



United States Department of the Interior

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July 16, 1999

Mr Jim Hahnenberg (SR-6J)
U.S. Environmental Protection Agency
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

Dear Mr. Hahnenberg:

On behalf of the federal and tribal natural resource co-trustees ("Trustees") for the "Lower Fox River/Green Bay NRDA" (August 1996 Assessment Plan, 61 Fed. Reg. 43,558) assessment area ("Site"), I want to thank you for the opportunity to submit this letter in support of the July 28, 1999 "National Remedy Review Board Remedy Selection Briefing Package" ("Briefing Package") for the Site. The Trustees comprise the U.S. Fish and Wildlife Service, on behalf of the U.S. Department of the Interior, the National Oceanic and Atmospheric Administration ("NOAA"), on behalf of the U.S. Department of Commerce, the Oneida Tribe of Indians of Wisconsin ("OTIW"), and the Menominee Indian Tribe of Wisconsin ("MITW").

The Site has been the focus of one of the largest natural resource damage assessments ("NRDA") in the U.S. since May of 1994. When the NRDA was started, no response action, pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"), was planned. Because of the magnitude of ongoing natural resource injuries resulting from heavy levels of polychlorinated biphenyls (PCB) in the sediment of the Lower Fox River, the Trustees successfully sought remedial planning by the U.S. Environmental Protection Agency ("Agency") in 1997.

In 1998, the Agency funded the Wisconsin Department of Natural Resources ("State") to conduct a remedial investigation and feasibility study ("RI/FS") for the Site. The Trustees have been involved in the planning and drafting of the RI/FS from its inception, and have provided very extensive comments on several iterations of the RI/FS, including the current version. At the same time, the Trustees continued to carry out the NRDA in order to determine the level of restoration that will be required in association with the remedy ultimately selected. As such, the trustees gathered over 100 nationally recognized experts to construct all of the elements required for a complete "Type B" NRDA (43 C.F.R. Part 11), including a liability analysis, a determination and quantification of natural resource injuries, the identification of restoration alternatives, and the calculation of economic damages. The Trustees have completed and released several of the studies and reports being conducted as part of this assessment, and are planning to release the remainder of the results

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throughout this year as they reach completion. For all of these reasons, the Trustees are in a strong position to provide relevant information to the Agency and the Remedy Review Board about the Briefing Package.

Three sections of text follow. First, we provide an overview about the efficacy of the recommended alternatives in the Briefing Package for eliminating natural resource injuries throughout the Site. Second, we describe the relationship between the recommended alternatives and restoration projects to address residual economic damages at the site. Third, we summarize the most pressing issues which have not yet been addressed in the RI/FS, nor in the Briefing Package based on that RI/FS.

Efficacy of the Recommended Alternatives

The recommended alternatives in the Briefing Package are for monitored natural recovery in Operational Unit ("OU") 2 and OU5, partial dredging and disposal in a landfill for OU1, and complete dredging and disposal in a landfill for OU3 and OU4. In total, the recommended alternatives would remove the vast majority of PCB mass which remains in the Lower Fox River, eliminating most of the continued transport from the relatively confined river into the thousands of square miles of Green Bay and Lake Michigan, where the majority of injured natural resources reside. In addition, the recommended alternatives would be cost effective, concentrating the effort on OU1, OU3, and OU4 where the greatest PCB mass per dollar can be removed.

However, the recommended alternatives could result in increased residual injuries to natural resources if dredging mixes deep sediments containing higher concentrations of PCBs into relatively cleaner sediments closer to the surface, particularly in OU4. For example, if dredging is conducted blind from the surface and terminated before completion, such as at the Deposit N (OU2) demonstration project site, rather than with dredge placement by divers and complete removal to clean substrata, such as at the Manistique Superfund site, then the potential for increased mixing of PCBs into biologically relevant strata is greatly increased.

In addition, if OU1 and OU2 are continuing to contaminate the surface layer of OU4 at a greater rate than the deep layers of OU4 are, then greater efficacy could be achieved by concentrating a larger percentage of the total dredging effort in OU1 and OU2. Current PCB fate and transport modeling which was not incorporated into the current draft of the RI/FS should be studied closely before making a final remedy selection (see "Remaining Issues for the RI/FS," below).

