

**INITIAL RESTORATION AND COMPENSATION DETERMINATION PLAN  
FOR THE GRAND CALUMET RIVER, INDIANA HARBOR SHIP CANAL,  
INDIANA HARBOR AND ASSOCIATED LAKE MICHIGAN ENVIRONMENTS**

*Part 1*

*Restoration Criteria*

*Prepared for public consideration by:*

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## INTRODUCTION

Federal and state trustees for natural resources are implementing the *Assessment Plan for the Natural Resource Damage Assessment of the Grand Calumet River, Indiana Harbor Ship Canal, Indiana Harbor, and Associated Lake Michigan Environments*. Among other activities, the Assessment Plan includes the trustees' approach to an assessment of the harm caused to natural resources by mixtures of oil and hazardous substances released into the assessment area (the "injury assessment"), and a determination of the actions that should be taken to restore the natural resources and to compensate the public for the loss of services (e.g., fishing opportunities, habitat for fish and birds) that natural resources should have, but did not, provide (the "damage determination").

The natural resource trustees are currently in the process of completing the activities designed to provide them with information to characterize natural resource injuries, measure service losses, and complete the damage determination. As described in the Assessment Plan, the damage determination phase of the assessment is dependent upon completion of a Restoration and Compensation Determination Plan (RCDP). A complete RCDP:

1. Lists a range of restoration alternatives (each of which may include a set of restoration projects);
2. Identifies the alternative the trustees have selected for implementation, along with the rationale supporting that selection;
3. Describes the methodology(ies) the trustees will use to determine the cost of the selected alternative; and
4. Describes the methodology(ies) the trustees will use to calculate the value of lost services for which the public should be compensated.

According to the federal regulations guiding this natural resource damage assessment, the trustees should prepare the RCDP as part of the Assessment Plan unless data available at the time of Assessment Plan development are insufficient. In such an case, the regulations contemplate that it may be appropriate to develop an initial RCDP that is subject to future revision and refinement.

In this case, the trustees determined that it was not feasible to include the final RCDP as part of the Assessment Plan, deferring this step until after completion of the injury assessment. Although injury assessment activities will be continuing through the fall of 1998, the trustees are now prepared, through this document, to share with the public the first part of an initial RCDP, focusing on the first two elements listed above. Specifically, the trustees have identified four conceptual "project categories" that together could address the natural resource losses that oil and hazardous substances have caused and are causing in the assessment area. In addition, the trustees have developed a draft framework to help guide them through the evaluation of potential restoration and compensation projects.

The trustees want to encourage the participation of all interested persons in the restoration planning process. For this reason, the trustees are making this draft document available for public review and comment. In the future, the trustees will ask all interested parties to suggest specific projects that restore injured resources and compensate the public for its losses. This step will help to ensure that the trustees benefit from the thinking of interested individuals and organizations in northwest Indiana and elsewhere who seek to improve the environment in and around the Grand Calumet River, the Indiana

Harbor Ship Canal and Indiana Harbor. In the near future, the trustees will make available the second part of the initial RCDP, which will focus on the methodology(ies) the trustees will use to calculate the value of lost services for which the public should be compensated and, to the extent possible, the methodology(ies) the trustees will use to determine the cost of the selected alternative. The final selection of one or more cost-estimating methodologies will depend on the specific projects the trustees decide to evaluate.

## RESTORATION AND COMPENSATION: PROJECT EVALUATION FRAMEWORK

Based on work already completed and the current understanding of conditions in the assessment area, the natural resource trustees are proposing to consider four conceptual restoration and compensation "project categories." These categories are only preliminary because the injury assessment is not complete. They do not in any way indicate the specific projects that might be warranted on the basis of the injury assessment. Instead, the categories represent general project goals that are consistent with the trustees' current understanding of environmental conditions in the assessment area, where numerous spills and releases of oil and hazardous substances have resulted in detrimental impacts on water quality, injury to aquatic and wildlife habitat, and human use impairment. In addition, severe sediment contamination is a continuous source of pollution to the water column, the Grand Calumet River riparian corridor, and nearshore Lake Michigan through resuspension and migration. The four project categories are:

- â **Management of contaminated sediments** that have caused injury and are a continuing source of harm to natural resources in the Grand Calumet River, Indiana Harbor Ship Canal and Indiana Harbor;
- ã **Restoration of injured habitats** located in the assessment area;
- ä **Enhancement of the public's use and enjoyment of natural resources** in the Grand Calumet River/Indiana Harbor Ship Canal corridor, the Indiana Dunes National Lakeshore, and the nearshore Lake Michigan environment; and
- å **Long-term control of hazardous substances and oil** that can migrate to and continue to harm natural resources in the Grand Calumet River, Indiana Harbor Ship Canal and Indiana Harbor.

