

Milwaukee Estuary Remedial Action Plan Progress Update

The Milwaukee Estuary Area of Concern (AOC) encompasses about 14,000 acres (22 square miles) and includes: the Milwaukee River downstream of North Avenue; the Menomonee River downstream of 35th Street; the Kinnickinnic River downstream of Chase Avenue; the Inner and Outer Milwaukee Harbor; and the near shore areas of Lake Michigan from Sheridan Park to the south, to the City of Milwaukee's Linnwood water filtration plant to the north. This may seem like a lot of area, but when you consider the AOC is at the end of a basin draining more than 850 square miles (the AOC is only 2.5% of the entire drainage basin), cleaning up the AOC also means correcting upstream problems too.

The 1995 Remedial Action Plan Document emphasizes the basin approach to correcting problems in the AOC. The document further defined problems and made 32 recommendations to help meet the goals defined by the RAP committees. To date we have made substantial progress on 30 recommendations (93%). This update will outline the progress made on the RAP recommendations and on the contaminated sediment management strategy, a cornerstone of the RAP effort.

Highlights (other than RAP recommendations)

- ✧ The external partnership team for the Milwaukee River Geographic Management Unit (GMU) is up and running. This diverse partner team is our link to the public, businesses and organizations throughout the Milwaukee River Basin. Many of the representatives on the partner team are very knowledgeable of the RAP. The partner team has included the objective to implement the Milwaukee RAP as one of their goals. The Partnership has a Web site that can be accessed at: <http://clean-water.uwex.edu/milwaukee>.
- ✧ The **Milwaukee River Basin Environmental Indicators Pilot Project** is complete. The objective of the project was to develop a process to refine environmental indicators on a watershed basis. We solicited public input up front to determine priorities for this project. This unique approach gave us insight into the priorities of the general public regarding environmental issues and information needs. The report is currently accessible through the WDNR web site on the Milwaukee River Basin page at www.dnr.state.wi.us/org/gmu/milw.

RAP RECOMMENDATION SUMMARY

Assessment and Monitoring

- ✧ **A&M1: Water Quality Monitoring.** Ongoing. We continue to monitor quarterly for long-term trends at Estabrook Park. The Milwaukee Metropolitan Sewerage District (MMSD) has also been a valuable partner through sharing data with the WDNR. We are currently conducting baseline monitoring throughout the Milwaukee River Basin on streams where we don't currently have much information.
- ✧ **A&M2: Phytoplankton/Zooplankton Degradation Assessment.** Ongoing. The MMSD has been working through many samples to determine the extent of this use impairment.
- ✧ **A&M3: Macroinvertebrate Population Analysis.** Ongoing. We continue to collect macroinvertebrate information at the Estabrook Park trend site and selected sites throughout the basin.

- ✧ **A&M4:** Fish Community Evaluations. Ongoing. The Lake Michigan Fisheries Work Unit is in the process of completing their Milwaukee River Comprehensive Fisheries Survey, which will provide us with a wealth of information about the fish community in the lower portion of the river. We are also collecting fisheries data through our baseline monitoring program.
- ✧ **A&M5:** Fish Health Assessment. Completed assessments in the Little Menomonee River. In addition, toxicology work was completed at the Lincoln Creek monitoring site, and on fish in Ruck Pond on Cedar Creek.
- ✧ **A&M6:** Assess Fish Tissue Contamination. Ongoing. We sample migratory fish annually or biennially from the Milwaukee River Basin, so we have really good information for trout and salmon. Native fish are sampled approximately once every 5 years, but this is not enough to examine trends. We will be pursuing setting up index sites where native fish species can be measured every other year to establish trends.
- ✧ **A&M7:** Protect Wildlife from CDF Contaminants. In progress. The Army Corps of Engineers is working on ways to reduce the amount of polluted materials in the CDF and are examining reuse options.
- ✧ **A&M8:** Monitor Bioaccumulative Toxicants. Ongoing. We have much information on PCBs through the Milwaukee River and Cedar Creek Mass Balance Studies. We are using this information to make recommendations for cleaning up contaminated sediments.
- ✧ **A&M9:** Develop a Sediment GIS. Complete. The University of Wisconsin-Milwaukee, under contract with WDNR, developed a sediment GIS project for the AOC and some upstream portions.
- ✧ **A&M10:** Identify Soft Sediment Deposits. Mostly Complete. Sediment piling was accomplished on portions of the AC rivers. In addition, soft sediment deposit identification was accomplished in the Milwaukee River upstream of the AOC to the confluence with Cedar Creek.
- ✧ **A&M11:** Bulk Chemical and Physical Analysis of Identified/Suspected Sediment Deposits and Sediment Traps. Ongoing. We are completing analysis of sediment deposits as time and funding allow. We are following up on the results of the Cedar Creek and Milwaukee River PCB Mass Balance Projects.
- ✧ **A&M12:** Test Sediment Toxicity. Ongoing. We are completing sediment toxicity analysis as project time and funding become available. Much work was completed on Lincoln Creek and Cedar Creek.

