
1. Introduction

This document addresses the public comments that were received for the Stage I Assessment Plan for the Kalamazoo River Environment (KRE) natural resource damage assessment (NRDA) (hereafter “Plan”; Michigan Department of Environmental Quality et al., 2000). The Stage I Assessment Plan was prepared by the Director of the Michigan Department of Environmental Quality (MDEQ), the Michigan Department Attorney General, and the Secretary of the Interior as represented by the Regional Director of the U.S. Fish & Wildlife Service (U.S. FWS), in coordination with the Secretary of Commerce as represented by the National Oceanic and Atmospheric Administration (collectively referred to as the Trustees) and released to the public on November 28, 2000. All of the public comments that were received on the Plan by the Trustees are attached as an appendix to this document. This responsiveness summary is designed to assist the public in understanding the Trustees’ assessment approach and choices, in addition to the narrower goal of compliance with federal regulations at 43 C.F.R. Part 11. The Trustees have endeavored to respond to all of the comments in a manner that is logical, transparent, and complete, including releasing this responsiveness summary in conjunction with the Stage I Assessment Report, Volume 1 – Injury Assessment, and Volume 2 – Economic Assessment (hereafter “Stage I Injury Report” and “Stage I Economic Report,” respectively and “Stage I Assessment Reports,” collectively; Michigan Department of Environmental Quality et al., 2005a,b), which include additional details about the Trustees’ assessment approaches. Both reports are hereby incorporated by reference as part of this responsiveness summary.

In responding to public comments, the Trustees invoked several principles. First, the Trustees addressed each substantive comment only once, even when several commenters made the same point or a single commenter repeated a point in different contexts. Second, the Trustees distinguished between comments expressing preferences about Trustee choices within the Trustees’ discretion, comments providing opinions about whether the Trustees’ assessment approach exceeds the Trustees’ discretion under the law, and comments regarding factual information. Third, the Trustees categorized comments and responses by topic rather than sequentially by commenter and comment. Finally, in cases where further details about an issue are provided in the Stage I Assessment Reports, the reports are cited rather than repeating report content in this responsiveness summary.

The Plan describes the approaches proposed by the Trustees to conduct Stage I of the assessment. In considering the public comments on the Plan, the Trustees considered whether assessment approaches should be altered based on comments that could require one of the following three Trustee actions:

- ▶ A major change in assessment approach requiring publication of a revised assessment plan or assessment plan addendum

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- ▶ A minor change in assessment approach not requiring publication of a revised assessment plan
 - ▶ No change in the assessment approach.

In considering these three potential actions, the Trustees endeavored to represent the public fairly and equitably while considering each comment. After reviewing the comments, the Trustees determined that no major changes were required in the assessment approach sufficient to justify the publication of a revised assessment plan or assessment plan addendum. However, the Trustees note that the Stage I Assessment Reports provide considerable additional detail about the assessment approach. Further, the Trustees are considering a Stage II Assessment Plan.

2. Comments that Express Preferences

A number of comments provided the Trustees with information about various commenters' preferences regarding issues within the Trustees' discretion under the law. These comments are important for illuminating alternative choices and gauging opinions from the interested public, including identification of conflicting perspectives within the interested public.

2.1 Categories of Injury

Some comments suggested natural resource injuries that should be assessed, including impacts on angling for northern pike and other species, injuries to Lake Michigan, and Michigan water quality standards violations. The Trustees agree that water quality standards violations and impacts to fish and fishing should be included in the assessment. Chapter 3 of the Stage I Injury Report describes injuries to surface water, Chapter 5 describes fish consumption advisories, and Chapter 6 describes injuries to fish and aquatic invertebrates. In addition, Chapter 2 of the Stage I Economic Report describes recreational fishing damages that may derive from injuries to fish.

Other comments suggested eliminating categories of natural resources from injury assessment, including groundwater and all other nonbiological resources. The Trustees recognize that dropping categories of injury could simplify the assessment, but at the cost of missing potentially significant categories of natural resource injuries. The Stage I assessment is intended to identify potential injuries broadly, both to determine Stage II assessment activities and for settlement discussions with the potentially responsible parties. Therefore, Chapter 4 of the Stage I Injury Report describes injuries to sediments, Chapter 7 describes injuries to wildlife, and Chapter 8 describes indirect injuries. In addition, Chapter 3 of the Stage I Economic Report describes total values that may derive from a variety of injuries.

