United States
Environmental Protection
Agency

EPA Proposes Revisions to Cleanup Plan for Little Lake Butte des Morts

Lower Fox River/Green Bay Site
Northeast Wisconsin November 2007

U.S. Environmental Protection Agency and Wisconsin Department of Natural Resources propose to revise the cleanup plan for areas of Little Lake Butte des Morts referred to as operable unit (OU) 1. Areas of the Lower Fox River and Green Bay have been categorized into five OUs for purposes of cleanup. OU 1 includes the Little Lake Butte des Morts area primarily south and east of Appleton (see map on Page 2). In December 2002, EPA adopted a plan for cleaning up PCB contamination in OUs 1-2. EPA documented that plan in a report called a record of decision. EPA approved the cleanup plan for OUs 3-5 in June 2003, and that plan was later revised based on new information collected by engineers while designing the specifics of the cleanup.

EPA and DNR's proposed changes to the OU 1 cleanup involve combining capping with dredging to reduce the amount of dredging required. These changes affect areas where new information shows that dredging would be less effective, significantly more difficult and more costly than anticipated when the December 2002 cleanup decision was made and where substituting capping will achieve cleanup goals faster than dredging. The proposal is based on new information gathered over the past four years from sampling and dredging and capping and covering placement tests in the lake. Over 6,300 new samples have been collected and analyzed since 2002. Information learned from that project has influenced the proposed changes to cleanup work in OU 1. New information used to develop the revised cleanup proposal is summarized on Page 3.

EPA and DNR are recommending the revised cleanup plan because it will achieve cleanup goals several years before the original cleanup plan, is equally protective in the long term, reflects operational realities and real world technical limitations, allows for a combination of cleanup techniques, and is significantly more cost effective than the 2002 plan. The proposed plan is described in greater detail in documents called a concept paper and a design supplement.[1] These documents can be found in the information repositories listed on Page 7 and online at www.epa.gov/region5/sites/foxriver.

The 2002 cleanup plan stated that capping could be used as a contingency, or optional, step under certain conditions. Caps are typically made up of various layers of materials such as sand and stone that are placed over contaminated areas to prevent releases or human contact. The proposed cleanup revisions would address about 95 percent of the PCB contamination with a combination of dredging, capping and sand cover. Capping would only be done in areas

[1] *Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act requires publication of a notice describing the proposed modifications to the cleanup plan. Information supporting the decision, such as the concept paper and design supplement, must also be made available to the public for comment. This fact sheet is a summary of information contained in the concept paper and design supplement for the Lower Fox River site. These documents can be found at the locations listed on page 7 of this fact sheet.*

Public comment period

EPA will accept comments on its proposed revised cleanup plan during a public comment period from Nov. 26, 2007 to Jan. 31, 2008. Written comments can be mailed, faxed, or e-mailed. This fact sheet provides a pre-addressed form for written comments that must be postmarked no later than Jan. 31, 2008. Because this is beyond the 30-day requirement, there will be no comment period extension.

Public meeting

EPA will hold a public meeting to explain its proposed changes to the cleanup plan and answer questions. Oral and written comments will also be accepted at the meeting.

Date: Thursday, Dec. 13, 2007
Time: 6:30 p.m.
Place: Lawrence University
Youngchild Hall, Rm. 121
421 E. College Ave.
Appleton

If you need special accommodations to attend this meeting please contact Susan Pastor at least one week prior to the meeting, at: 800-621-8431 Ext. 31325, weekdays, 9 a.m. - 4:30 p.m.

EPA Web site

This fact sheet and other site-related documents are available online at www.epa.gov/region5/sites/foxriver.

where the stability and permanence of the cap is assured. The proposed plan would allow the cleanup to be customized to meet the specific conditions of each area within OU 1.

EPA and DNR encourage interested parties to attend the public meeting (see box on Page 1) to learn more about the proposed changes. EPA and DNR could modify the proposed changes, choose a new plan, or not change the cleanup plan at all based on public comments. The approved cleanup plan will be summarized in a document called a record of decision amendment.

