



QUARTERLY

THREE LAKES ASSOCIATION

SERVING LAKE BELLAIRE, CLAM LAKE AND TORCH LAKE IN ANTRIM COUNTY, MICHIGAN

APRIL 2015

Come to TLA Water Awareness Fair

By Donna Gundle-Krieg

Our second annual Water Awareness Fair is to be held at the Alden Depot on Saturday, July 25th from 12-5.

We hope that many of our members will attend for fun, fellowship and learning!

The main purpose of this event is to educate the public about water issues, and to raise funds for our school Science Education Program (SEOP).

At the fair, there will be many educational displays related to our northern Michigan waters. We will also offer food and drink, entertainment, and a silent auction.

“This event is open to the public, and there is something for all ages,” noted Leslie Myers, Executive Director. “We plan on building on last year’s success, and taking the event to the next level.”

All TLA members are being asked to donate items for the silent auction. Ideas for donations are discussed below.

EDUCATIONAL DISPLAYS

There will be even more educational displays this year!

Interns and members will run the displays from TLA. For example, member Fred Sittel will be available to answer questions about our fish shelter samples, which will be on display. In addition, TLA will have displays about wells, invasive species, benthic barriers and golden brown algae, in addition to a model showing how septic systems work.

Other water-related groups will be bringing in their own displays. For example, the



Fish Hatchery and the DNR will bring fish exhibits, Paddle Antrim will be promoting their kayaking event, and the DEQ will talk about the importance of boat washing.

In addition, exhibitors include the Grass River Natural Area, the Antrim County Fair, the Loon Network, Bellaire Conservation Club, the Coast Guard, and many more.

SILENT AUCTION

The silent auction will be the main fundraising aspect of this event. All TLA members are asked to donate one quality item for the silent auction. Examples would be a gift certificate from your favorite restaurant or store, or a handmade item if you

have a certain talent.

Some of our board members are getting very creative with their ideas to raise money for the silent auction. For example, Leslie Meyers is offering an afternoon boat ride/ fishing tour on Lake Bellaire, and Tina Fields will take bids on her computer training services.

Please email Lois MaClean at loismaclean@sbcglobal.net and let her know what you would like to donate to the silent auction!

Email Chairperson Donna Gundle-Krieg at dokrieg@gmail.com with any questions about the Water Awareness Fair. We welcome your suggestions!

Sneak peek

PRESIDENT’S MESSAGE
ALGAE EVERYWHERE
WATERSHED
SEPTIC SYSTEMS WEBINAR
NEW OFFICE MANAGER
GREAT LAKES LAND COVERAGE
TCE PLUME

PAGE 2
PAGE 3
PAGE 4
PAGE 4
PAGE 5
PAGE 6
PAGE 6

The mission of the Association is to provide leadership to preserve, protect, and improve the environmental quality of the Elk River Chain of Lakes Watershed for all generations with emphasis on Lake Bellaire, Clam Lake, Torch Lake and their tributaries.





THREE LAKES ASSOCIATION

Officers

Tina Norris Fields, President
Fred Sittel, Vice President
Ed Gourley, Treasurer
Nancy Hanson, Secretary
Dean Branson, Past President
Bob Oswald, Director Emeritus

Zone Directors

- A. Clearwater Township:
Cheryl Lynn Fields, Tina Fields
- B. Milton Township:
Don Watkins
- C. Torch Lake Township:
Arlene Westhovan, Becky Norris
- D. Central Lake Township:
Todd Collins, Dick Williams
- E. Forest Home Township:
Fred Sittel, Phil Weiss
- F. Helena Township:
Sue Reck, Nancy Hanson
- G. Custer Township:
Beth Hawkins, Donna Gundle-Krieg
- H. Kearney Township:
Duane Drake, Ann McClelland

Directors at Large

Chuck Drouilliard, Stan Dole,
Len Franseen, Patricia Rouch,
Norton Bretz, KC Babb, Art Hoadley,
Gary Knapp

Committee Chairs

Becky Norris, Water Quality
Todd Collins, Membership
Patricia Rouch, Education
Art Hoadley, Water Safety
Duane Drake, Lake Monitoring Program
KC Babb, Publicity

The TLA Quarterly is published by the
Three Lakes Association
Please direct comments or questions to
Leslie Meyers, Executive Director
231-544-7221 *please leave a message*
P.O. Box 689
Bellaire, MI 49615
3lakes.com