Broad review of all injury categories is an important element of the Stage I assessment. The Trustees recognize that the assessment may be unable to address, individually, each natural resource injury caused by the potentially responsible parties' releases of (polychlorinated biphenyls) PCBs. Nevertheless, the Trustees are committed to at least evaluate potential injuries beyond water quality standards violations and injuries to biological resources. The Trustees believe that categorically dropping all other injuries from the assessment is premature and may be inappropriate. Therefore, the Trustees will continue to evaluate the extent to which all injuries can be determined.

2.2 Categories of Damages

Some comments supported inclusion of damages beyond recreational fishing uses, while others opposed inclusion of additional categories of damages. The Trustees recognize that dropping categories of damages could simplify the assessment, but at the cost of missing potentially significant categories of public damages. The Trustees recognize that the assessment may be unable to address, individually, each natural resource service lost and each type of natural resource damage incurred because of the potentially responsible parties' releases of PCBs. Nevertheless, the Trustees are committed to at least evaluate potential damages beyond recreational fishing. The Trustees believe that categorically dropping all damages besides recreational fishing from the assessment is premature and may be inappropriate. Therefore, the Trustees will continue to evaluate the extent to which all damages can be determined. Additional information regarding damages determination is provided in the Stage I Economic Report.

2.3 Restoration Options

Many comments provided suggestions for restoration, including:

- ▶ Reduction of PCB pathways beyond actions taken for remediation
- ▶ Abatement of other pollution sources injuring the same resources that the potentially responsible parties' PCBs injure
- ▶ Removal of dams to improve habitats and recreational use
- ▶ Restoration and preservation of wetlands, floodplain forests, habitat corridors, and other habitats
- ▶ Restoration of eagles, mink, northern pike, other fish, and other taxa of biota impacted by the potentially responsible parties' PCBs

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- ▶ Deepening of parts of Lake Allegan to improve habitats and recreation
 - ▶ Preservation of open space, development of trails, and other recreational enhancements.

Another comment suggested that all recovered damages should be applied onsite rather than offsite.

The Trustees greatly appreciate all of these suggestions. The Trustees will continue to solicit restoration options and ideas. In addition, the Trustees have established focus criteria in the Stage I Economic Report, which give on-site restoration projects a higher weight than off-site projects. However, the Trustees note that off-site restoration opportunities will also be considered because other restoration criteria such as implementability, feasibility, cost-effectiveness, and overall benefit will also be used to select between restoration options. Nevertheless, the Trustees recognize and are committed to the need to link restoration to the injured natural resources. The Trustees have published additional information about restoration planning in Chapter 4 of the Stage I Economic Report, including information in Section 4.2 about the criteria that the Trustees propose to use to evaluate restoration options.

2.4 Ecosystem Approach

Several comments supported the use of an ecosystem approach. The Trustees remain committed to this approach. Further examples of the ecosystem approach are provided in the Stage I Assessment Reports.

2.5 Inclusion of Lake Michigan

Some comments supported inclusion of Lake Michigan in the assessment, while others opposed this. The Trustees recognize that dropping Lake Michigan could simplify the assessment, but at the cost of missing a likely significant component of public damages. The Trustees also recognize that the assessment may be unable to cover all locations where the potentially responsible parties' PCBs have come to be located, including areas beyond Lake Michigan. Nevertheless, the Trustees are committed to at least evaluate potential damages arising from Lake Michigan exposures and potential injuries. The Trustees believe that categorically dropping Lake Michigan from the assessment is premature and may be inappropriate. Therefore the Trustees will continue to evaluate the extent to which damages can be determined in Lake Michigan and beyond. Additional information regarding Lake Michigan is provided in the Stage I Assessment Reports, including discussions of PCB releases and pathways in Chapter 2 of the Stage I Injury Report, and recreational fishing damages associated with Lake Michigan in Chapter 2 of the Stage I Economic Report.

2.6 Uniqueness of the KRE

One comment suggested that analysis of the uniqueness of the KRE is unnecessary because few sites provide truly unique recreation and many recreational substitutes exist near the KRE. The Trustees disagree that the type of recreation provided by a site is the only attribute conferring uniqueness. Furthermore, the Trustees disagree that an assumption about KRE uniqueness is better than an assessment of the uniqueness of the site. Therefore, the Trustees will continue to evaluate whether the uniqueness of the KRE is important in the design of economic measures of damages.

