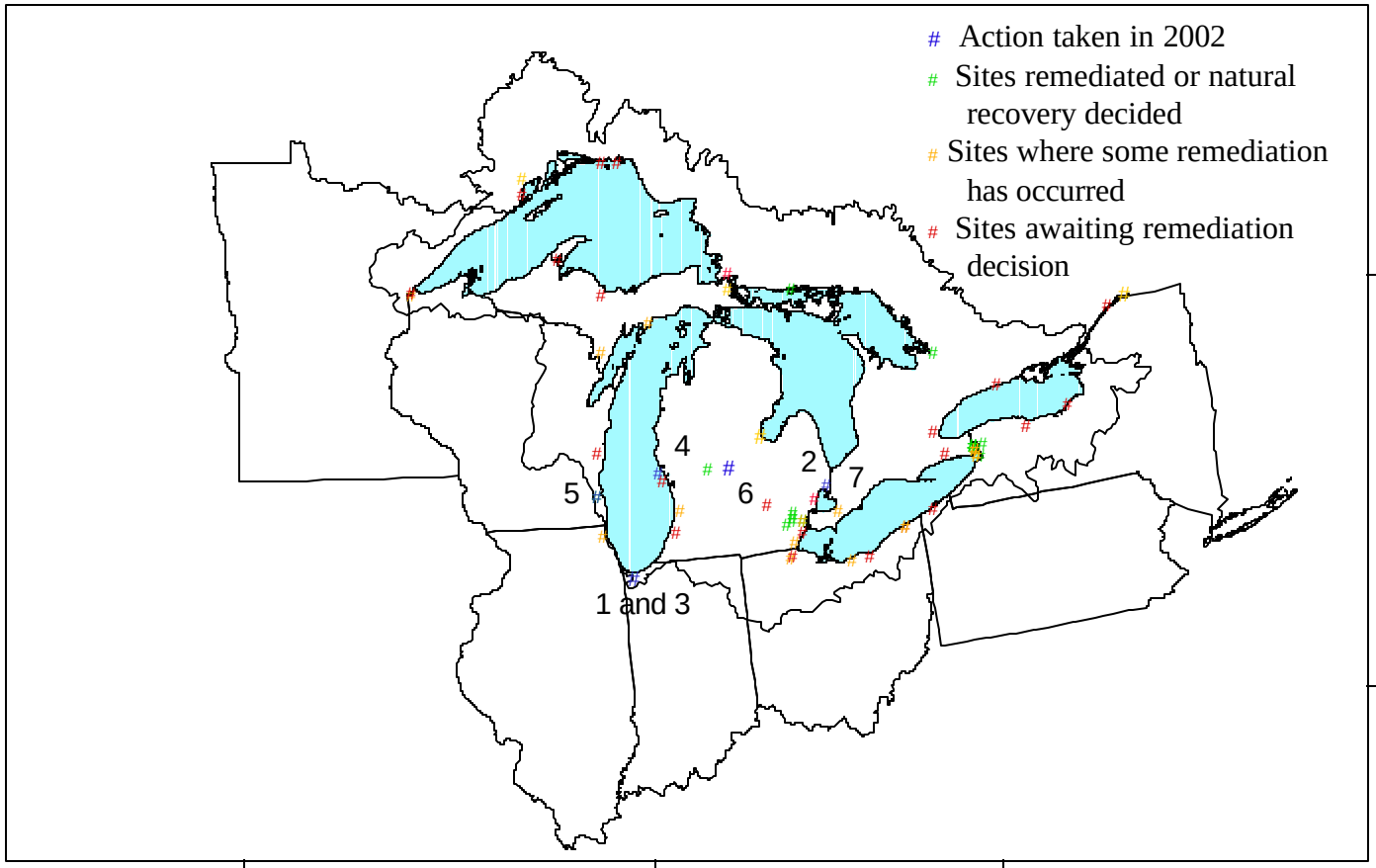
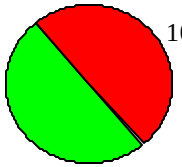
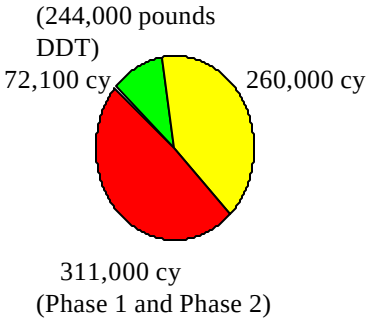
# Great Lakes Sediment Remediations in 2002