Current plan

The current cleanup plan, which was adopted in December 2002, involves:

- dredging 1 million cubic yards of sediment (mud) with PCB levels greater than 1 part per million (revised from the original estimate of 784,000 cubic yards)
- removing a total of 2,570 pounds of PCB contamination (this is a new estimate based on additional data obtained from actual dredging activities)
- separating dredged sediment from water, treating the water and returning treated water to the river
- taking dredged sediment to an approved disposal facility
- collecting and analyzing water samples to confirm that PCB contamination has been removed to the appropriate cleanup levels
- monitoring the area to make sure the cleanup remains effective over the long term
- implementing a contingency plan that would allow for placement of a cap

Estimated cleanup cost in 2002 plan: $66.2 million

Estimated cost based on new information: $136 million to $150 million

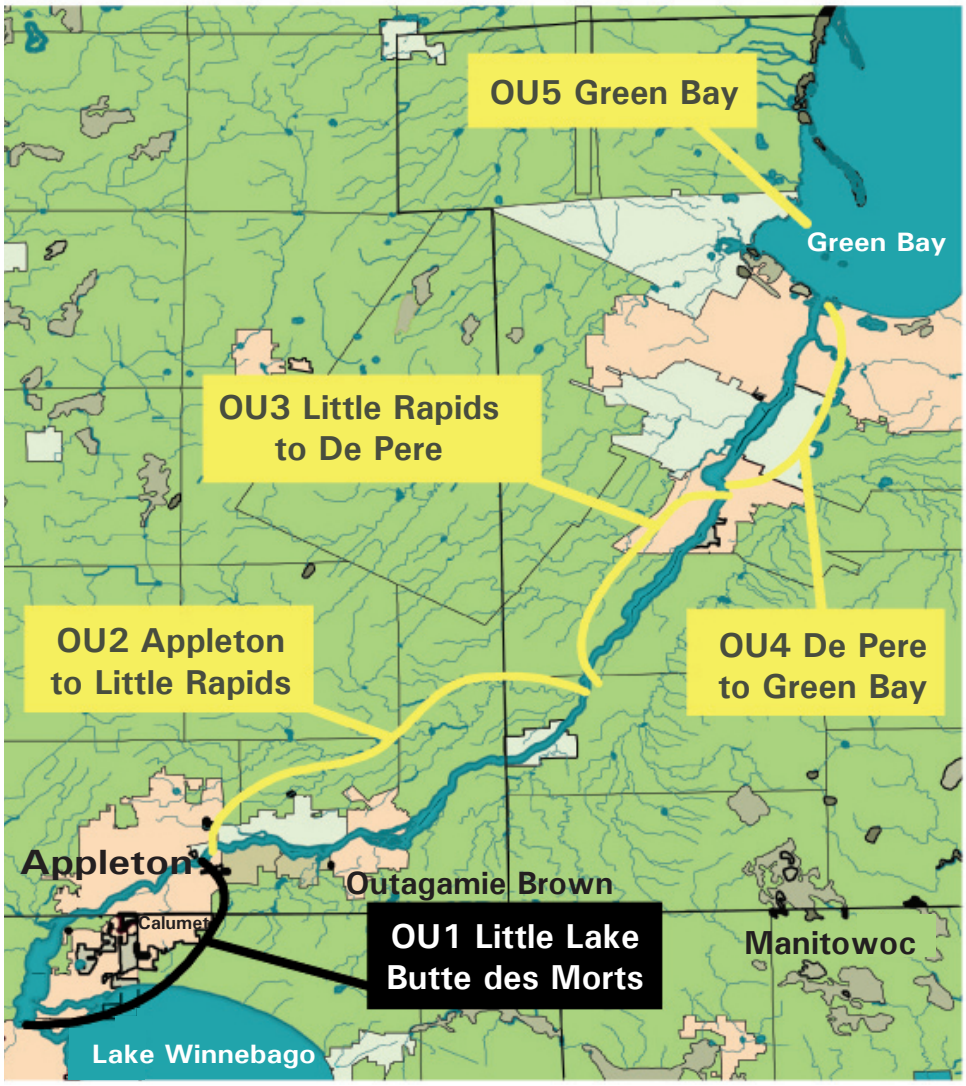
Proposed plan

The proposed plan is similar to the existing cleanup plan because it would achieve the cleanup goal of 0.25 ppm for average PCB levels, it includes dredging and it would protect human health and the environment over the long term. The main difference is, the proposed plan includes a balanced approach of capping, sand covering and dredging based on new information including the results of more than 6,300 PCB samples.

The proposed plan includes:

- dredging approximately 400,000 cubic yards of contaminated sediment in areas with PCB levels greater than 50 ppm and areas with average PCB levels more than 10 ppm
- placing a 13-inch engineered cap over approximately 325,000 cubic yards of undredged sediment with average PCB levels between 2 and 10 ppm

Lower Fox River Site Map



- placing a 6-inch sand cover over approximately 77,000 cubic yards of undredged sediment with average PCB levels between 1.4 and 2 ppm
- placing a 3-inch sand cover over approximately 100,000 cubic yards of undredged sediment with average PCB levels between 1 and 1.4 ppm
- sampling after the dredging activities are complete and either redredging or placing a 13-inch engineered cap in areas where PCBs remain at levels greater than 5 ppm
- monitoring the cleanup over the long term to ensure that it remains effective and taking appropriate corrective action if needed to achieve the cleanup objectives

EPA and DNR estimate that the proposed plan will remove approximately 72 percent (1,900 pounds) of the PCB mass in the area above the PCB action level.

Estimated cost: $90 million to $110 million