Finally, since the total mass of PCBs which has already been transported from the Fox River to Green Bay and beyond exceeds the total mass of PCBs still in Fox River sediments, it is possible that movement of PCBs within OU5 accounts for more exposure of natural resources than PCBs currently moving from the Fox River. If this is the case, then a more serious evaluation of remedial alternatives in Green Bay is warranted, including a more serious evaluation of the relative efficacy of undertaking remedial projects versus conducting natural resource damage restoration projects (see "Relationship Between the Recommended Alternative and Residual Damages," below).

Relationship Between the Recommended Alternative and Residual Damages

CERCLA authorizes both cleanup and restoration of sites contaminated with hazardous substances. Response agencies, such as the Agency, are charged with remedial planning and cleanup. Natural resource trustees are charged with NRDA and restoration. Cleanup focuses on eliminating “imminent and substantial endangerment to the public health or welfare or the environment” (CERCLA §9606(a)). Damage assessment focuses on making the public whole for “injury to, destruction of, or loss of natural resources” (CERCLA §9607(f)). These mandates are closely related, and careful coordination by response and trustee agencies can maximize opportunities to simultaneously plan and/or implement projects which, together, are the most complete and cost-effective solution to cleaning and restoring a site.

At the Site, the Agency, the State, and the Trustees operate under a memorandum of agreement (July 11, 1997) designed for “1) coordination of the Parties’ response and restoration activities...; and 2) negotiations with parties who are potentially responsible...for the purpose of resolving the Parties’ civil actions against them.” To succeed in practice, this means that the Agency, State, and Trustees must formulate integrated plans for cleanup projects, restoration projects designed to return natural resources to their “baseline” (43 C.F.R. §11) condition (the condition absent the release of hazardous substances), and restoration projects designed to compensate for injuries not eliminated by the cleanup (past injuries, interim injuries, and residual injuries).

Out of the 280,000 – 880,000 pounds originally released to the river and bay, only approximately 79,000 pounds of PCBs remain in the sediments of the Lower Fox River (Briefing Package). The natural resource injuries associated with the releases to the river and bay are likely to span five decades even with complete remediation of all Fox River and Green Bay sediments. Therefore, restoration projects addressing natural resource damages are likely to be a substantial percentage of the total projects implemented at the Site. In addition, the Lower Fox River continues to discharge approximately 600 pounds of PCBs into Green Bay annually (based on the 1989 “Green Bay Mass Balance Study” conducted by the Agency and the State), and PCB levels have neither declined to acceptable risk levels nor ceased causing injuries to natural resources even 28 years after the cessation of PCB production in the U.S. (Briefing Package). Therefore, it is the position of the Trustees that sediment remediation is an absolutely essential element for both cleanup and restoration of the site.

In conclusion, while sediment remediation is an absolutely essential element for cleanup and restoration for this Site, restoration is a critical component of this process. However, the Agency should weigh both the cost and effectiveness of remedial alternatives in light of the relative cost and effectiveness of restoration projects which may have to be selected to address residual injuries associated with a partial cleanup. The remedial alternative selected must be sufficiently effective to ensure that post-remedial restoration projects would not be vitiated by recontamination. At the same time, there may be a point at which more intensive remedial alternatives may not prove as valuable for human health and the environment, or as cost-effective, as a series of restoration actions.

Remaining Issues for the RI/FS

1. Green Bay

The Trustees believe that Green Bay must be more central to the RI/FS risk assessment, even if the Fox River remains the focus of the feasibility study. Even if cleanup is cost effective only in the river, the risk to human health and the environment from Fox River PCBs occurs mostly in Green Bay, not in the Fox River. For instance, there are 1.8 million hours of angling per year in Green Bay, compared to only 120,000 hours per year in the Fox River. Therefore, the bay is the key to understanding human health risk reductions. In addition, there are probably 50,000 colonial nesting birds in Green Bay compared to dozens in the Fox River, and probably at least 100,000 times more fish that use Green Bay than are restricted to the Fox River. Therefore, the bay is key to understanding ecological risk reductions. Although the Baseline Risk Assessment does not completely ignore Green Bay, anything less than a strong focus on risks in Green Bay greatly diminishes the accuracy of any evaluation of benefits that will result from remedial alternatives. Therefore, it is absolutely essential that the Agency's supplemental risk assessment for outer Green Bay be incorporated into the final Baseline Risk Assessment.