Demonstration Projects

- ✧ **DP1:** Establish Permanent Household Hazardous Waste Collection Facility. Complete. The Milwaukee Metropolitan Sewerage District has contracted with facilities in the northern and southern portions of their service area to supply this valuable service.
- ✧ **DP2:** Control Runoff from Bulk Storage Piles. Ongoing. We are making progress in this area through our NR 216 stormwater permitting program for controlling runoff at industrial sites.
- ✧ **DP3:** Create Vegetative Buffer Zones. Ongoing. We are working with some landowners upstream to increase stream buffers on tributary streams. We are also working with the Friends of the Menomonee River and the Milwaukee River Revitalization Council to meet this objective.
- ✧ **DP4:** Restore Streambanks. Ongoing. Milwaukee County Parks, WDNR and other municipalities have cooperated to restore and stabilize eroding streambanks.

- ✧ **DP5:** Aerate a section of the Menomonee River. On hold. The feasibility study for this project was completed. The Milwaukee Metropolitan Sewerage District has decided not to pursue this project at this time.
- ✧ **DP6:** Create a Riverway Public Access Trail. Ongoing. The Milwaukee River Walk, Hank Aaron State Trail, and Ice Age Trail are just a few examples of the progress made here.
- ✧ **DP7:** Restore the Milwaukee River per the North Avenue Dam Feasibility Study Recommendations. Mostly Complete. Work has been completed on one of the largest ecosystem restoration projects in the state. The project has been challenged by damage during a major flooding event. We are currently fine tuning the aquatic habitat component of this project.

Information and Education

Highlights Include:

- ✧ **Interpretive Kiosk at Kilbourn Avenue Bridge.** Complete. The RAP Information and Education Committee was instrumental in facilitating this project in cooperation with the Milwaukee County Zoological Society, the Milwaukee River Revitalization Council and Donnelly design.
- ✧ **Nonpoint Source Pollution Education.** Excellent information and education work is being conducted by the University of Wisconsin Extension, and by the City of Milwaukee Stormwater program.
- ✧ **Testing the Waters.** This program is going strong in the basin. About 40 schools are now participating throughout the basin. Thousands of middle and high school students have participated in this program by monitoring area rivers, and reporting their findings at the annual Student Congress.
- ✧ **Water Action Volunteers.** The WAV volunteers are really expanding throughout the state and the basin. Many groups and private citizens are participating in this program, which is a joint effort of WDNR and the University of Wisconsin Extension.

Contaminated Sediment Management Strategy

This strategy is the cornerstone of the Milwaukee RAP. Contaminated sediments affect every ecosystem component. The RAP sediment committee designed this stepwise strategy to effectively manage the sediments throughout the Milwaukee River Basin. Some highlights include:

- ✧ Progress has been made on over 50% of the items outlined in the strategy.
- ✧ We have completed the sediment GIS system, and will be building more information into this project and expanding to include water quality and stormwater monitoring data in the future.
- ✧ We have completed mass balance studies for Cedar Creek and the Milwaukee River for PCBs. We continue to use the information gained from these projects for addressing contaminated sediments.
- ✧ Over 700 kg of PCBs were removed from Ruck Pond in Cedarburg. This is the upstream most PCB contaminated site on Cedar Creek. We are working with the responsible parties to address the remaining contaminated sediments.

- ✧ The Army Corps of Engineers is working on a project to find innovative ways to prolong the life of the CDF. This will prevent the addition of another cell in the harbor. The sediment reuse initiatives being tested should prolong the life of the CDF for another 20 years. In addition, the frequency of dredging has slowly decreased. Where the Corps had to dredge every other year, they can now wait 2-4 years between dredging project in some areas.
- ✧ WDNR received a grant from U. S. EPA/GLNPO to conduct a pre-remediation sediment survey on the Estabrook Impoundment (Milwaukee River). The main purpose of the survey is to determine the volume and contamination levels of sediments in this large deposit, and determine some initial estimates for removal costs.