The trustees will consider and evaluate one or more projects from each of the four categories, with the expectation that the most effective restoration plan for the assessment area will include a combination of projects from all of the conceptual categories.

The purpose of this framework is to provide specific criteria that will be used to evaluate potential restoration projects and to identify a preferred restoration alternative. The identification of category-specific criteria is intended to ensure that the evaluation of alternative projects within each category will remain focused on key considerations, which will vary between categories. Each category includes "threshold" and "ranking" criteria. Threshold criteria represent the requirements the trustees must satisfy, due to statutory mandates, or choose to satisfy, due to state and federal policies, procedures or other factors.

The trustees' evaluation of alternative projects will be consistent with current federal regulatory guidelines. The Department of the Interior's regulations for natural resource damage assessments, which are guiding this assessment, state that trustees should select the alternative, or set of projects, that is "most appropriate" in light of all relevant considerations, including ten specified evaluation criteria. The ten criteria are:

- Technical feasibility;

- The relationship of the expected costs of the proposed actions to the expected benefits;
- Cost-effectiveness;
- The results of any actual or planned response actions;
- Potential for additional injury resulting from the proposed actions, including long-term and indirect impacts, to the injured resources or other resources;
- The natural recovery period;
- Ability of the resources to recover with or without alternative actions;
- Potential effects of the action on human health and safety;
- Consistency with relevant Federal, State, and tribal policies; and
- Compliance with applicable Federal, State, and tribal laws.

The criteria described in this document are intended to include and go beyond those listed above. The trustees are ultimately responsible for selecting the most appropriate projects for the selected restoration alternative. At the same time, the trustees will be seeking public input and will be keeping the public informed about the decision making process.

### ***Project Category: Management of contaminated sediments***

The trustees seek to achieve a substantial improvement in the quality of the aquatic habitats that have been harmed as a result of the accumulation of oil and hazardous substances in sediments. The level to which the trustees would seek to improve sediment quality will likely be defined using measurable media- and/or biota-specific endpoints. For example, the trustees might seek to achieve a level of contaminants in fish tissue that is below the action levels for human consumption, and/or to achieve levels of contaminants in sediments that are not considered to be toxic to bottom-dwelling organisms. Potential projects in this category should include actions that will help to achieve these goals. The trustees will also consider the no action/natural recovery alternative.

#### **Threshold criteria**

- Does the project clearly address injuries to natural resources or losses of natural resource services?
- Does the project comply with applicable federal and state laws and regulations?
- Is there general public support for the implementation of the project?

#### **Ranking criteria**

- Is the project technically feasible?
- Will the project cause "collateral injuries" or other undesirable short-term impacts?
- Can the project provide the desired habitat improvements within a reasonable timeframe?
- Are the resource-based "benefits" of the project reasonable relative to the project's cost?
- Is the project consistent or compatible with ongoing or planned response activities?
- Will the project simultaneously achieve one or more of the objectives defined under a comparable "restoration" effort (e.g., development and implementation of the Remedial Action Plan for the International Joint Commission's Grand Calumet Area of Concern)?

#### ***Questions for Public Consideration***

- *What endpoint(s) should the trustees use to measure improvements in habitat quality?*
- *Should any of these criteria be modified or deleted?*
- *Should other criteria be added?*

### ***Project Category: Restoration of injured habitats***

The trustees believe that the restoration of both aquatic and non-aquatic habitats in the assessment area will be a key component of the restoration process. Projects in this category would focus on restoring and protecting habitats near the Grand Calumet River that have been contaminated or otherwise adversely altered as a direct result of the release of hazardous substances or oil. Restoration of these habitats would achieve the secondary benefit of providing valuable resource services to the biota that are expected to benefit from sediment management and other restoration activities.

