

**Hess Lake Improvement Board
Meeting
November 13th, 2017
10:00 a.m.**

-AGENDA-

- 1. Call to Order**

 - 2. Approval of Agenda**

 - 3. Approval of the minutes of the 10/3/2017 Meeting Minutes**

 - 4. Public Comment-2 minutes**

 - 5. Treasurers Report**
Cash on Hand- \$44,858.53

 - 6. Old Business:**
Review bid from Progressive AE

 - 7. New Business:**

 - 8. Correspondence/Bills**
Savin Lake Services- \$475.00 (Fall AVAS Survey)

 - 9. Public Comment – 2 minutes**

 - 10. Miscellaneous**

 - 11. Adjournment**
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Minutes
Hess Lake Improvement Board
October 3, 2017
11:00 A.M.

Board Members Present: Rosen, Twing, Willett, Lipner, Bosowski

Board Members Absent: NONE

Also Present: Ken DeLaat, Duane Pennington, Betty Pennington, Elizabeth Sochacki,
Nacy Calvi, Guy Savin, Matt Novotny, Tony Groves, Erick Elgin,
Russell Andrejczak

1. The meeting was called to order by Chairperson Cheryl Rosen at 11:00 a.m.

2. Agenda:

Motion by Twing, seconded by Lipner to approve the agenda. All ayes. Motion carried.

3. Approval of Minutes of 7/10/2017 and 9/20/2017 meetings

Motion by Lipner, seconded by Willet to approve the minutes from the 7/10/2017 meeting. All ayes. Motion carried.

Motion by Lipner, seconded by Bosowski to approve the minutes from the 9/20/2017 meeting with the correction of 8:30p.m. adjournment. All ayes. Motion carried.

4. Public Comment:

Russel Andrejczak brought a sample of much to show and talked about the test results being 91% water, 6% organic, and 3% fines. A discussion began about dredging and the cost and the possibilities of it ever happening. Twing was asked about the dredging head that occurred on the channel to Wheeler Drain. Some discussion was had about septic systems, the Brooks Rules, and the impacts on the lake.

5. Financial Report:

Motion by Twing, seconded by Lipner to approve the Treasurer's report. All ayes. Motion carried.

6. Old Business:

Motion by Lipner, seconded by Bosowski to not allow call ins.

Ayes: Rosen, Lipner, Bosowski, Twing

Nays: Willet

Discussion was had about wanting to be open and transparent and yet the legality and ability to accommodate call ins.

7. New Business:

Presentation from Tony Groves (Aquatic Biologist) from Progressive to do a three year management plan for the lake, compiling current and historical data along with new and future tests to come up with recommendations for a long range management plan to implement. He will send a formalized document for the next meeting for board approval.

Motion by Willet, seconded by Lipner to accept Tony's plans. All ayes. Motion carried.

Savin reported on whether the much was being reduced by pellets or aerator. They feel like they saw 2 to 7-8 inches of reduction. Bosowski, who lives in the cove, and his neighbors believe that it is working. Discussion of how new testing obligations are more stringent and expensive. Discussion about why we don't do algae treatments and why or why not to do them. Discussion of what Savin is testing for now. Discussion of how and if you can speed up the native plant growth.

8. Correspondence/Bills

Jeff Fischer sent a note suggesting that we apply to be part of the DEQ's upcoming water monitoring program.

Motion by Bosowski, seconded by Lipner to have Twing apply to be part of the program. All ayes. Motion carried.

9. Public Comment:

There were no specific public comments as the public interacted throughout the meeting with questions and discussion on general lake conditions and possible ways to improve the lake.

10. Miscellaneous

Motion by Lipner, seconded by Willet to have a meeting November 13, 2017 at 10:00a.m. at the Drain Office and to set the meeting dates for 2018. All ayes.
Motion carried.

The board set the meeting dates for 2018.

-May 14, 2018 at 10:00am at the Drain Office

-July 16, 2018 at 6:30pm at the Drain Office

-October 1, 2018 at 10:00am at the Drain Office

11. Adjournment

Motion by Willett, seconded by Lipner to adjourn the meeting. All ayes. Motion carried.