Cleanup goal: 0.25 ppm for average PCB levels in sediment at the river's surface.

PCB action level (a concentration that identifies the need for cleanup): 1 ppm for PCB levels that would be addressed under both plans.

Common features

Both plans include:

- achieving a cleanup goal of average PCB concentrations of 0.25 ppm
- dredging a large volume of sediment, making OU 1 one of the largest environmental dredging projects in the country
- transporting dredged sediment to an approved facility
- using sand covers for certain areas that either have been dredged and still contain PCB levels more than 1 ppm, or that are undredged with average PCB levels more than 1 ppm
- imposing institutional controls such as fish advisories until cleanup goals are met
- monitoring the levels of PCBs in sediment, water and fish tissue

New information

The proposed cleanup plan is based on four years of experience in OU 1. During that time, cleanup contractors have:

- collected and analyzed approximately 6,300 new samples from more than 1,000 locations
- completed dredging in areas with the highest concentrations of PCBs
- completed placement tests for sand covers and caps
- collected and analyzed post-dredging data to verify the effectiveness of the dredging efforts
- gained significant experience on the practical limitations of implementing a dredging-only cleanup strategy

New information learned from four seasons of dredging shows that:

- dredging alone can not achieve the cleanup goal (an average concentration of PCBs of 0.25 ppm)
- even with the most technologically advanced and precise dredging equipment, dredging alone would not achieve 100 percent effectiveness (some PCB contamination would be left behind at varied concentration levels)
- to assure that dredging goals are met, equipment would need to remove approximately 30 percent more volume than estimated in the 2002 plan
- PCBs are not uniformly spread throughout OU 1 but tend to be concentrated in smaller, more definable areas which need a more tailored cleanup approach
- limited space is available in the region to dispose of dredged sediment
- implementing the 2002 cleanup plan "as is" (with no changes) will cost more than twice the amount and will take three years longer than originally planned

Comparing the cleanup alternatives

EPA evaluated the cleanup alternatives against seven of the nine evaluation criteria. (See "Summary of the nine evaluation criteria" on Page 7). The state and community acceptance criteria will be evaluated after the public comment period. The table below shows the degree to which the current and proposed plans meet the evaluation criteria, as determined by EPA.

