



**Professional Aquatic Consulting Services Contract
For Bear Lake, Muskegon County, Michigan
2022 (Renewable Annually Based on Performance)**

The Bear Lake Lake Board, hereinafter called the “Board,” and Restorative Lake Sciences, LLC, hereinafter called the “Consultant” agree to this contract made on this 14th day of January, 2022.

Part I - Professional Lake Management Consulting Components

The following items will be included in the professional consulting services for 2022:

1. Have a Consultant scientist in attendance at Board meetings that are conducted for purposes of improvements to Bear Lake or to present critical information to the Board. **Cost per meeting is to be \$375 per staff x 1 staff present at N=12 BLLB meetings: \$4,500. Note: If a meeting is cancelled, RLS will reduce the quarterly fee in the following quarter to reflect that cancellation and subsequent price reduction.**
2. Prepare any required herbicide, harvesting, and/or biological control contractor bid documents. **Cost: INCLUDED**
3. Prepare a professional aquatic management update to the BLLB to be distributed to riparians about Bear Lake improvements via email and/or the BLLB website and/or possibly with tax statements if allowed by the municipalities. Such material shall be published on a bi-annual basis on April 1st and Oct 1st 2022. **Cost: \$0 for updates, and a fee of \$1,500 for mailing and printing, to all riparians. if RLS performs the mailing and printing. Note: RLS would bill separate for mailed and printed updates.**
4. RLS will assist the BLLB with the development of an educational workshop to be held on the same day as a scheduled BLLB meeting. This workshop would have a budget of up to \$1,500 to cover printing costs for educational brochures, materials, etc.
5. Technical assistance and dissemination of scientific information to the Board regarding the ecological status of Bear Lake or other factors (external or internal) that may affect the balance of the Bear Lake aquatic ecosystem. This information would also be provided to riparians via published updates and/or the BLLB website. The BLLB Chairman, or his designee, will be the sole communicator for riparian’s requests. **Cost: INCLUDED**

6. Assessments of the efficacy of herbicide treatments for emergent aquatic vegetation such as Phragmites as well as submersed, floating-leaved vegetation and algae. Consultant will provide detailed maps of the progress of treatments demonstrating reduction of the invasive, nuisance natives, or algae over time. This information would also be provided to riparians via published updates and/or riparian updates. The BLLB Chairman, or his designee, will be the sole communicator of riparian's requests **Cost: \$2,550.**
7. Oversight of all lake treatments. This includes having 1 RLS scientist on the contractor's vessel during the treatment. A data audit sheet will be completed, along with batch and lot numbers of products, weather conditions, MSD sheet availability, and other pertinent information. RLS will work with the BLLB Chairman according to the BLLB Treatment Protocol (See Exhibit 1) to review and approve specific treatments that are proposed to be executed. There are predicted to be 4 treatment oversights in 2022. The cost per oversight is \$680 for a total cost of \$2,720 for the season. **Cost: \$2,720. Note: Any additional oversights will be billed an additional \$680 per oversight along with the quarterly payment.**
8. GPS grid point aquatic vegetation surveys (including exotic emergent aquatic plants), analysis of vegetation data, and development of detailed polygon maps showing the locations, percentage covered, and weed bed size of all invasives as well as detailed aquatic vegetation biovolume maps that demonstrate the biovolume of all aquatic vegetation in Bear Lake. These maps will be provided to the Board approved treatment contractor(s) so that they can access specific GPS points for treatment as determined by the Consultant and the Board. The cost per lake survey involves 2 technicians at a cost of \$850 per survey. There are an anticipated 5 lake surveys planned for 2022. **Cost: \$4,250. Note: RLS included review of contractor invoices and overlay maps in this service. Note: Any additional surveys will be billed an additional \$850 per survey along with the quarterly payment.**
- 9.. In addition to the whole lake surveys, a whole-lake benthic scan is also planned as in previous years for 2022. This survey would cost \$1,820 and also involve two staff and creation of the BioBase depth contour, aquatic vegetation biovolume, and sediment relative hardness maps along with associated statistics. **Cost - \$1,820.**
10. At the request of the BLLB, RLS will work with EGLE to look into possible mitigation methods for the sediment petroleum present in Bear Lake. If sampling is required by EGLE, additional costs will apply.
11. Periodic water quality sampling (which includes the parameters of water temperature, dissolved oxygen, pH, turbidity, total dissolved solids, conductivity, total phosphorus, soluble reactive phosphorus, total Kjeldahl nitrogen, total suspended solids, chlorophyll-a, Secchi transparency, and algal community composition at the two Deep Basins and Tributaries (if running) in early spring, and late summer/fall. Note: If EGLE requires additional testing and/or implementation permits for any water quality testing, those costs would be additional to this item, if pre-approved by the Board, and this agreement would be

modified accordingly. The cost would be \$1,130 per basin for 2 basins at 2 sampling dates (spring and summer or summer and late fall) with two staff present. **Cost: \$4,520.**

