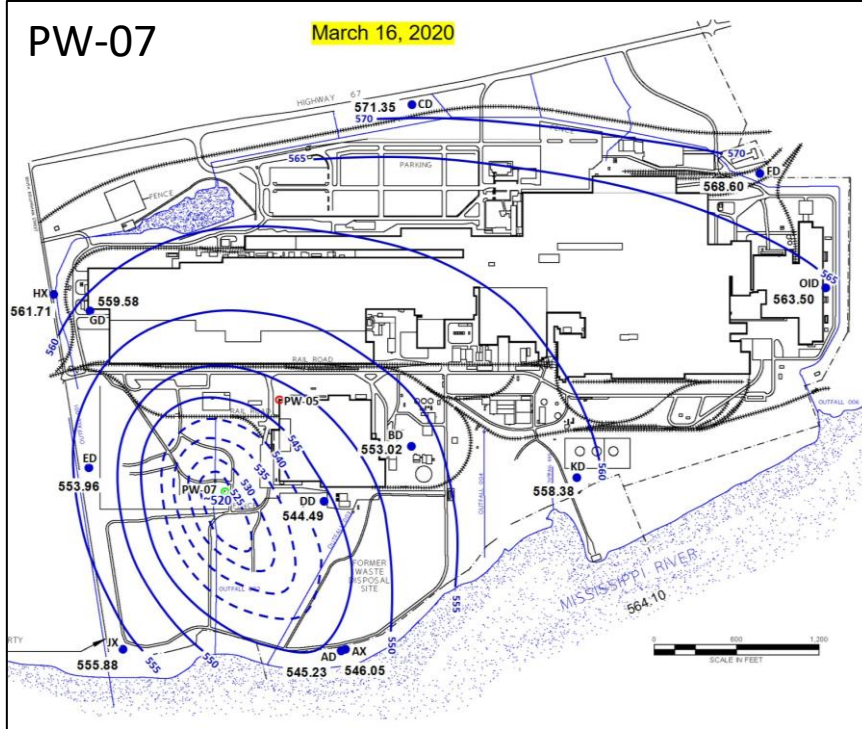


- Sept 2020: PCB detected in shallow bedrock well NS (~150 ft beyond TI Zone) for first time
 - 1.1 ug/L exceeded Performance Standard (drinking water MCL) of 0.5 ug/L
 - No use of groundwater for potable purposes; vertical gradient shows a downward flow to the intermediate bedrock zone
 - Recommended NS for monitoring during next event
- March 2021: PCB detected below Performance Standard in NS at 0.09 ug/L
 - Recommended NS again for monitoring during next event

Groundwater Containment

PW-07

March 16, 2020



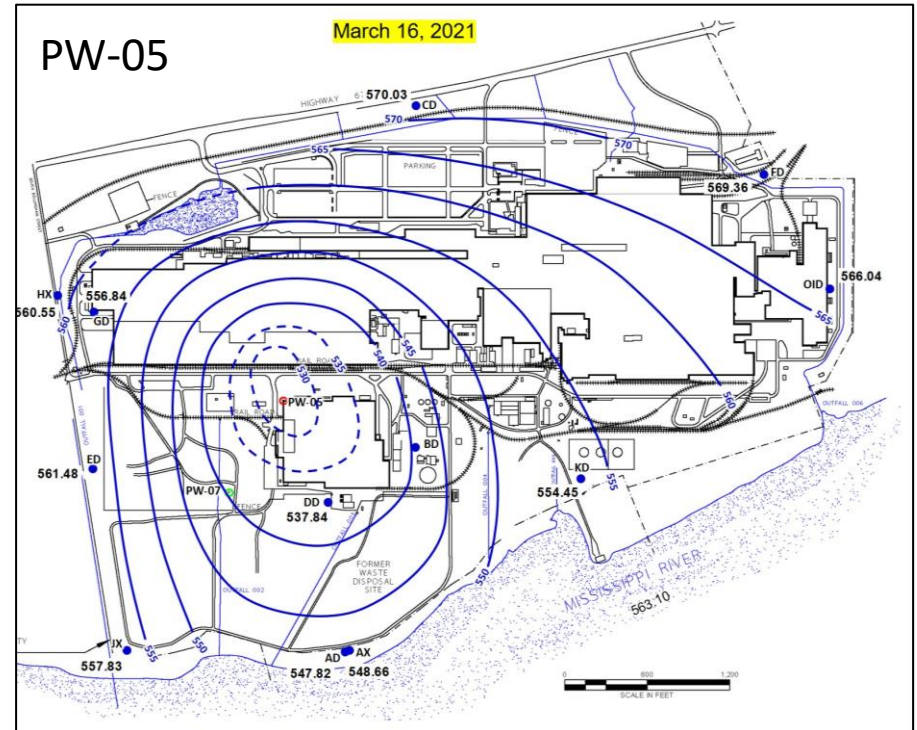
- Containment consistent with RI
- Riverside Power Plant process well never active