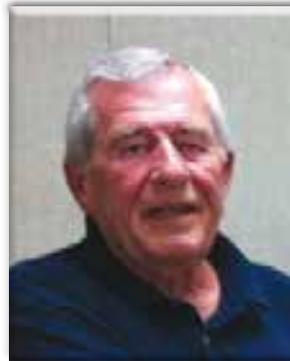
www.3lakes.com

President's Message

Greetings to all,

"As you were!" he barked, and the chaotic discussion settled down, just a bit. A topic of some interest was under consideration in the meeting of the Three Lakes Association Board of Directors. There were widely divergent opinions on the matter, and a few people were letting their emotions get the better of them. President Bob Bagley made use of his commanding presence to get his Board back under control so the topic could be sorted out in a more organized and businesslike manner. During his term as President, Bob was always warm and humorous, but underneath that warm humor, there was a serious and disciplined purpose.

Bob Bagley joined TLA in 2003 and promptly became active as a member of the Board of Directors. In 2005, he succeeded Dick Garcia as President, and served in that capacity until 2008. He continued to serve on the Board as the Immediate Past President until 2012. Bob always championed TLA's mission to take care of the pristine waters of our lakes and streams, encouraging neighbors and friends – and, indeed, anyone who would hold still long enough to listen – to join TLA and pitch in with willing hands to promote its worthy purpose.



We lost our friend, Bob Bagley, January 29, 2015. He leaves a hole in our hearts that will ache for a long time. Yet, his legacy still lives with us, as we continue in the work that we all share – protecting our region's waters from the damage that can so easily happen when people forget to be stewards of this beautiful world.

Bob was an avid fisherman, and part of his legacy resides in the many fish shelters he helped to place in our lakes – Bellaire, Clam, and Torch. When you enjoy your fishing this summer on these lakes, remember Bob.

Bob was a willing volunteer for the tasks involved in the activities of the Three Lakes Association. In his memory, I leave you now with one more plea for your willingness to volunteer. At this time, we have Zone Director vacancies on our Board, for Milton Township and Torch Lake Township. If serving on our Board would interest you, please let us know. Either call us at (231-544-7221), or email us at info@3lakes.com, or visit our website (www.3lakes.com) and fill out the volunteer form. In fact, if there is any area of TLA activity that you are interested in, please fill out the volunteer form and submit it – we can always use your help.

Thank you for your service, Bob. We're certainly going to miss you!
Tina

New Members

Gordon & Katie Bradford

Charles Caldemeyer

Robert Cook

Mark & Deborah Eberly

George Fogel

David Frankel & Sharon Tyson

Daniel Hanses

Jamie Horn

Amy Keane

Luzynski Family (Robert & Carol)

Frank & Elizabeth Malone

Sue Maus & Dave Mack

John & Sharon Moorman

Neil Naiman

Robert Nissly

Franz & Helen Pussell Jr.

Ron & Mary Schoenherr

Frederick Sevald

Susan Stewart

Mrs. Gaye Swartz

Carl & Sharon Volz

Ron Valdez

Robert & Barbara Widmer

Algae, Algae Everywhere: WHY?

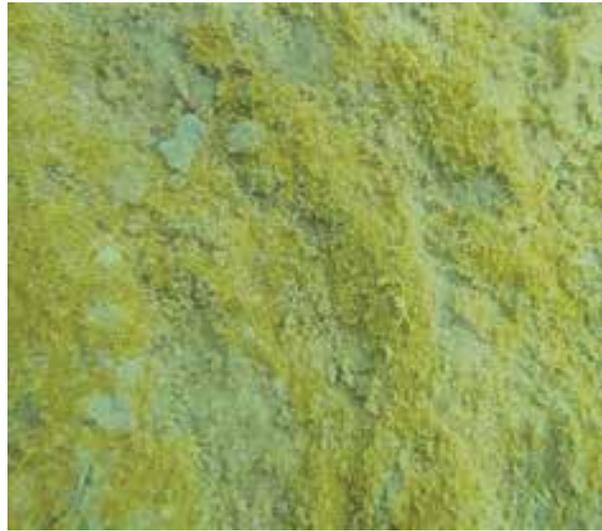
Have you seen this stuff growing around the lake? It is golden brown in color and lives in clumps on the bottom of Torch Lake and other inland lakes.

