

Little Lake Butte des Morts Cleanup Enters Final Season

By Susan Pastor, U.S. Environmental Protection Agency

The Little Lake Butte des Morts cleanup will near completion as sand covers and caps are placed near Strobe Island this spring.

In-water work started Monday, April 13. Contractors for WTM I and Glatfelter are using sand to cover about 6.5 acres of sediment and a rock/gravel, or armored, cap over another 31 acres in the bottom of the lake. Extra care will be taken to ensure that eagles nesting in the area are not disturbed.

The heavier armored cap would be used in areas that have higher levels of PCBs. The sand and rock will be laid using two “spreaders” parked in the lake. Two floating pipelines near Butte des Morts Beach Road, where one of the project’s staging areas is located, will bring the material to the site. The cover and cap work will start south of the island and move north until it is completed in late June.

“We are optimistic that the Little Lake Butte des Morts cleanup will be finished in June,” said U.S. Environmental Protection Agency Remedial Project Manager Jim Hahnenberg.

Once the cleanup is done and the equipment is removed from the water, the staging areas will be restored to their original conditions by the end of the year. In addition to the Butte des Morts Beach Road area, there is another located on North Lake Street.

Regular monitoring will follow the cleanup to document improvements in the surface water and fish and to ensure that the covers and caps are working (see related article on Page 6).



PHOTO COURTESY OF THE BOLDT TEAM

Special equipment is used to spread a layer of stones in the bottom of Little Lake Butte des Morts, as part of the cleanup.

Last fall, dredging in the lake was completed with 370,000 cubic yards of contaminated sediment taken out of the lake. “This would be equal to a 20-story-high tower covering an area about the size of a football field,” Hahnenberg explained. “That is a lot of sediment.”

It was dried just south of state Route 441 on the west side of the lake and trucked to landfills that are licensed to accept hazardous waste. Sediment with lower levels of PCBs was taken to a facility in Chilton while highly contaminated sediment was transported to a landfill near Detroit.

Further information on the project can be found at www.littlelakecleanup.com.

Dredging Near Green Bay Starts This Spring

By Susan Pastor, U.S. Environmental Protection Agency

Three dredges are expected to be in the Lower Fox River removing PCB-contaminated sediment in Green Bay this spring.

At press time, work was supposed to begin as early as Monday, April 27, weather permitting. About 6,000 cubic yards of sediment will be removed daily. One 12-inch and two 8-inch hydraulic dredges are scheduled to work 24 hours per day, five days a week.

“Each cubic yard of sediment will measure three by three by three feet, which is about the size of a small refrigerator,” according to U.S. Environmental Protection Agency Remedial Project Manager.

Dredging will be done near the shoreline at the former “Shell property” staging area, 1611 State St. Dredging using the 8-inch dredges will later move about 10 miles upstream, just south of Little Rapids. At the same time, the large dredge will operate downstream from DePere doing production from DePere to Green Bay. Production dredging here will involve dredging areas having thicker zones of contaminated sediment which will allow removal of more sediment in a given day. Sediment upstream of DePere is thinner so dredging in those areas is typically slower. This year, except for sediment near the Shell property, dredged sediment will contain levels of PCBs less than the 50 parts per million cutoff.

“Sediment with PCB levels over 50 ppm is considered to be highly contaminated and must be disposed of at a licensed facility out of state,” Hahnenberg continued. “Landfills in Wisconsin can only accept waste that is under 50. Most of the sediment dredged this year will have PCB levels less than 50.”

Currently, the plans are to truck sediment with PCBs lower than 50 ppm about 33 to 37 miles away, depending on the route, to the Veolia Hickory Meadows Landfill in Chilton. Appleton Papers Inc., Georgia-Pacific and NCR Corp., the companies doing the cleanup, have been discussing and coordinating routes with the local communities. For 2009, PCBs



PHOTO COURTESY OF TETRA TECH

Plate and frame presses are used to squeeze water out of sediment dredged from the Lower Fox River.

over 50 ppm will most likely be transported to Wayne Disposal near Detroit.

All dredged sediment will be pumped into the dewatering facility on State Street via a pipeline. There, the water will be squeezed out of the sediment by equipment called a plate and frame press. The remaining dried sediment will be loaded on a truck to be disposed of.

Work is expected to continue through mid-November. While capping and sand covers will be done in 2010 and beyond, only dredging will occur this year.