The proposed plan will be equally or more protective of human health and the environment. Both plans comply with state and federal laws and will require some degree of institutional controls such as fish advisories. The proposed plan will require additional long-term monitoring and more institutional controls. Both plans would also remove large volumes of PCB contamination and provide long-term effectiveness and permanence.

The proposed plan, however, would take less time to complete, create less noise and truck traffic, and interfere less with river activities during the cleanup. In addition, the proposed plan is easier to implement because it uses a combination of dredging, sand covers and engineered capping in areas where dredging alone would be extremely difficult. The proposed plan is also significantly less expensive.

Site history

Between 1954 and 1971, paper mills in the Lower Fox River valley manufactured or recycled carbonless copy paper containing PCBs. Until the early 1970s, the mills discharged PCBs into the Fox River where they settled into river sediment or were carried into Green Bay. Due to elevated levels of PCBs in fish tissue and growing knowledge that PCBs were harmful to people and the environment, DNR issued fish consumption advisories for the river and Green Bay in 1976. These were followed by waterfowl consumption advisories for the river and Green Bay in 1987. Advisories remain in effect today.

Since the mid-1980s, a number of governmental and other organizations have studied the contamination problem in the Lower Fox River. In 1997, six federal and state agencies and tribal governments signed an agreement to work together to clean up and restore the Lower Fox River. Cleanup activities have been ongoing in various areas of the river since 2003.

Evaluating the cleanup alternatives

Evaluation Criteria	Current Plan	Proposed Plan
Overall Protection of Human Health and the Environment	■	■
Compliance with ARARs	■	■
Long-term Effectiveness and Permanence	■	■
Reduction of Toxicity Mobility, or Volume Through Treatment	■	■
Short-term Effectiveness	■	■
Implementability	■	■
Cost	$136 million to $150 million	$90 million to $110 million
State Acceptance	Will be evaluated after the comment period.	
Community Acceptance	Will be evaluated after the comment period.	

■ = Meets Criteria □ = Does Not Meet Criteria

Use This Space to Write Your Comments

Your input on the proposed revisions to the cleanup plan is important to EPA. Public comments are valuable in helping EPA select a final cleanup plan.

You may use the space below to write your comments, and bring this form to the public meeting on Dec. 13, or detach, fold and mail it to Susan Pastor. Comments must be postmarked no later than Jan. 31, 2008.
If you have any questions, please contact Susan at 312-353-1325 or toll-free at 800-621-8431 Ext. 31325, weekdays 9 a.m. - 4:30 p.m. You may also fax this sheet to 312-353-1155 or submit comments via the Internet at www.epa.gov/region5/publiccomment/foxriver-pubcomment.htm.

Name _____

Affiliation _____

Address _____

City _____ State _____

Zip _____

Lower Fox River Site Comment Sheet

Detach, fold, stamp and mail

Name_____
Address_____
City_____ State _____
Zip_____

Place
Stamp
Here

Susan Pastor
Community Involvement Coordinator
Office of Public Affairs (P-19J)
EPA Region 5
77 W. Jackson Blvd.
Chicago, IL 60604-3590

Summary of the nine evaluation criteria

EPA uses nine criteria to evaluate cleanup alternatives. A table comparing the alternatives against these criteria is provided on Page 4.