If this stuff is beginning to bother you because it is dampening the turquoise colors of Torch Lake, then read on to learn about TLA-Water Quality Team's plan to investigate it. Our research goal is to determine whether changes in the concentrations of groundwater are contributing to the proliferation of these mats of golden brown benthic algae around the lake.

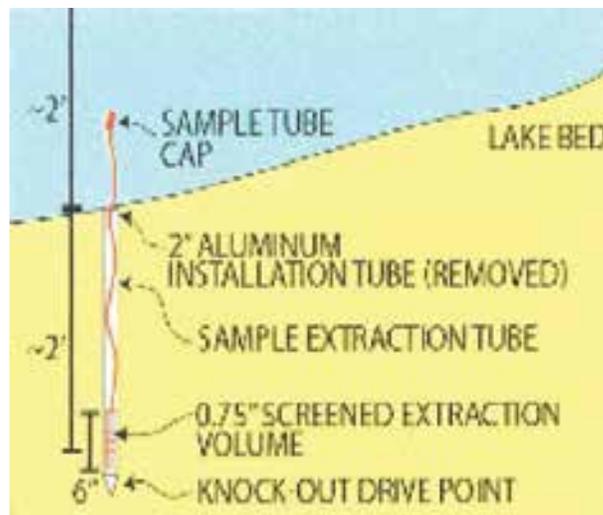
In August 2014, samples of these crusty mats of golden brown benthic algae (photo above shows a two-foot square area of lake bottom) were collected from the shallow southeastern shoals of Torch Lake and sent to Professor Rex Lowe for analysis. Professor Lowe is an internationally recognized specialist in freshwater algae who teaches during the summer at the University of Michigan Biological Station in Pellston on Douglas Lake. Preliminary examination of the samples indicated the presence of various phytoplankton species including several different diatoms and blue green algae, which are assumed to be more of an aesthetic nuisance than a threat to water quality. We hope to confirm this assumption this summer. Profiles of diatom species are commonly used by water quality specialists as indicators of nutrients (phosphorus, nitrogen, and trace minerals) in lakes, rivers, streams, and coastal zones.

Based on a similar investigation in Higgins Lake in 2014, Michigan State University (MSU) zoology and hydrology experts hypothesized that concentrations of specific nutrients entering these inland lakes via groundwater may be stimulating

Mats of Golden Brown Benthic Algae in Torch Lake



Piezometer: Groundwater



the growth of these benthic diatoms especially in those areas where groundwater is seeping into the lake. This hypothesis seems consistent with TLA's measured concentrations of phosphorous in groundwater in 2005, which indicated roughly 8 to 15 time higher concentrations in groundwater compared to surface water. We will repeat these measurements in 2015 as part of the testing of this hypothesis. TLA's Water Quality Team invited MSU and U of M researchers to provide a collaborative proposal to investigate the relationship between groundwater nutrients and golden-brown benthic algae in Torch Lake.

This collaborative study will attempt to answer questions about the effect of groundwater nutrients on the proliferation of these mats of golden brown benthic algae by comparing the concentrations of nutrients in groundwater samples collected using piezometers (above diagram), and the profiles of diatom species growing on surfaces of substrates with known ratios of specific nutrients in nutrient-enriched agar. A permit from Michigan's Department of Environmental Quality will be needed to temporarily install these pieces of research equipment in shallow water at a couple test sites; one undeveloped location and another area with dense development. The collaborating team will collect more samples of mats of golden brown benthic algae at several other locations around the lake for species determination by MSU experts, and they will also compile a series of aerial photos of the test locations during the 2015-growing season.