2.7 Relationship to RI/FS

Some comments suggested that previous comments on the remedial investigation and feasibility study (RI/FS), and actions taken for remediation, should be considered in the assessment. Other comments suggested that remedial actions and restoration actions should be kept distinct. The Trustees concur that the NRDA must be conducted in a manner that considers relevant information generated by the RI/FS process, that accounts for the effect of remediation on damages, and that avoids confusion between remedial actions and cleanup costs versus natural resource damage liability and restoration. The Trustees are committed to assessing natural resource damages that arise because of necessary remedial actions, avoiding restoration actions that will be unnecessary or infeasible because of necessary remedial actions, and ensuring efficient and transparent transfer of relevant information between the RI/FS and NRDA processes. Additional information about the relationship between the NRDA and RI/FS processes is provided in Chapter 8 the Stage I Injury Report and Chapter 1 of the Stage I Economic Report.

2.8 Detail of the Plan

Several comments requested additional assessment plan details, and expressed concern about possible Trustee focus during Stage I assessment. The Trustees considered these concerns and present full details of the Stage I assessment in the Stage I Assessment Reports.

2.9 PRP Involvement

Some comments advised the Trustees to prevent potentially responsible party participation in the assessment, or to scrutinize data generated by the potentially responsible parties to ensure that the data are presented in a valid context. The Trustees agree that the potentially responsible parties occupy a unique status in the assessment since they may be held liable to pay for the

restoration required to make the public whole. However, although the law allows the Trustees to assess damages unilaterally without participation by the potentially responsible parties, the discretionary regulations require that the Trustees afford the potentially responsible parties with reasonable opportunities to participate in the assessment as a condition for receiving a “rebuttable presumption” in administrative and judicial proceedings. Furthermore, the Trustees believe that participation by the potentially responsible parties in the assessment may help resolve technical issues or clarify which issues remain in dispute. This process will give the public additional opportunities to understand both the Trustees’ and the potentially responsible parties’ positions whether settlement is reached or litigation required. Therefore, the Trustees will continue to offer the potentially responsible parties reasonable opportunities to participate in the assessment.

Regarding data generated by the potentially responsible parties, the Trustees agree that scrutiny is required to ensure that the data are placed in the appropriate context for the assessment. However, this scrutiny applies to data collected by other parties, including the Trustees. The Trustees are committed to using appropriate and relevant data in a manner that supports valid assessment determinations by the Trustees.

3. Comments that Express Opinions about the Scope of Trustee Authority

A number of comments, particularly those made on behalf of the potentially responsible parties, express opinions that the Trustees’ assessment approaches may exceed their authority, either under nondiscretionary law (particularly the Comprehensive Environmental Response, Compensation, and Liability Act or “CERCLA”) or under the discretionary federal regulations at 43 C.F.R. Part 11. The Trustees have considered whether changes are required in the assessment approaches to comply with the law, whether any changes would be needed to preserve their “rebuttable presumption” afforded by following the discretionary regulations, or whether the Trustees disagree with the expressed opinion.

3.1 Timeline for Damages

Some comments suggested that damages should be assessed from the early 1950s until as far into the future as possible. Although the Trustees could, in theory, pursue common law theories to prove damages arising before enactment of the statutes that authorize NRDA, there are many advantages for using the statutory provisions of NRDA. The two primary statutes that authorize NRDA for sites like the KRE and hazardous substances like PCBs are the Federal Water Pollution Control Act (Clean Water Act, or CWA) and CERCLA, which authorized natural

resource damage claims in 1977 and 1980, respectively. The Trustees' assessment is being conducted primarily under statutory authorities. Therefore, the assessment will continue to focus on damages beginning with the statutory authorizations in 1977 and 1980.

The Trustees agree that damages should be assessed into the future as far as practicable and reasonable. However, the Trustees note that, because of discounting, damages far into the future (especially beyond 30 years) rarely add significantly to total damages, even when the injuries are not expected to decline significantly. In addition, predicting environmental conditions accurately and reliably becomes more difficult as predictive time frames lengthen.