Pumping Wells

- Primary = PW-07; Backup = PW-05
- Reduced flow rates from PW-07 in 4Q20; taken off-line for rehab evaluation.
- Calcite and bio-fouling evident in borehole (video) and pump and riser
- PW-05 activated; contingency monitoring per GCETS
- PW-01 to have backup role
- PW-07 to have step test to determine rehab potential

PW-05

March 16, 2021



Groundwater Treatment

- Remediation replaced tower (left) with oversized shallow tray (right).
- Tray meets standards so no need for tower (tower mothballed for future use if needed).
- Effluent re-used by plant or discharged under NPDES permit



MRP15 Site Remedy (Sediment & Fish Monitoring)



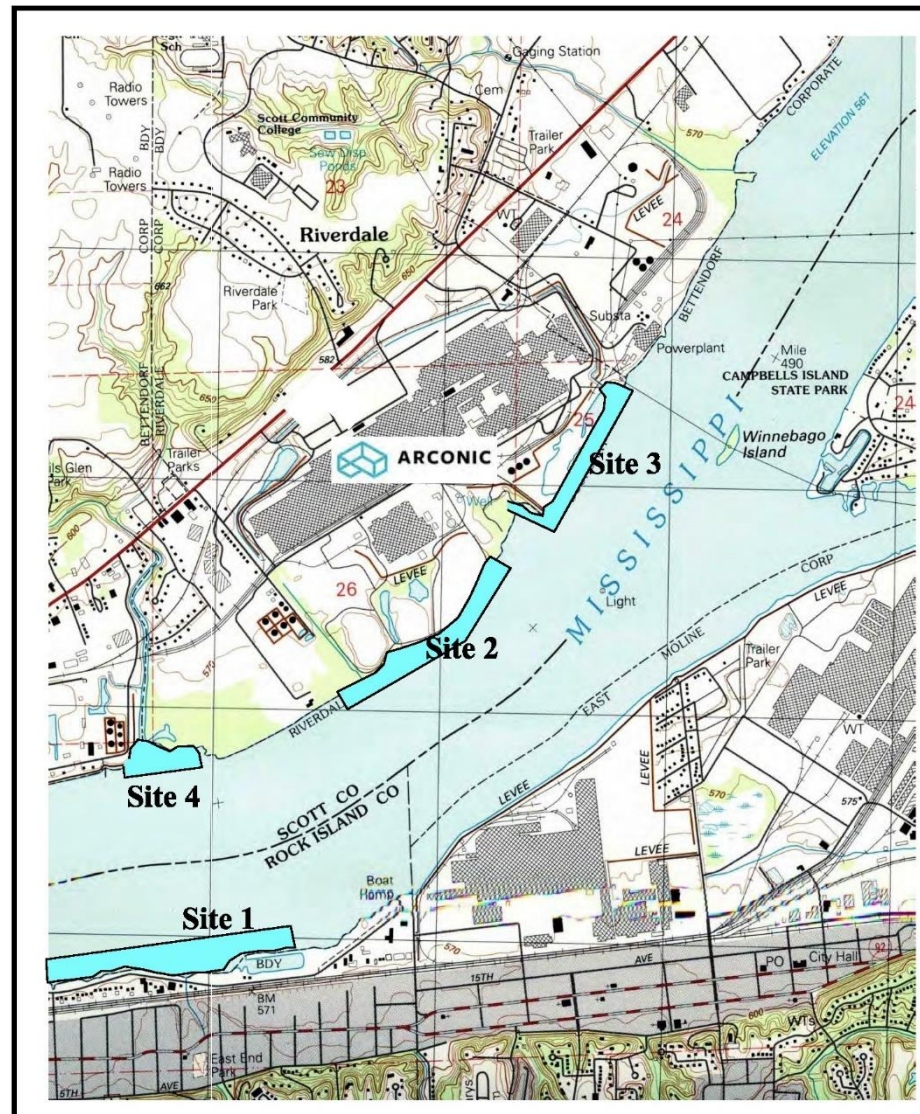
Legend
 Sediment Monitoring Area

Figure 2-1

Sediment Monitoring Areas
 Arconic Davenport Works

Sources: Iowa Department of Natural Resources
 and URS Corporation
 Date: 2008 10/10/08
 File: g:\Microsoft\g\Tern Mississippi\vest\deliveries
 0811-sediment_monitoring_areas.mxd

0 125 250 500 750 1,000 Feet



ARCONIC **AECOM**

MRP15 Site Subareas
Arconic-Davenport Works
Riverdale, Iowa

Project:
 60517941

Figure 3-3

MRP15 Site Remedy (Sediment & Fish Monitoring)

1980's: PCBs found in fish and river sediment near the Alcoa Facility in the 1980's

1990: AOC required Alcoa to evaluate impacts to MRP15 (fish and sediment) from the facility

1990's: Several phases of investigation to define nature and extent

2000-2002: MRP15 Risk Assessments

2004: MRP15 FS & ROD

- MRP15 RAOs: 1) reduce PCB concentrations in fish to levels that are protective of human health and the environment; and 2) monitor natural recovery processes, including sediment depositional processes, to evaluate the potential for future exposures to contaminated sediments.
- MRP15 Selected Remedy: Monitored Natural Recovery (MNR) with management of on-site media on the Alcoa site property.