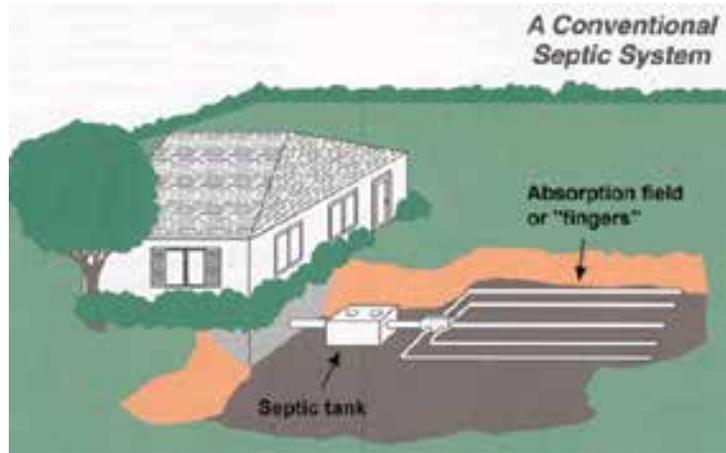
The TLA-Water Quality Team would appreciate receiving your input on potential sampling sites. If you have a large mat of algae growing on the bottom (benthic) near your swimming area, please send us an email (norrisrebe@torchlake.com) with your address to be considered for the summer 2015 Summer Study on Benthic Algae. We envision this to be a pilot study that could grow and expand in future summers to further characterize and map benthic algae not only in Torch Lake but also in Lake Bellaire and Clam Lake. TLA's website (under Projects and Reports-Water Quality-Golden Brown Algae Project) contains additional information about this investigation including aerial photos, the study plan, and responses to Frequently Asked Questions, 3lalkes.com.

Septic Systems Webinar

Approximately 43% of Michigan residents rely on onsite wastewater (septic) systems to handle waste water from their homes and businesses. That's over 1.2 million septic systems in use in Michigan today and it's estimated that at least 10% of these are in some level of failure.

MSU Extension is hosting a live webinar, "Septic Systems: Insight Into Your Onsite System" on Monday, April 20 from 1:30 to 3:30 P.M. This program will cover what a septic system is, how it works, best management practices to protect the system and human health, how to identify trouble in the system and steps to take if a problem occurs.