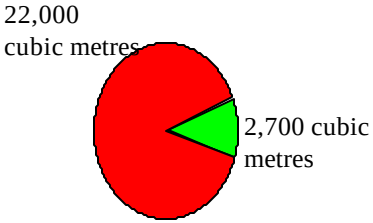

5. Moss American
Milwaukee, Wisconsin



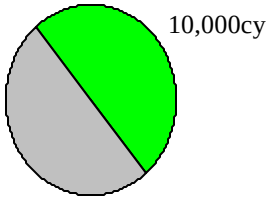

6. Pine River, Michigan



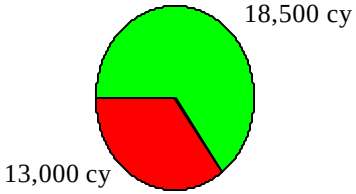

7. St. Clair River -
DOW Chemical Canada



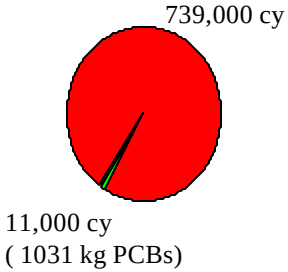

1. U.S.S. Lead Refinery Inc.
East Chicago, Indiana



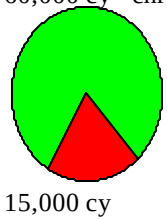

2. Ten Mile Storm Drain
St. Clair Shores, Michigan




3. U.S. Steel-Gary Works
Gary, Indiana




4. Tannery Bay –
White Lake, Michigan




- Volume remediated in 2002
- Volume remediated prior to 2002
- Volume capped
- Volume undergoing natural recovery
- Volume awaiting remediation

In 2002, approximately 185,000 cubic yards of sediment were remediated from five U.S. and one Canadian site in the Great Lakes Basin. All of these sites initiated work for the first time in 2002, except the Pine River which was in its fourth year of operation. Several of the projects are expected to continue with the remediation of contaminated sediment into 2003. The following is a specific list of each site:

**U.S. SITES**

**U.S.S. Lead Refinery, Inc –** From August to September 2002, U.S.S. Lead began excavation of contaminated sediments from on-site wetlands bordering the Grand Calumet River. About 10,000 cubic yards of sediment was placed in an on-site Corrective Action Management Unit for disposal. Oversight of this project was conducted by both U.S. EPA RCRA and Indiana DEM.

**Ten Mile Storm Drainage System PCB Spill Site –** By request from the Michigan DEQ, U.S. EPA Superfund initiated a cleanup in July 2002 in a storm drainage system in St. Clair Shores, MI to remove high levels of PCBs that were illegally dumped into this area. Superfund removed all sediment with PCB concentrations in excess of 10 ppm, a total of 24,000 cubic yards of sediment. Macomb County and the City of St. Clair Shores plan to follow up with the removal of the remaining contaminated site.

**U.S. Steel – Gary Works –** U.S. EPA RCRA began oversight of a large dredging project in Northwest Indiana to remove a total of 750,000 cubic yards of contaminated sediment from the Grand Calumet River. In 2002, roughly 11,000 cubic yards of sediment were dredged which contained high levels of PCBs, heavy metals and PAHs. This project is scheduled to be completed by October 2003.

