

# Water Resources at Lakeshore Environmental, Inc.



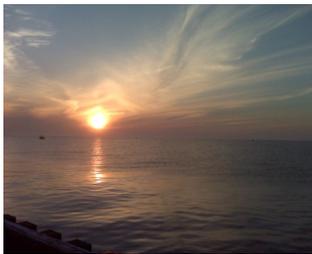
LAKESHORE  
ENVIRONMENTAL, INC.



SCIENTISTS • ENGINEERS • PLANNERS

Spring 2011

## From the Water Resources Director...



Greetings!

This is the first newsletter from the Water Resources Department at Lakeshore Environmental, Inc. (LEI). Located in Grand Haven, Michigan, our environmental company serves both the local community and those throughout Michigan and Ohio. You may ask: "How is the Water Resources Department at LEI different from other consulting firms?"

First, we are the only firm in Michigan to provide one-on-one oversight of all lake management treatments and activities. Although most contractors are fully capable of being trusted, we think there is value in oversight to guarantee that the management activities were carried forth exactly the way we intended them.

Second, we place a great value on continued education and advanced degrees so that our scientists can offer you the most updated knowledge regarding lake science and management.

Third, LEI is involved in some of the most cutting-edge research on the latest technologies and best management practices.

Fourth, we do not just conduct weed surveys and prepare studies. Our new paradigm actively integrates lake water quality with watershed management and community participation.

We believe that these attributes are fundamental to the sustainability of aquatic ecosystems for present and future generations.

Sincerely,

Jennifer Jermalowicz-Jones

Limnologist and PhD  
Candidate at MSU

## Welcome to Our Team!

We welcome the recent addition of Michael J. Solomon who has his MS degree in Hydrology from MSU and was employed by the USFS for over 30 years. Mike is also the Wexford County Drain Commissioner and serves on the Michigan Chapter of the North American Lake Management

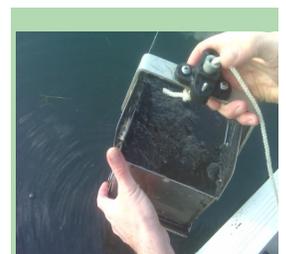
Society Board (McNALMS). Mike lives in Cadillac on Lake Mitchell and has always had a keen interest in lake management activities. Mike and Jennifer have been on hundreds of Michigan Lakes to sample, study, and survey them in an effort to improve Michigan's valued water resources.



Michael Solomon

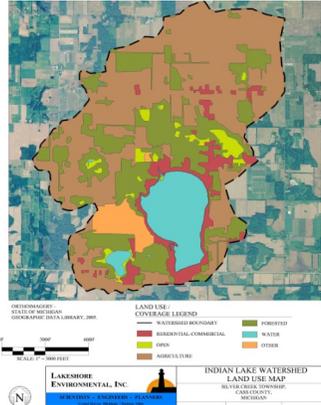
### Special points of interest:

- NEWS FROM LEI WATER RESOURCES DIRECTOR
- WELCOME MICHAEL SOLOMON AS LEI LAKE SCIENTIST
- LEI AND CUTTING-EDGE LAMINAR FLOW AERATION RESEARCH
- WATERSHED AND LAKE CO-MANAGEMENT-THE NEW PARADIGM!
- WHAT IS IT?



A sediment sampler used in benthic studies

## Water Resources at Lakeshore Environmental, Inc.



Land use map of Indian Lake, Cass County, MI

### LEI Leads with Largest-ever Laminar Flow Study

LEI was contracted by the Indian Lake Association in Dowagiac, Michigan, to evaluate the efficacy of a laminar flow system in the south basin of the lake. The purpose of the study has been to determine if laminar flow aeration and addition of microbes (bioaugmentation) offer any improvements to water quality and reduction in algae and aquatic plant growth. The study began in spring of 2010 and LEI

continues to study the system through 2011. The data will allow us to determine if the changes in the lake water quality parameters are due to seasonal effects or to treatment effects which would indicate impacts from the laminar flow system. A control region and microbe-only region have also been sampled in the lake in order to allow for statistical validation. The results of the study will be available in the winter of 2011 and a paper

will be submitted for peer review in a highly credible scientific journal.

Preliminary results are encouraging with measured laminar flow effects such as lower water temperatures, less blue-green algae, and decline in some species of aquatic vegetation. Stay tuned for more updates!

“Sustainable lake and watershed management is best achieved with innovative technology and community participation”

### The Integration of Watershed Planning and Community

The scientists at LEI know that the existence of even the best technologies in the world is not enough unless there is an effective conduit to bring the community together with the technology.

LEI has created a new paradigm in lake management which includes holding workshops with local communities to promote holistic management of a lake that cannot be

separated from the surrounding watershed. On Saturday, August 6th, LEI will be hosting an “Ask the Lakexpert” booth at the Onekama Days inaugural H2O Festival in Onekama, MI. There will be plenty of information for everyone and even live specimens of aquatic biota for educational purposes. We hope to see you there!



### What is It?

In this and all future issues, LEI will include an educational section to introduce you to an aquatic organism.

In this issue, we introduce to you **Fern-leaf Pondweed (*Potamogeton robbinsii*)** which is a submersed aquatic plant that usually lies on the lake bottom due to its large mass.

It can carpet the lake bottom and thus prevent the rooting of milfoil fragments. Lakes such as Bear Lake and Lake Mitchell contain large quantities of this plant. It also serves as excellent fish cover and harbors many different macro-invertebrates (fish food).



Fern-leaf Pondweed