3.2 Required Analyses

The potentially responsible parties made a number of comments about required analyses regarding screening approaches, baseline determination, injury quantification, and economics. The Trustees agree that many of the analyses described by the potentially responsible parties could be used for NRDA. However, the Trustees disagree that the analyses must be used in the manner indicated by the potentially responsible parties. Further responses regarding required analyses are provided below, and additional information about the Trustees' assessment approaches and analyses are provided in the Stage I Assessment Reports.

3.2.1 Screening approaches

One comment supported the use of screening approaches, which compare site chemistry data to criteria, standards, thresholds, or benchmarks, as a cost-effective analysis to provide preliminary information for settlement discussions, to frame the full assessment, and to begin restoration planning. However, the comment cautioned that screening approaches cannot be used to determine injury. The Trustees agree that screening approaches can be used as the potentially responsible parties suggest, but do not agree that the use of screening approaches is necessarily as limited as the potentially responsible parties suggest. For instance, in Stage I, the Trustees used standards and criteria established by the State of Michigan (e.g., water quality standards) and the federal government (e.g., federal water quality criteria, Food and Drug Administration tolerance levels, and Safe Drinking Water Act standards) to determine injuries, per federal regulations at 43 C.F.R. Part 11 (see Chapters 3 and 5 of the Stage I Injury Report). Furthermore, the Trustees classified biological injuries using both screening approaches and review of site-specific studies (see Chapters 6 and 7 of the Stage I Injury Report).

3.2.2 Baseline

One comment stated that baseline analyses must be included in the assessment, including analysis of adverse ecological impacts resulting from causes other than PCBs, analysis of sources of PCBs other than the identified potentially responsible parties, and analysis of factors such as industrial development that may reduce the demand for services provided by natural resources. A related comment suggests that the Trustees must account for how the ownership and operation of dams by the Michigan Department of Natural Resources may have affected the distribution and bioavailability of PCBs. The Trustees agree that baseline should be characterized in the assessment to determine and quantify damages for which the potentially responsible parties may be liable. However, there are many approaches for making baseline comparisons that do not require detailed analyses of other sources of harm, such as conducting studies with appropriate reference sites. Furthermore, the Trustees are not required to establish the liability of all parties, nor are they required to apportion damages between potentially responsible parties, particularly where the harm is not practically divisible. Furthermore, the Trustees disagree that the potentially responsible parties are not liable for damages caused by PCBs that they released if public agencies managed facilities such as dams that may have influenced distribution and bioavailability of PCBs.

For the Stage I assessment, the Trustees segregated PCBs from other contaminants by using a screening approach that relied primarily on PCB chemistry data (i.e., determining where PCB concentrations were sufficient to cause injuries; see Chapters 4-7 of the Stage I Injury Report). Therefore, this approach addresses the potentially responsible parties' concerns regarding baseline consideration of other contaminants. In addition, the Trustees evaluated the contribution of PCBs to the KRE by potentially responsible parties versus other sources (see Chapter 2 of the Stage I Injury Report). Finally, recreational fishing was the only use quantified, and it was based on data from the KRE, which accounted for other factors that could affect recreational fishing uses (see Chapter 2 of the Stage I Economic Report).

The Trustees are committed to measuring damages *resulting from* the potentially responsible parties' releases of hazardous substances, which necessarily includes analyses of baseline. Additional information about how baseline is treated in the Stage I assessment is provided throughout both Stage I Assessment Reports.

3.2.3 Injury quantification

One comment suggests that the Trustees must quantify injuries, pursuant to federal regulations at 43 C.F.R. § 11.70(b). However, the Trustees note that the quantification phase of the regulations discusses quantification of services that link injuries to damages, and that 43 C.F.R. § 11.70(b) refers to quantification of “the effects of the discharge or release on the injured natural

resources.” Therefore, the Trustees disagree that quantification refers exclusively or primarily to injuries.

For the Stage I assessment, the Trustees conducted some preliminary quantification of the extent of injuries and the loss of services provided by the injured natural resources to help determine the potential magnitude of injuries that could be further assessed in a Stage II assessment. In addition, the Trustees conducted some preliminary analyses that could be used for restoration scaling. Additional quantification may be necessary in Stage II of the assessment. The Trustees are committed to quantifying damages that result from the potentially responsible parties’ releases of hazardous substances, using appropriate metrics to quantify injuries, services, costs, or values.