Meeting adjourned at 12:30 p.m.

Dale E. Twing, Secretary

November 2017 Financial Report Hess Lake Improvement Board

Cash on Hand \$44,858.53

Expenses:

Contracted Work \$32,797.85

Secretarial \$267.00

Postage/copying \$140.71

Printing/Publishing \$1,059.75

Utilities \$1,356.63

Mileage & Per Diem \$855.00

DEQ Permits \$1,500.00

Total Expenses \$37,976.94

**** Bill to be paid**

Savin Lake Services \$475.00

Fall AVAS Survey (*Cash on Hand does not reflect bill owed*)



November 9, 2017

Hess Lake Improvement Board
306 S. North Street
PO Box 885
White Cloud, MI 49349-0885

Re: Proposal for Lake Management Plan Evaluation
For Hess Lake, Newaygo County, Michigan

Dear Board Members:

Progressive AE is pleased to present this proposal to develop a Lake Management Plan for Hess Lake. Progressive AE's Water Resources Group has had extensive experience working on lake improvement projects across Michigan. Enclosed is a brochure that describes our services along with listings of several publications and presentations prepared by Progressive AE's Water Resources Group. For your consideration, following is our understanding of the project, our scope of services, proposed schedule and compensation.

UNDERSTANDING OF PROJECT

The project, as we understand it, is to develop a comprehensive lake management plan for Hess Lake. The study would include an assessment of the current physical, chemical, and biological condition of the lake, an evaluation of the watershed, and a report that includes recommendations for in-lake and watershed management.

SCOPE OF BASIC SERVICES

Based upon the above project understanding, Progressive AE will provide the following scope of services:

A. Review Existing Information

1. Review historical reports as well as water quality and fisheries data available for Hess Lake.

B. Perform Base Mapping

1. Create a geographic information system (GIS) database for the project.
2. Digitize the shoreline of the lake using recent aerial photography, rectified to NAD83 datum.
3. Conduct a detailed hydro-acoustic (i.e., a SONAR) survey to measure bottom depth and plant bio-volume (i.e., the height of plants in the water column). Grid points would be established with a global positioning system (GPS) at 100-foot intervals over the entire lake bottom to be used as a navigation guide in acquiring complete SONAR coverage of Hess Lake.
4. Import the hydro-acoustic data into the GIS database.
5. Create an updated bathymetric (i.e., depth contour) map of Hess Lake. The map would depict adjacent roadways and shoreline features in addition to depth contours.
6. Calculate the physical characteristics of the lake including lake surface area, maximum depth, mean (or average) depth, lake volume, area of the littoral (rooted plant growth) zone, lake shallowness factor, and shoreline development factor.

7. Create an aquatic plant survey map that includes the lake shoreline, depth contours, numbered survey waypoints, and Michigan Department of Environmental Quality (MDEQ) plant survey codes.
8. Create updated maps of the Hess Lake watershed overlain on USGS topographic base maps and recent orthodigital aerial photography.
9. Determine the number of homes currently bordering the lake and evaluate the extent of natural versus disturbed shoreline around the lake.

C. Assess Water Quality

1. Collect water samples at five-foot intervals from the surface to the bottom from the three deepest lake basins during spring and late summer to measure temperature, total phosphorus, dissolved oxygen, chloride, total suspended solids, pH, and total alkalinity. Measure chlorophyll-a levels within the photic zone and water transparency during each of the aforementioned sampling periods.
2. Determine lake trophic state; thermal and chemical stratification; oxygen depletion; and phosphorus levels relative to aquatic plant growth.
3. Compare data collected with historical water quality data for Hess Lake.

