

SCOPE OF SERVICES SEDIMENT REMOVAL PLAN

LAKE AND RIVER ENHANCEMENT (LARE) PROGRAM IDNR DIVISION OF FISH AND WILDLIFE

I. Project Purposes:

The purposes of the Sediment Removal Plan are to:

1. Map deposits of accumulated sediment and material
2. Identify areas where the removed material shall be deposited
3. Prioritize areas based on activities likely to receive necessary permits

II. Project Tasks:

The scope of services outlined below should be considered a draft that is subject to revision prior to the final contract, based on discussion with the LARE staff, sponsoring local organization and local county Soil and Water Conservation Districts (SWCDs) regarding cost-effectiveness of proposed services.

1. **Contact information for the organization responsible for the project.** LARE grant funds will not be available to individuals, but only to entities exhibiting the capability to properly represent the interests of a lake's residents and users, without any financial profit motive on the part of the applicant.
 - a. Provide appropriate contact information for the person(s) who will be the representative(s) for the project.
2. **Project location.**
 - a. Provide the name of the affected lake, the county in which it's located, the nearest town and any other pertinent georeferencing information.
 - b. Provide a detailed map of the project location on the lake, preferably at a scale of approximately 1 to 2000.
3. **Public involvement.** It is important that affected lake residents and lake users are included in the planning of the project.
 - a. Describe how they have been apprised of the potential project and the extent to which they have become involved in the planning process.

4. **Narrative description of the targeted sediment deposit(s), its dimensions and volume, its composition and its origin.**

- a. Explain how the deposit's dimensions were determined and how the volume was calculated.
- b. Describe the sediment's characteristics (*e.g.*, primarily decomposing plant material *vs.* inorganic soil) and how they were determined.
- c. Sediment deposits in lakes generally result from tributary inflows that have transported eroded soil from an upstream location. If the sediment was transported into the lake by a tributary stream, provide information about the stream. It is essential that the source of the deposit has been identified and that measures have been instituted to address the erosion.
- d. If the tributary is a "regulated drain", it will be necessary to provide information regarding cooperation between the project sponsor and the governmental entity responsible for maintenance of the drain. Indicate how and to what extent the drain's regulating entity is involved in the proposed project. This is to assure that the benefits of the sediment removal project will not be negated by the rapid re-introduction of more sediment from the drain.

5. **Mapping the lake bottom – contours before and after dredging.**

- a. Indicate the normal elevation of the lake's water surface.
- b. Provide a detailed scale drawing of the project site indicating current lake bottom contours with the sediment present. Be prepared to provide a similar map after the dredging is completed to indicate the new contours, indicating how they were determined.
- c. Provide the rationale for determining the depths to which excavation will occur, keeping in mind the depths favored by various species of desirable and undesirable rooted aquatic plants.
- d. A map indicating the location(s) of plants present prior to dredging will be useful as a baseline for future monitoring.

6. **Chemical composition of sediment.** It is important to know that there are no contaminants in the sediment that would preclude safe disposal of the material.

- a. Describe how the sediment has been evaluated to determine its environmental suitability for disposal at whatever site has been chosen. At a minimum the following will be tested for: arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver. If the area to be dredged is suspected to be impacted by

petroleum products, such as a marina, total petroleum hydrocarbon test shall be completed.