2008: CD/SOW set fish tissue performance standards for PCBs (226 µg/kg for channel catfish and 231 µg/kg for common carp).

2011: MNR Program Plan (MNRPP) for fish tissue sampling and sediment monitoring

2012: First MNRPP event

- Baseline sediment monitoring standard set to monitor natural recovery processes, including sedimentation and sediment bed stability
- Fish tissue PCBs improved, but still slightly over performance standards

2016-2017: Second MNRPP event

- Sediment elevations and vegetation monitoring indicate a stable sediment environment
- Attained fish tissue PCB performance standards

2018: EPA approved MNRPP modifications

- Noted that PCB fish concentrations attained performance standards and achieved the RAO
- Approved the proposed modification to discontinue the fish tissue monitoring program under the MNRPP.
- Sediment monitoring to continue

2019: MRP15 Monitoring Plan (formerly MNRPP)

- Requires monitoring in three areas adjacent to the Arconic facility
- Established two components to sediment monitoring conducted prior to FYRs
 - Field documentation of tree line/vegetation.
 - Field observations of potential erosive activities.

2020: Sediment and vegetation monitoring event per MMP indicate a stable sediment environment

Alcoa and MRP15 Sites

Remedy Performance

- Alcoa Site – GCETS containment and treatment performing as designed. No Performance Std exceedance in effluent. Groundwater VOC concentrations show overall decline.
- MRP15 Site – Fish performance standards attained; stable sediment environment.

Looking Forward

- PW-07 Rehabilitation – consultants assessing well condition.
- Continue to implement SMP.
- EPA FYR Report in 2022
- Next MRP sediment monitoring and comprehensive GW & GCETS monitoring in 2025-26 for 2027 FYR