1. **Overall Protection of Human Health and the Environment.** Evaluates whether a cleanup option provides adequate protection and evaluates how risks are eliminated, reduced or controlled through treatment, engineering controls or local government controls.
2. **Compliance with Applicable or Relevant and Appropriate Requirements.** Evaluates whether a cleanup option meets federal and state environmental laws, regulations and other requirements or justifies any waivers.
3. **Long-Term Effectiveness and Permanence.** Considers any remaining risks after a cleanup is complete and the ability of a cleanup option to maintain reliable protection of human health and the environment over time once cleanup goals are met.
4. **Reduction of Toxicity, Mobility or Volume Through Treatment.** Evaluates a cleanup option's use of treatment to reduce the harmful effects of the contaminants, their ability to move in the environment and the amount of contamination present.
5. **Short-Term Effectiveness.** Considers the time needed to clean up a site and the risks a cleanup option may pose to workers, the community and the environment until the cleanup goals are met.
6. **Implementability.** Is the technical and administrative feasibility of implementing a cleanup option and includes factors such as the relative availability of goods and services.
7. **Cost.** Includes estimated capital and annual operation and maintenance costs as well as the present worth cost. Present worth cost is the total cost of an alternative over time in terms of today's dollar value.
8. **State Acceptance.** Considers whether the state (in this case Wisconsin) agrees with EPA's analyses and recommendations as described in the design supplement and EPA's proposed cleanup plan.
9. **Community Acceptance.** Considers whether the local community agrees with EPA's analyses and proposed cleanup plan. The comments that EPA receives on its recommendation are an important indicator of community acceptance.

The next step

EPA encourages comments on its proposed plan. EPA, in consultation with DNR, will evaluate all comments received during the public comment period before deciding whether to adopt the proposed revisions.

EPA will respond to public comments received in a document called a responsiveness summary. This summary will be included in the final decision document, called a record of decision amendment. EPA will announce its final cleanup decision in the local newspaper and will send a copy of the amendment to the information repositories listed on this page where it will be available for public review. The amendment will also be posted at www.epa.gov/region5/sites/foxriver. After a final plan is selected, contractors will design and implement the cleanup with oversight by EPA and DNR.

Information repositories

Copies of the proposed plan and other documents related to the Lower Fox River site are available in the reference sections of the following libraries:

- **Appleton Public Library,** 225 N. Oneida St., Appleton
- **Brown County Library,** 515 Pine St., Green Bay
- **Door County Library,** 104 S. Fourth Ave., Sturgeon Bay
- **Oneida Community Library,** 201 Elm St., Oneida
- **Oshkosh Public Library,** 106 Washington Ave., Oshkosh

In addition, an administrative record, which contains detailed information EPA considered when selecting the 2002 cleanup plan, is available at the DNR Northeast Region office, 2984 Shawano Ave., Green Bay, Wis.; DNR Bureau of Watershed Management, 3rd Floor, 101 S. Webster St., Madison, Wis.; and the EPA Records Center, 7th floor, 77 W. Jackson Blvd., Chicago, Ill. After the public comment period, the administrative record will be updated to include information relevant to the current cleanup decision.

For more information

For more information about the Lower Fox River/Green Bay site cleanup, please contact:

Susan Pastor
Community Involvement Coordinator
Office of Public Affairs (P-19J)
U.S. EPA Region 5
77 W. Jackson Blvd.
Chicago, IL 60604-3590
Phone: 312-353-1325 or
800-621-8431 Ext. 31325
weekdays 9 a.m. - 4:30 p.m.
Fax: 312-353-1155
E-mail: pastor.susan@epa.gov

James Hahnenberg
Remedial Project Manager
Superfund Division (SR-6J)
EPA Region 5
77 W. Jackson Blvd.
Chicago, IL 60604-3590
Phone: 312-353-4213 or
800-621-8431 Ext. 34213
weekdays 9 a.m. - 4:30 p.m.
Fax: 312-886-4071
E-mail: hahnenberg.james@epa.gov

Greg Hill
Project Coordinator
Water Division
Wisconsin DNR (WT/3)
101 S. Webster St.
P.O. Box 7921
Madison, WI 53707-7921
Phone: 608-267-9352
Fax: 608-267-2800
E-mail: gregory.hill@wisconsin.gov

Reproduced on Recycled Paper

LOWER FOX RIVER SITE:
EPA Proposes Changes to OU 1 Cleanup Plan

United States
Environmental Protection
Agency

Region 5
Office of Public Affairs (P-19J)
77 W. Jackson Blvd.
Chicago, IL 60604-3590