7. **Land easements, ownership, leasing and availability.** There is a need to know in advance that a disposal site(s) is available and that all necessary arrangements have been made to utilize the site(s).
 - a. Describe what has occurred with respect to the acquisition of sediment disposal and dewatering site(s) and/or access to the property (ies).
 - b. Describe the status of any efforts to obtain easements, to lease or purchase property, etc.
8. **Equipment and method of excavation.** There are different methods available for excavating sediments.
 - a. Describe how the selected dredging and disposal methods were evaluated to determine their suitability for the project.
 - b. Describe the equipment to be used and the sequence of events related to the actual dredging.
 - c. Explain what measures will be implemented to assure that the work will not adversely impact the lake.
9. **Contractor.** It is essential that only qualified, experienced personnel perform sediment removal. This is to assure that a project does not cause unnecessary damage to the affected lake.
 - a. Explain the process that will be used to select a contractor(s) to perform the dredging and/or disposal site construction work.
 - b. Describe the process that will be used to monitor the project's progress and assure its timely and proper completion.
 - c. Indicate exactly who will be responsible for oversight and that person's qualifications to do so.
10. **Disposal and/or dewatering.**
 - a. Describe the manner in which the dredge spoil will be transported and disposed.
 - b. Describe the type of disposal and dewatering facilities that will be required and their methods of construction. If dewatering of the dredge spoil will be necessary, explain how the characteristics of the sediment has been evaluated to determine the type/dimensions of settling/dewatering facility required.

- c. Describe any special considerations such as the need for chemical flocculation, screening, etc.
 - d. Explain what temporary and permanent erosion control measures will be used at the facilities.
 - e. Describe how the sites will be restored when the dredging is completed, providing a description of final landscaping and stabilization measures for the sites.
11. **Permits.** Applications for sediment removal projects will not be considered for funding unless there are assurances that all necessary permits will be issued for the project.
- a. Depending on the circumstances, permits, approvals or certifications may be required from the:
 - i. U. S. Army Corps of Engineers.
 - ii. U. S. Fish and Wildlife Service.
 - iii. Indiana Department of Environmental Management.
 - iv. Indiana Department of Natural Resources.
 - v. Others.
 - b. Describe the permits required for the proposed project, who will be responsible for preparation and submittal of all the permit applications and the current status of any applications (or permits that may have already been acquired).

12. **Construction schedule and sequence of work.**

- a. Provide an anticipated schedule for initiation and completion of the various project elements.
- b. Indicate how the timing was determined.

13. **Cost.**

- a. Provide anticipated cost figures for the various project elements and explain how the amounts were determined.
- b. Identify any costs associated with unusual physical and/or social aspects of the proposed project.

III. Data Presentation:

- 1. Where practical, the data should be presented clearly and concisely in the form of graphs and tables.
- 2. Figures should be incorporated into the main body of the report and not presented as attachments at the end of the report. Whenever possible, figures should be limited to 8

1/2" x 11" in size. In most cases, large-scale maps and photos are not necessary.

3. Present data in English unit. Example: 5 ft, cubic yards, and acres. Similarly, use common names for species with scientific names in parentheses or include a table with all common and scientific names used in the document.
4. Raw data sheets need not be bound into each copy of the report. However, at a minimum, one set of all laboratory and field data sheets must be forwarded to the LARE program office to aid in the review of the draft report.

IV. Review Process:

1. Three printed copies and one digital copy of the draft report must be provided to the LARE program office for review by the LARE staff, Lake Association, and pertinent agencies and organizations. The LARE staff will forward copies for review by other persons and agencies. The draft document will be posted on the LARE website for public comment.
2. Both the draft and final reports should be reproduced with double-sided pages.
3. The title of the draft report should refer to the report as a "draft" version. Additionally, each page of the draft report should be labeled "Draft - Subject to Revision."
4. To facilitate review of the draft report, a meeting between a representative of the local sponsor organization, consultant, LARE staff, and other agency staff as needed may be held to discuss the review comments in conjunction with the final public meeting. The entire review process will be coordinated by LARE staff and normally takes at least three weeks.
5. Upon addressing the review comments, three bound printed copies of the complete final report, should be provided to the LARE office for distribution to Lake Association and other participants involved in the watershed project. In addition, one unbound printed copy shall be provided to the LARE office, along with a single electronic file that contains the complete digital copy of the full report including appendices, figures, maps and photos in either Microsoft Word© or Adobe PDF© format. Do not submit multiple files that need to be merged into one file for web posting.