2. PCB Fate and Transport Models

PCB fate and transport models are a key component in the evaluation of the benefits and residual risks associated with each remedial alternative. However, the Feasibility Study and the Baseline Risk Assessment use PCB fate and transport models without sufficient justification for how those particular models were chosen, evaluated, and used. Multiple model evaluations and refinements are underway by the State, the Trustees, the Agency, and the Potentially Responsible Parties, but these evaluations and refinements were not addressed in the RI/FS. The potential for inter-agency and intra-agency modeling discrepancies are great, and many potentially significant issues have been raised but not addressed. Even if the draft Baseline Risk Assessment and the Feasibility Study have used adequate models in a proper fashion, the record is inadequate to demonstrate this. If they have not used adequate models, the remedial decision could be based on an inaccurate prediction of how the various remedial alternatives will affect the fate and transport of PCBs and the resulting risks to human health and the environment. Therefore, it is absolutely essential that the Agency systematically address outstanding modeling issues and produce a comprehensible record of how modeling decisions have been made within the Baseline Risk Assessment and the Feasibility Study.

3. Ecological Risk Assessment

The draft Baseline Risk Assessment has many factual errors. The Trustees and the Agency have repeatedly commented on these errors, but they have not been fixed in the current draft of the RI/FS. Errors increase the possibility that risk-based decisions will be incorrect. Errors increase the possibility that the Baseline Risk Assessment and the NRDA will be in conflict. In addition, conflicts and errors increase the possibility that remedial decisions will be successfully challenged, delaying cleanup and resolution of liability.

4. Cost Estimates

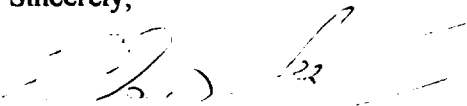
The estimated costs for dredging OU4 have fluctuated between approximately \$40 million and \$700 million in different versions of the RI/FS, for unexplainable reasons. In particular, total sediment volumes, unit dredging costs, tipping fee rates, and contingency rates have all fluctuated without explanation. Further, the low estimates, including the current RI/FS draft estimate of \$46 million, appears to be unrealistic compared to virtually every other site in the U.S. A much more rigorous explanation of the basis of the sediment volume, unit dredging cost, tipping fee rate, and contingency rate must be provided so that the realism of the final cost estimate can be evaluated.

Conclusion

In conclusion, based on the information collected and analyses conducted to date, the Trustees concur with the recommended alternative in the Briefing Package, including: the 0.25 part per million sediment threshold; the focus of remedial projects within OU1, OU3, and OU4; the selection of removal by dredging and disposal in landfills for those OUs; and the use of monitored natural recovery in OU2 and OU5. However, completion of the Green Bay evaluation, completion of the modeling evaluation, correction of errors in the ecological risk assessment, and more realistic cost assumptions in OU4 are essential to the credibility of the RI/FS and any decisions based on that RI/FS. In addition, the recommended alternative should consider the time required for the fishery to recover to a level protective of subsistence anglers by permitting unlimited consumption of Site fish.

Thank you again for the opportunity to provide this information for the Remedy Review Board. Please let me know if the Board would like copies of the Trustees' extensive comments on the RI/FS, or any further information, either in writing or in person.

Sincerely,



P. David Allen II
Assessment Manager

cc: Roger Grimes, ORC, EPA, Chicago, IL
Ed Lynch, RR/3, WDNR, Madison, WI

bcc: Cox, MITW, Keshena, WI
Goldfarb, DOI, Washington, D.C.
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Katz, DOJ, Washington, D.C.
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Nelson, OTIW, Oneida, WI

Appendix I. Statement of Natural Resource Trustee Authority

DOI, in conjunction with the MITW and the MITW (collectively, the trustees), are conducting an NRDA on the Fox River, Green Bay, and Lake Michigan, pursuant to CERCLA, as amended [42 U.S.C. §§ 9607(f)(1)-(2)] and the CWA [33 U.S.C. §§ 1321(f)(4)-(5)]. The President is required under CERCLA [42 U.S.C. §9607(f)(2)] to designate in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) [40 CFR Part 300], the Federal officials who are authorized to act on behalf of the public as trustees for natural resources under CERCLA and the CWA. Under the NCP, the Secretary of the Interior is designated to act as a trustee for natural resources “belonging to, managed by, held in trust by, appertaining to, or otherwise controlled by the DOI,” as well as the supporting ecosystems for those natural resources [40 CFR §§ 300.600(a), (b), (b)(2)].