#### **Threshold criteria**

- Does the project clearly address injuries to natural resources or losses of natural resource services?
- Does the project comply with applicable federal and state laws and regulations?
- Is the project consistent with local, state and/or federal resource protection objectives and strategies?
- Is there general public support for the implementation of the project?

#### **Ranking criteria**

- Does the project address a particularly unique or significant habitat?
- Will the project simultaneously achieve one or more of the objectives defined under a comparable "restoration" effort (e.g., development and implementation of the Remedial Action Plan for the International Joint Commission's Grand Calumet Area of Concern)?
- Will the project cause "collateral injuries" or other undesirable short-term impacts?

***Questions for public consideration***

- *Should any of these criteria be modified or deleted?*
- *Should other criteria be added?*
- *How strongly should the trustees prefer projects undertaken within the assessment area?*
- *Is there an appropriate way to prioritize habitat restoration projects on the basis of the habitats' relative "uniqueness" or significance?*

***Project Category: Enhancement of potential public uses of natural resources***

An important element of a comprehensive restoration and compensation plan will be projects that address the "interim loss" of services provided to the public during the period prior to the achievement of restoration objectives. Releases of hazardous substances and oil to the Grand Calumet River, Indiana Harbor Ship Canal and Indiana Harbor have diminished the public's opportunity to use and enjoy the natural resources in and along these waterbodies. To compensate the public for this loss, the trustees expect the selected restoration alternative to include projects that will enhance existing use opportunities and provide new opportunities. In addition, interim loss damages may be used to improve resources beyond their baseline condition (through additional sediment removal, for example) to compensate the public for the value of its lost use. It may also be appropriate to compensate the public through the enhancement or acquisition of habitat that enhances the public's use and enjoyment of natural resources. The trustees and potentially responsible parties may agree that certain methodologies not specifically identified in federal NRDA regulations, such as habitat equivalency analysis, may be used to determine the appropriate compensation. The trustees expect that projects in this category will represent a significant step toward making the Grand Calumet River corridor an integral part of a revitalized northwest Indiana.

**Threshold criteria**

- Does the project clearly address injuries to natural resources or losses of natural resource services?
- Does the project comply with applicable federal and state laws and regulations?
- Is the project consistent with federal, state and/or local planning objectives?
- Is there general public support for the implementation of the project?

**Ranking criteria**

- Does the project specifically address environmental justice or other equity concerns?
- Does the project provide a foundation for continuing, long-term restoration of the public use of natural resources?

- Would the project simultaneously achieve one or more of the objectives defined under a comparable "restoration" effort (e.g., development and implementation of the Remedial Action Plan for the International Joint Commission's Grand Calumet Area of Concern)?

***Questions for public consideration***

- *Should any of these criteria be modified or deleted?*
- *Should other criteria be added?*

***Project Category: Long-term control of hazardous substances and oil***

The restoration and protection of habitats in and around the Grand Calumet River, Indiana Harbor Ship Canal and Indiana Harbor will provide less value if hazardous substances and oil continue to be released to these water bodies. With this in mind, the development of a strategy for controlling these releases will be an essential component of the selected restoration alternative. However, the trustees do not act as a regulatory agency. Therefore, this restoration component should be complementary with ongoing and contemplated state and federal cleanup and regulatory actions.

**Threshold criteria**

- Does the project clearly address injuries to natural resources or losses of natural resource services?
- Does the project comply with applicable federal and state laws and regulations?
- Does the project carry with it a degree of enforceability or some other substantive indication of a commitment to implement the project?
- Is there general public support for the implementation of the project?

**Ranking criteria**

- Does the project address a source of potentially continuing releases that can harm natural resources?
- Is the project technically feasible with a satisfactory probability of success?
- Does the project build on an existing source control program or activity?
- Will the project produce measurable results within a reasonable period of time?
- Are the resource-based "benefits" of the project reasonable relative to the project's cost?

- Would the project simultaneously achieve one or more of the objectives defined under a comparable "restoration" effort (e.g., Remedial Action Plan for the International Joint Commission's Grand Calumet Area of Concern, Corridor Visioning process and implementation)?

***Questions for public consideration***

- *Should any of these criteria be modified or deleted?*
- *Should other criteria be added?*