“Based on our experience with previous dredging projects on the Lower Fox River, weather does not allow operations to continue much past early November,” Hahnenberg said. “Cold temperatures and freezing conditions usually make operation unsafe. If we can meet our production goals, however, we will have a good start on addressing a substantial portion of the contaminated areas this year. We expect to complete the entire project around 2017.”

EPA Review Gives Inconclusive Results

By Susan Pastor, U.S. Environmental Protection Agency

A recent review of the Lower Fox River project was unable to determine if current cleanup measures are effective.

It isn't possible to make a formal determination at this time because the cleanup is still in progress, according to U.S. Environmental Protection Agency Remedial Project Manager Jim Hahnenberg.

This particular review, which is required by law, calls for Superfund projects to be looked at every five years even where cleanup activity is still underway or where some levels of contaminants were left behind limiting a site's use. Hahnenberg, who led the review, said it was inconclusive because the cleanup has not yet been completed.

"We wanted to know if the cleanup is being protective or not," he explained. "Even though we're not done yet, this review still gave us a good snapshot of the conditions at the site with an eye on protection."

The review's report, which was finalized in early April, includes all reaches of the Lower Fox River and Green Bay. By law, the 2004 construction startup in Little Lake Butte des Morts (also referred to as Operable Unit 1) started the five-year review cycle.

Since October 2008, Hahnenberg did a physical site inspection, looked at the information that has been gathered so far, re-evaluated current conditions, and made some general observations. To accomplish this, he looked at project files, any changes in surrounding land use, new field work and the history of local public participation.

"We really didn't discover anything we didn't already know," he said. "The purpose of these reviews is to ensure that a site's conditions haven't substantially changed, that the original risk assumptions are still valid, and that the cleanup is safe and continues to protect people and the environment. Because the cleanup is not completed, we can't draw any solid conclusions yet," Hahnenberg stated.

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Out and About...

By Susan Pastor, U.S. Environmental Protection Agency

The Fox River Intergovernmental Partnership is made up of U.S. Environmental Protection Agency, Wisconsin Department of Natural Resources, U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration, Oneida Tribe of Indians of Wisconsin and Menominee Indian Tribe of Wisconsin. These partners, as well as other supporting agencies, regularly provide speakers to organizations in the Fox Valley area. The following people recently made presentations:

February

- ◆ *Jim Hahnenberg*, EPA: Fifth International Conference of Remediation of Contaminated Sediments, Jacksonville, FL; Little Lake Butte des Morts cleanup.
- ◆ *Jim Hahnenberg and Susan Pastor*, EPA: Foth's Einstein Science Expo booth, Green Bay; Lower Fox River cleanup, non-point source water pollution and recycling.

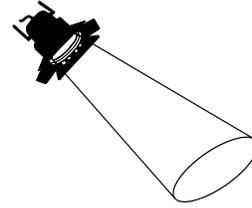
March

- ◆ *Jennifer Hill-Kelley and Betsy Galbraith*, Oneida Tribe, and *Jonathan Pyatskowitz*, Menominee Tribe: Department of Interior Natural Resource Damage Assessment and Restoration National Workshop, Phoenix; projects to restore tribal fisheries on the Oneida and Menominee reservations.

April

- ◆ *Jim Hahnenberg*, EPA: Contaminated Sediment Management Symposium, Alexandria, VA; general Lower Fox River cleanup.

The Fox River Current is featuring promising natural resource damage assessment projects in and near the Lower Fox River.



Spotlight On:

Northern Pike Habitat Restoration Project in the Suamico/Little Suamico Watershed

By Colette Charbonneau, U.S. Fish and Wildlife Service

The northern pike is Wisconsin's second largest predator fish and is an important part of the Green Bay ecosystem and fish community. The adult fish live in the bay until the ice begins to break up in the spring. In late March to early April the fish migrate upstream, sometimes several miles inland, in small permanent and intermittent (periodic flow) streams and ditches into wetlands where they spawn. Northern pike have become scarce in the bay due to wetland habitat loss and restriction of passage from the bay up into any remaining spawning marshes.

To help restore the population of northern pike in the bay, the Fox River/Green Bay Natural Resource Trustee Council has supported the West Shore Northern Pike Habitat Restoration Project with natural resource damage assessment restoration settlement funds. "The goal of this project is to establish vegetated riparian buffers on intermittent and perennial streams in the Suamico/Little Suamico watershed that are considered potential production areas for the northern pike," stated Jim Jolly, Program Manager, Brown County Land Conservation Department. "This will improve fish access to upstream spawning and rearing habitat sites for adult and young fish. We will also restore and protect spawning wetlands that are contiguous with the streams that are migration routes for the fish."