**Moss-American Site –** As part of a consent decree, Kerr-McGee Chemical removed 10,000 cubic yards of PAH-contaminated sediment from the Little Menomonee River with oversight from both U.S. EPA Superfund and Wisconsin DNR. Since the river was relatively small, a large portion was rerouted and the contaminated sediment was then removed. The clean soil removed during the reroute process was used as backfill in the former channel.

**Pine River –** During the fourth year of sediment work on the Pine River, Michigan, 72,100 cubic yards of contaminated sediment were removed by U.S. EPA Superfund. This remedial action eliminated roughly 244,000 pounds of DDT in the river and sediments were disposed of at several non-hazardous waste landfills.

**Tannery Bay –** Based upon a consent degree with Genesco Corporation issued through a Michigan DEQ Water Division action, approximately 60,000 cubic yards of contaminated sediment were removed from Tannery Bay in 2002. The site had high concentrations of chromium, arsenic and mercury, and was also impacted by animal hides, hairs and dyes used in the tanning process. An additional 15,000 cubic yards of contaminated sediment is scheduled to be removed in 2003.

## CANADIAN SITES

**St. Clair River-** Dow Chemical Canada Inc. undertook a pilot dredging project in 2002 for contaminated sediments adjacent to its industrial plant site at Sarnia, Ontario. The pilot project involved the hydraulic dredging of 2,700 cubic metres of sediment with subsequent dewatering and disposal in a licensed hazardous waste landfill facility. Information from the pilot project was used as the basis for the design of the full scale remedial work to be carried out in 2003/04. The total volume of sediments involved with this remedial project will be in excess of 25,000 cubic metres. Contaminants in the sediments include the *GLBTS* Level I substances - mercury, hexachlorobenzene, and octachlorostyrene, and the Level II substance - hexachlorobutadiene.

**Port Hope Harbour -** Remedial investigations on harbour sediments are focusing on the uranium series radionuclides and secondarily on heavy metal contamination, particularly arsenic, copper, lead and nickel. Remediation is linked to the development of facilities in the Port Hope area for the long-term management of low-level radioactive waste pursuant to a March 2001 agreement between the federal government and the Town of Port Hope and adjacent municipalities. *GLBTS* substances include some marginal PCB (*GLBTS* Level I) and PAH (*GLBTS* Level II) contamination. Further sediment studies have been conducted in the harbour in 2002 to define the extent of contamination to guide future remedial work and also to develop site-specific cleanup criteria based on measured effects on biota.

**Thunder Bay Harbour (Northern Wood Preservers) -** Approximately 11,000 cubic metres of contaminated sediment (above 150ppm PAH) had been dredged at this site and placed in an engineered bioremediation cell on site. Remediation criteria were not being met over the period September 1998 - February 2000 and the decision was made to utilize an alternate technology. The sediments were subsequently treated using thermal desorption in 2001 and treatment concluded in 2002. Post-project monitoring and evaluation is continuing.

**Severn Sound -** The Severn Sound AOC has been impacted by excessive nutrient enrichment and eutrophication. Remedial activities have focused on sewage treatment plant upgrades, improvements in private sewage systems, urban stormwater management and stream and shoreline habitat rehabilitation. Assessments and monitoring of sediments have been undertaken and in 2001 it was concluded that impairments relating to degradation of benthos and restrictions on dredging have been overcome. No sediment interventions are planned and residual sediment contamination will be left to natural recovery. In October 2002, The International Joint Commission met with Canadian Environment Minister David Anderson to present a letter concurring that the Severn Sound AOC has been restored, under the Great Lakes Water Quality Agreement.

**St. Lawrence River (Cornwall) -** Contamination issues here are primarily associated with mercury and a sediment strategy is under development with federal and provincial agencies and Cornwall stakeholders. Work in 2002 concentrated on further studies and analyses on benthic community impairment and bioaccumulation. Results and recommendations will be discussed before stakeholder meetings in June 2003 with a final decision on the sediment strategy in the Fall of 2003.