3.2.4 Data quality

Another comment suggested that the most recent injury data must be used to ensure high quality, including data generated by the potentially responsible parties. However, the Trustees disagree that recent data are necessarily of higher quality than older data. For the Stage I assessment, the Trustees conducted extensive searches for available data and information relevant to the assessment, and conducted preliminary evaluation of data relevance and quality. In addition, the trustees stopped incorporating new data after mid-2003 to ensure that included data were reviewed for quality before the Stage I reports were reviewed, finalized, and released. However, additional analysis of data relevance and quality may be required for Stage II of the assessment.

3.2.5 Economics

A number of comments address which kinds of economic analyses can be used for the assessment. Some comments were appropriate for Stage I and were considered by the Trustees during the Stage I assessment. Other comments were more appropriate for the Stage II assessment, and they will be considered during that phase, as appropriate. In general, the Trustees agree that approaches favored by the potentially responsible parties could be used in an NRDA for the KRE. The Trustees disagree, however, that these approaches are the only or necessarily the best methods to determine the public’s losses. Additional information regarding the Trustees’ economics approaches are provided in the Stage I reports.

One comment stated that a random utility model should be developed, including analysis of the Atkin (1998) data, instead of attempting to rely on benefits transfer from other studies, particularly studies that included stated preference data. Related comments suggested that stated preference data should not be used at all. The Trustees agree that random utility models and other revealed preference data can be used to estimate damages for the KRE. The Trustees also agree to consider all of the Atkin data, including data from the more recent unpublished study.

However, the Trustees disagree that revealed preference data are inherently superior to stated preference data, that benefits transfers cannot be reliably applied to the KRE, and that a random utility model is necessarily the only or best method to estimate damages. The Trustees are committed to estimate damages using reliable data and methods, including benefits transfer, random utility models, stated preference data, and other methods and data as appropriate.

4. Comments that Present Factual Information

The potentially responsible parties submitted a number of comments regarding factual information presented in the Stage I Assessment Plan, either to correct factual mistakes within the Plan or to provide additional information relevant to the Plan. In conducting the Stage I assessment and preparing the Stage I Assessment Reports, the Trustees have considered and incorporated the comments regarding factual information presented in the Plan. However, there were no changes necessary regarding the factual information presented in the Plan that warranted re-publishing the Plan.

- ▶ One comment stated that the Plan overstates the severity of PCB impacts in the KRE because of selective data presentation. The Trustees disagree that the Plan was misleading because it explicitly stated that only selected data were presented to confirm exposure.
- ▶ A number of other specific comments suggested different interpretations for information presented in the Plan, such as presenting “non-detects” as 0.0 rather than quantification limits, presenting different selections of data, and presenting additional description of data not presented. However, the Trustees disagree that the alternate interpretations were necessary or superior to those in the Plan.
- ▶ A number of comments suggested corrections to data presented in the Plan. The Trustees have reviewed these comments and the original data sources and found that the following two corrections should be made. These corrections do not substantively affect the meaning of the data and, thus, the Trustees will not republish the Plan.
 - Table 4.6: The correct value for the median PCB concentration for earthworms collected from the Lake Allegan Dam floodplain is 0.24 mg/kg, not 0.024 mg/kg.
 - Table 4.9: The correct value for the median PCB concentration for muskrat carcass samples collected from the Former Otsego Impoundment should be 0.39 mg/kg, not 0.46 mg/kg.

References

Atkin, C. 1998. Data from Public Attitudes Survey-Kalamazoo River. Conducted by Charles Atkin of Michigan State University, submitted to Blasland, Bouck & Lee.

Michigan Department of Environmental Quality, Michigan Department of Attorney General, U.S. Fish and Wildlife Service, and National Oceanic and Atmospheric Administration. 2000. Stage I Assessment Plan: Kalamazoo River Environment Site. Prepared by Stratus Consulting.

Michigan Department of Environmental Quality, Michigan Attorney General, U.S. Fish and Wildlife Service, and National Oceanic and Atmospheric Administration. 2005a. Stage I Assessment Report, Volume 1 – Injury Assessment: Kalamazoo River Environment. Prepared by Stratus Consulting, Boulder, CO.

Michigan Department of Environmental Quality, Michigan Attorney General, U.S. Fish and Wildlife Service, and National Oceanic and Atmospheric Administration. 2005b. Stage I Assessment Report, Volume 2 – Economic Assessment: Kalamazoo River Environment. Prepared by Stratus Consulting, Boulder, CO.