Flooded wetlands with grasses, sedges, rushes, or aquatic plants are prime spawning habitat for northern pike. (Sedges and rushes are rooted, grasslike wetland



PHOTO COURTESY OF BROWN COUNTY LAND CONSERVATION DEPT.

Before restoration work was done, the Geisen site did not allow northern pike to easily swim upstream and spawn.

plants that grow up out of the water.) Adult fish deposit eggs on vegetation to which they adhere. The adult fish then move back into the bay. The eggs hatch in 12 to 14 days and the fry (young fish) begin feeding on zooplankton (microscopic aquatic animals) found in the wetlands. As the young pike grow larger they begin to feed on sucker fry that have also hatched in the

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spawning wetlands. As spring waters recede out of the wetlands the young pike hitch a ride with the current to Green Bay where they grow to adults.

The Suamico/Little Suamico River watershed has some of the most productive wetlands remaining in the Great Lakes system, however, the watershed is subject to high development pressures associated with residential, commercial and industrial expansion from the Fox River Valley and Green Bay. The Brown County Land Conservation Department is working with landowners in the watershed to target habitat restoration in specific stream segments that northern pike are currently using for migration routes and spawning areas. Six properties had habitat restoration work completed in 2008 with 12 more properties enrolled in the program for future work. Approximately 5.8 acres of vegetated riverbank buffers were established. In addition, 20 acres of spawning wetland was restored into Class 1 habitat based on the Northern Pike Spawning and Rearing Tributary Stream Classification System developed by the Wisconsin Department of Natural Resources. Class 1 means this habitat is among the best in the state.

Increasing wetlands and vegetated buffer strips along streams and ditches is also beneficial to the water quality of Green Bay. The additional areas covered with vegetation helps to filter out sediment, nutrients and pesticides running off the landscape into the waters of the bay.

“Numerous conservation groups have donated monies to the project over the past year to help landowners meet any out of pocket costs they might incur by participating in the program. Groups such as Ducks Unlimited, Trout Unlimited, Fisheries Forever, Southern Brown County Chapter of the Izaak Walton League, Brown County Conservation Alliance and the Fish and Wildlife Service are all supporting the project,” acknowledged Jolly. The project also received a National Fish and Wildlife Association grant which was secured in part by Congressman Steve Kagen (see Summer 2007 Fox River Current article).

The Brown County Land Conservation Department is continuing to take applications from landowners within the Suamico and Little Suamico River watersheds on the west shore of Green Bay. Landowners who would like to find out more about the restoration project and see if their land might be eligible can contact either Jim Jolly or Larry Kriese at the Land Conservation Department at 920-391-4620.

The natural resource trustees are comprised of Wisconsin Department of Natural Resources, U.S. Fish and Wildlife Service, Oneida Tribe of Indians of Wisconsin, Menominee Indian Tribe of Wisconsin, Michigan Attorney General, Michigan Department of Environmental Quality, Michigan Department of Natural Resources and National Oceanic and Atmospheric Administration.

For further information on NRDA projects, contact Trustee Council Coordinator Colette Charbonneau, FWS, at Colette_Charbonneau@fws.gov or at 920-866-1726.



PHOTO COURTESY OF BROWN COUNTY LAND CONSERVATION DEPT.

Wetlands at the Geisen site are now cleared and restored, allowing easy access for northern pike to swim upstream and spawn.

Agencies Review River Monitoring Plan

By Susan Pastor, U.S. Environmental Protection Agency

U.S. Environmental Protection Agency and Wisconsin Department of Natural Resources are reviewing a plan developed by three paper companies. Their plan will document progress made in the four segments of the Lower Fox River and Green Bay after they are cleaned up.

The segments, also referred to as operable units, will have their own schedule depending on when work is completed. This “long-term” monitoring will likely begin within three years of completion. Since Little Lake Butte des Morts will be cleaned up first, it will be monitored first. EPA and Wisconsin DNR will oversee the work.

The final plan will cover fish and surface water sampling, according to EPA Remedial Project Manager Jim Hahnenberg.

Specific types of fish will be caught and sampled, as outlined in the plan. “It will detail the species and size of the fish as well as where they will be collected,” Hahnenberg said. “We will try to catch as many fish as we can, take samples and analyze them. For example, in walleye, we would analyze them for PCBs.”

Various techniques are used to collect fish—large nets dropped into or dragged across the water, traditional hook and line fishing, and stunning devices. Monitoring will continue as long as there is a concern about contamination, according to Hahnenberg.