12. Preparation of a Bear Lake annual progress report (primarily updates on the current treatment program and proposed future plans will be presented at the December 2022 or January 2023 Board meeting - the reports will include all water quality data, aquatic vegetation survey results and maps, tables showing the biodiversity and relative abundance of native aquatic plants in the lake, and verification that contractor activities were successfully executed along with treatment dates and the amount of each product used. Since we have had many years of data collection, this data will be presented in trend graph format. This trend data would also be provided to riparians via published updates and/or riparian updates. RLS will share specific improvement areas as compared to the improvement Plan and any shortfalls. **Cost: \$1,700.**
13. Assistance with any tax tribunals and other official duties that must be legally performed to keep the Board in compliance with the State of Michigan laws. **Cost: INCLUDED**
14. Consultant agrees to comply with all applicable laws, regulations, and ordinances, whether local, State, or Federal, with respect to the services to be performed pursuant to this contract; to comply with all applicable workers' compensation laws, State and Federal income tax laws, and State and Federal anti-discrimination laws, whether general or specific; and to hold the Board harmless by reason of any claims made against the Board or Consultant for violation of any such laws, regulations, or ordinances. By way of example only, in performing the services required under this contract, Consultant shall not discriminate against any person on the basis of race, color, religion, sex, national origin, age, disability, height, weight, marital status, or veteran status.
15. Consultant shall perform its services under this contract as skillfully and as expeditiously as is consistent with a high degree of care and diligence in accordance with the highest standards prevailing in the State of Michigan for professional consultants performing services of a similar nature.
16. Neither Consultant nor the Board shall assign, sublet, or transfer any rights or interest in this contract (or any obligations under this contract) without the written consent of the other. Unless specifically stated to the contrary in any written consent to an assignment, and unless agreed to by the other party to this contract, no assignment will release or discharge the assignor from any duty or responsibility under this contract.
17. All documents, including but not limited to drawings and specifications furnished by Consultant to the Board, shall be the property of the Board. All documents furnished to Consultant by the Board shall remain the property of Board. All documents covered by this paragraph shall be returned or provided to the Board upon termination of this contract.

Part II - Duration of Contract

1. This contract may be terminated by either party without cause upon seven days written notice to the other party.
2. This contract may be terminated immediately by either party upon willful misconduct or other willfully inappropriate behavior by the other party, its officers, employees, agents, or representatives, in connection with services rendered under the provisions of this contract.
3. In the event of termination of this contract prior to one year, Consultant shall be compensated for services performed through the termination date. The payment to be made to Consultant by reason of such termination shall be a percentage of the total payment required in this contract for full performance; the percentage shall equal the percentage of the work completed prior to the effective date of termination.
4. The provisions in this Part II are not intended to preclude the Board or Consultant from pursuing such remedies, consistent with the terms of this contract, as either party may have in law or equity.
5. Absent early termination of this contract, this contract shall take effect January 14, 2022, and remain in effect for one year, until January 14, 2023. The parties may renew this contract in one year increments if they mutually agree on the renewal terms.

Part III - Insurance and Indemnification

1. Consultant agrees to indemnify, hold harmless, and defend the Board from and against any and all liabilities, penalties, forfeitures, suits, losses, damages, costs, and expenses (including costs of defense, settlement, and reasonable attorney, consultant, or other professional fees and the reasonable costs of investigation, containment, and cleanup), which the Board may incur, become responsible for, or pay out as a result of death or bodily injury to any person (including the employees of either party to this contract and the employees of their contractors and subcontractors), destruction or damage to or loss of use of any property, contamination of or adverse effects on the environment, or any violation of governmental laws, regulations, or orders, to the extent caused by:
 - (a) Consultant's breach of any representation, warranty, term, or provision of this contract;
 - (b) The negligence or intentional misconduct of Consultant, its employees, agents, or representatives in the performance of this contract; or
 - (c) Poor, improper, incorrect, or unworkmanlike performance of any of the work to be performed under this contract by Consultant.

However, such indemnification shall not apply to the extent such liabilities solely result from the Board's negligence or intentional misconduct, defective materials, or work furnished by

the Board or from a breach of this contract by the Board. The indemnity required here shall not be limited by reason of the specification of any particular insurance coverage in this contract or any other agreement of the parties.

2. Consultant shall, at a minimum, purchase and maintain such insurance as will protect it and the Board from any and all claims which may arise out of or result from Consultant's operations under this contract, whether such operations be by itself or by anyone directly or indirectly employed by Consultant, or by anyone for whom Consultant may be liable. By way of example only, such claims may include:
 - (a) Claims under workers' compensation, disability benefit, and other similar employee benefit acts which are applicable to the work to be performed under this contract;
 - (b) Claims for damages because of bodily injury, occupational sickness or disease, or death of Consultant's employees under any applicable employer's liability law;
 - (c) Claims for damages because of bodily injury or death of any person other than Consultant's employees;
 - (d) Claims for damages insured by usual personal injury liability coverage which are sustained (i) by any person as a result of an offense directly or indirectly related to the employment of such person by Consultant or (ii) by any other person;
 - (e) Claims for damages because of injury to or destruction of tangible property, including loss of use of that property; and
 - (f) Claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle.

Part IV - Payments to Consultant

1. The total cost of consulting services for this contract on Bear Lake will be a total of \$22,060. Payments are due on a quarterly basis for a total of \$5,515 per quarter. The Consultant agrees that quarterly billings will be billed to the Board on a quarterly basis and sent directly to the Board Chairman.
2. For additional evaluation items requested by the Board, the Consultant will be paid at a billing rate of \$85 per hour.

IN WITNESS WHEREOF, the Bear Lake Lake Board and Restorative Lake Sciences, LLC execute this agreement.

Consultant

By _____

Jennifer L. Jermalowicz-Jones, PhD, CLP
Water Resources Director
Restorative Lake Sciences, LLC

Bear Lake Lake Board

By _____

Darrell Van Fossan, Chairperson

Bear Lake Lake Board

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