Under the NRDA regulations, assessment plans must “include a statement of the authority for asserting trusteeship or cotrusteeship for those natural resources within the Assessment Plan” [43 CFR § 11.31(a)(2)]. Based on the authority designated to the Secretary of the Interior, DOI derives trusteeship authority over natural resources in the assessment area from its statutorily prescribed programs, including, but not limited to, the Migratory Bird Treaty Act of 1918, 16 U.S.C. §§ 703-712; the Bald and Golden Eagle Protection Act of 1940, 16 U.S.C. §§ 668-668d; the Fish and Wildlife Act of 1956, 16 U.S.C. §§ 742a-742j-1; the Anadromous Fish Conservation Act of 1965, 16 U.S.C §§ 757a-757g; the Estuary Protection Act of 1968, 16 U.S.C. §§ 1221-1226; the Marine Mammal Protection Act of 1972, 16 U.S.C. §§ 1361-1407; the Endangered Species Act of 1973, 16 U.S.C. §§ 1531-1544; the Emergency Wetlands Resources Act of 1986, 16 U.S.C. §§ 3901-3932; the Great Lakes Coastal Barrier Act of 1988, 16 U.S.C. §§ 3501-3510; the Great Lakes Fish and Wildlife Restoration Act of 1990, 16 U.S.C. § 941; and the Great Lakes Fish and Wildlife Tissue Bank Act of 1992, 16 U.S.C. §§ 943-943c.

In addition to the authorities listed, above, applicable to the Secretary of Commerce, NOAA derives trusteeship and/or co-trusteeship authority over natural resources in the assessment area under several statutes, regulations, and statutorily prescribed programs. These statutes, regulations, and programs include, but are not limited to, the following: Subpart G of the NCP [40 CFR §300.600(b)(1), as amended, as well as several of the authorities cited, above.

CERCLA also identifies Indian Tribes as trustees for “natural resources belonging to, managed by, controlled by, or appertaining to such tribe, or held in trust for the benefit of such tribe, or belonging to a member of such tribe if such resources are subject to a trust restriction on alienation...” [42 U.S.C. § 9607(f)(1)]. Under the NCP, tribal chairmen (or heads of their governing bodies) of Indian tribes, or a person designated by the tribal officials, shall act on behalf of the Indian Tribes as trustees for natural resources under tribal trusteeship [40 CFR § 300.610].

Based on the authority designating tribes as trustees for natural resources, the OTIW asserts that it is a natural resource trustee. The OTIW intends to ensure that tribal interests are represented and protected as part of the cleanup of the Site. The OTIW became actively involved in the NRDA in May 1996 due to the Site having a direct impact on the Oneida Reservation. The Reservation is located four miles east of the mouth of the Fox River and seven miles southeast of Green Bay.

The major waterways of the Oneida Reservation are direct tributaries of the Site. The Duck Creek (the largest Reservation river) is a major tributary of Green Bay, and Dutchman's Creek is a tributary of the Fox River. Other Reservation tributaries of this system include Ashwaubenon Creek, South Branch of the Little Suamico, Oneida Creek, and Fish Creek. All of these waterways are very significant to the natural and cultural resources on the Reservation, including but not limited to, the fishery and migrant bird populations. Surveys conducted by the Service and the OTIW show conclusively that the Reservation fishery is directly impacted by the PCB contamination.

As a natural resource trustee, the OTIW has conducted chemical tissue analysis on waterfowl, fish, and mammals to establish injuries from PCB contamination. The OTIW is also conducting studies to determine what level of restoration is necessary for the Tribal members to have confidence in their natural resources. Included in these studies are statements that show the relationship between the Reservation and the Site.

The Federal Government has a trust responsibility to the OTIW in the cleanup of the Site. The OTIW believes that the goal of remediation and restoration of the Site can be accomplished only through the cooperative efforts of all parties, including the Agency, the State, and the Trustees.

The MITW asserts that it is trustee for those natural resources established pursuant, but not limited to, the Treaty of February 8, 1831, 7 Stat. 342, *supplemented*, February 17, 1831, 7 Stat. 346, *amended*, October 27, 1832, 7 Stat. 405 (Treaty of Washington); Treaty of September 3, 1836, 7 Stat. 506 (Treaty of Cedar Point); and Treaty of May 12, 1854, 10 Stat. 1064 (Treaty of Wolf River).