“EPA and Wisconsin DNR will get reports with the environmental results, such as reduction of PCBs in fish,” he stated. “The reports will be done at least every five years after our initial sampling efforts.”

Hahnenberg said PCBs in fish should be lower as time goes by. “We expect to see a decrease in concentrations of PCBs so, over time, we will reduce fish consumption advisories,” he explained. “We are evaluating fish for human health and ecological exposures, such as other types of animals and birds that eat fish.”

The hope is that the monthly fish meal that is currently advised could turn into one weekly fish meal and eventually unlimited fish consumption.

Although contractors for Appleton Papers Inc., Georgia-Pacific and NCR Corp. will be putting the \$6 million plan into action, EPA and Wisconsin DNR will determine if fish consumption advisories can be reduced. “The paper companies are responsible for the sampling program so we can see if we are making progress,” Hahnenberg added.

“The cost includes all types of monitoring—fish, caps and surface water,” Hahnenberg continued. “The estimated cost is \$6 million, but that could change to a higher figure. Initial cost estimates are typically ‘rough.’”

The monitoring program also includes sampling surface water. To do this, water will be collected in a

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Fish will be caught, grouped by species, sampled and analyzed for contaminants as part of a long-term monitoring plan.

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planned area in the river. There will be one location, or “station,” per river segment with the exception of operable unit 2 from Appleton to Little Rapids. This will have three stations because it is 22 miles long while the others are six to seven miles.

After water samples are taken, they will be sent to a lab for analysis. Very low concentrations (such as parts per trillion) will be used because concentrations that may present an environmental risk or concern are in the low parts per trillion range. Generally, concentrations of any PCBs, if they are present in surface water, are usually in this range. Like in fish, the agencies will be looking for a reduction in PCBs in surface water.

When the monitoring plan is finalized this summer, it will be available at www.epa.gov/region5/sites/foxriver and at the information repositories listed below.

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Although the next formal review isn’t due until 2014, Hahnenberg said assessments will be ongoing as the cleanup progresses. “We really won’t know for sure if our cleanup has been effective until we finish our long-term monitoring in 2017,” he continued.

Because the Little Lake Butte des Morts cleanup will be done this summer, Hahnenberg said EPA is considering doing a supplemental review next year. That will help determine if goals detailed in EPA’s 2008 decision document, called the amended record of decision, are met.

“We’ll continue to do those as we proceed down the river,” Hahnenberg concluded. “We don’t have to wait five years to review our work. If we have information before then regarding the effectiveness of our cleanup, we can take a look at it sooner.”

The five-year review report is available at the information repositories listed below and at www.epa.gov/region5/sites/foxriver.

Information Available at Local Libraries

The Intergovernmental Partners invite the public to review technical reports, fact sheets and other documents related to the Lower Fox River cleanup at information repositories set up in the reference sections of the local libraries listed below. Information repositories at the public libraries in De Pere, Kaukauna, Little Chute, Neenah and Wrightstown have been discontinued. Binders containing fact sheets and newsletters, however, are being maintained at these locations as well as at the following repositories:

- **Appleton Public Library**, 225 N. Oneida St., Appleton, Wis.; 920-832-6170
- **Brown County Library**, 515 Pine St., Green Bay, Wis.; 920-448-4381, Ext. 394
- **Door County Library**, 107 S. Fourth Ave., Sturgeon Bay, Wis.; 920-743-6578
- **Oneida Community Library**, 201 Elm St., Oneida, Wis.; 920-869-2210
- **Oshkosh Public Library**, 106 Washington Ave., Oshkosh, Wis.; 920-236-5205



Check out these Web sites:

<http://dnr.wi.gov/org/water/wm/foxriver/index.html>

<http://www.epa.gov/region5/sites/foxriver>

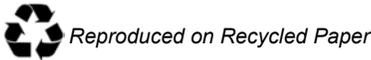
<http://contaminants.fws.gov/issues/restoration.cfm>

<http://www.fws.gov/midwest/nrda/index.html>

An administrative record, which contains detailed information upon which the selection of the final site cleanup plan was based, is also available for review at two DNR offices: 801 E. Walnut St., Green Bay, Wis. and 101 S. Webster St., 3rd Floor, Madison, Wis. An administrative record is also available at the EPA Record Center, 77 W. Jackson Blvd., 7th Floor, Chicago, Ill.



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Disclaimer: The opinions expressed in these articles are solely those of the authors and are not necessarily shared by all members of the Fox River Intergovernmental Partnership.

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