D. Assess Aquatic Vegetation

1. Confer with the Lake Board's herbicide applicator as to timing, location, and targeted species for aquatic herbicide application(s) during the study period. Conduct a detailed aquatic plant survey using the point-intercept method. With this method, grid points would be established with a global positioning system (GPS) at 300-foot intervals along the shoreline and one-acre intervals (approximately 208 feet) across the vegetated portions of Hess Lake as determined by the hydro-acoustic survey. At each grid point, a two-sided rake attached to a line would be used to collect plant samples; the type and relative abundance of each plant species present would be recorded. This survey method would document the type and location of plant species in the lake. A table would then be generated that lists all plant species observed in the lake and their relative abundance.
2. Import aquatic plant bio-volume data from the hydro-acoustic survey into the GIS. Create a geo-rectified map showing location and height of plant beds in Hess Lake.
3. Create a map that depicts the location of invasive species such as Eurasian milfoil (*Myriophyllum spicatum*) and starry stonewort (*Nitellopsis obtusa*).
4. Compile treatment records filed with DEQ and assess type, amount, frequency, and timing of herbicide applications and evaluate the current aquatic plant control program.

E. Assess Watershed

1. Evaluate land use and drainage patterns in the watershed and impacts on lake water quality.
2. Conduct field surveys to identify problem areas in the watershed and confer with the Newaygo Conservation District, the Newaygo County Drain Commissioner, and MSU Extension regarding best management practices to reduce nutrient inflows to the lake.

F. Feasibility Evaluations

1. Evaluate the feasibility of in-lake and long-term watershed management alternatives to improve conditions in Hess Lake.
2. Prepare a detailed cost estimate for recommended lake improvements.
3. Describe alternatives to organize and finance the recommended improvements, including potential grants and cost-share opportunities.

G. Deliver Report and Presentation

1. Prepare a written report of study findings, conclusions, and recommendations.
2. Meet with the Hess Lake Improvement Board to review and discuss the report.
3. Present study findings at a public meeting and answer questions from lake residents.

SCHEDULE

Work would begin upon receipt of written authorization to proceed and would be completed over a three-year period (2018–2021).

PROFESSIONAL COMPENSATION

The total cost of the services outlined herein would be \$30,000 (thirty thousand dollars). Progressive AE would bill for services bi-annually on a lump sum basis over a three-year period. Each year of the evaluation, \$5,000 (five thousand dollars) would be billed in January and \$5,000 (five thousand dollars) would be billed in October. The final installment of \$5,000 (five thousand dollars) would be due upon presentation of study findings.

If this proposal meets with your approval, please sign and return the attached Letter of Intent. Your signature will be our authorization to begin the work.

Thank you for your consideration.

We look forward to hearing from you.

Sincerely,



Anthony F. Groves MS
Water Resources Practice Leader

LETTER OF INTENT FOR PROFESSIONAL SERVICES

It is the intent of the Hess Lake Improvement Board to engage Progressive AE for the development of a lake management plan for Hess Lake as described in the proposal from Progressive AE dated November 9, 2017.

The total cost of Progressive AE's services would be \$30,000 (thirty thousand dollars). Progressive AE would bill for services bi-annually on a lump sum basis over a three-year period. Each year of the evaluation, \$5,000 (five thousand dollars) would be billed in January and \$5,000 (five thousand dollars) would be billed in October. The final installment of \$5,000 (five thousand dollars) would be due upon presentation of study findings.

Accepted by:

Signature

Print Name

Date



3088 Hottis Rd; Hale, MI 48739
 Phone: 1-877-SAV-LAKE Fax: (989) 516-5900
 www.LakeAndPond.com

Newaygo County
 Drain Commissioner

OCT 24 2017

Soil Erosion
 Received

Invoice

Date	Invoice #
10/20/2017	3830

Bill To
Hess Lake Improvement Board C/O Newaygo County Drain Commissioner 306 S. North St. White Cloud, MI 49349

Remit To
Savin Lake Services, Inc 3088 Hottis Rd Hale, MI 48739

P.O. No.	Due Date
	11/19/2017

Description	Amount
Fall AVAS Survey	475.00

Please remit to above address.	Sales Tax (6.0%)	\$0.00
	Total	\$475.00
	Payments/Credits	\$0.00
	Balance Due	\$475.00