The live webinar will include presentations by the

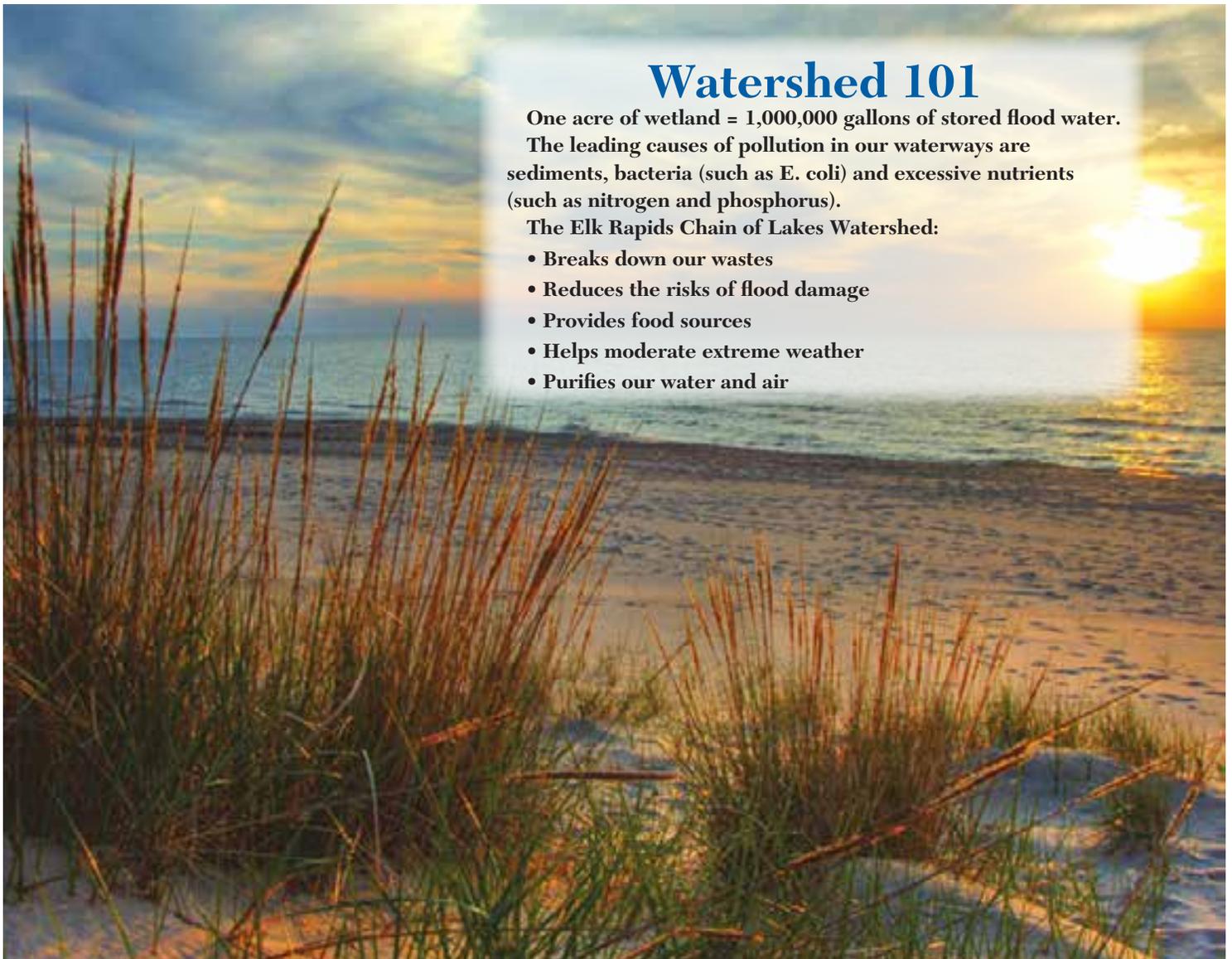


Department of Environmental Quality (DEQ) and Macomb County Health Department Sanitarian Supervisor with 29 years of septic and well experience. The presentations will be followed by a live question and answer session via the chat box.

To join this FREE webinar, you must pre-register at <http://events.anr.msu.edu/septicinsight/>. You will receive a confirmation email

upon registration and log in instruction at least 48 hours prior to the webinar.

Deadline to register is Friday, April 17, 2015. After that date, please contact Maureen at 586-469-6440 for information on late registration.



Watershed 101

One acre of wetland = 1,000,000 gallons of stored flood water.

The leading causes of pollution in our waterways are sediments, bacteria (such as E. coli) and excessive nutrients (such as nitrogen and phosphorus).

The Elk Rapids Chain of Lakes Watershed:

- Breaks down our wastes
- Reduces the risks of flood damage
- Provides food sources
- Helps moderate extreme weather
- Purifies our water and air

Save the Dates!

June 16 • R² - Rights and Responsibilities On Our Lakes
Thurston Park

July 25 • Water Awareness Fair - Alden Depot

August 7-9 • Antrim County Fair - Craven Park

August 11 • Got Fish 2? - Alden Depot

August 20 • TLA Annual Meeting

September 18 - 19 • Paddle Antrim

Introducing Dianna Robinson

Dianna Robinson is the new Office Manager for the Antrim Conservation District. She holds a degree in history from Michigan State University, and a Master's degree in Environmental Sustainability from the University of Edinburgh in Scotland. Originally from Alden, Dianna recently returned to northern Michigan after living in Boston to help the District with administrative tasks as well as help develop its programming and outreach. Dianna also served two years with the AmeriCorps in Montana and West Virginia, and she hopes to incorporate her love of community engagement and public lands that she picked up as a volunteer into her work with the Antrim Conservation District. Stop into the District Monday - Thursday to say hello!

Editor's Note: TLA provides financial support each year to the ADC by renting space for the storage of all of our equipment.



**THREE LAKES
ASSOCIATION**

Invites you to our

WATER AWARENESS FAIR

Displays and hands-on activities emphasizing the importance of protecting what makes "up north" such a fantastic area to live, play and visit!

Proceeds support various TLA programs, including the TLA Science Education Outreach Program

**** FREE ADMISSION ****

ALDEN TRAIN DEPOT

July 25, 2015 - 12 to 5 p.m.

For more information, visit: 3lakes.com

**2015 HOUSEHOLD
HAZARDOUS WASTE COLLECTIONS**

**May 9th - Elk Rapids
August 1st - Bellaire**

TCE Plume corrective actions: Stalled but not defeated

On February 12th, the Antrim County Commissioners voted 7 to 2 to authorize \$250,000 in required matching funds to obtain \$750,000 from DEQ to help pay for TCE plume-related improvements in the Mancelona area public water system. As a strong show of support for this action, more than 100 people attended the this meeting, and 23 of these people all formally expressed their reasons for urging the county to provide the funds and to finalize a contract with MAWSA as soon as possible.

Claiming a lack of county-based due diligence, another initiative to stall the process of developing a contract with MAWSA failed on March 12th in a 4 to 4 tie vote. The failed initiative was a motion to “reconsider” their February 12th vote. Although not true, this failed initiative also claimed that these county funds would be a “donation”, rather than a one-time payment for services (engineering, construction, and interacting with DEQ). There seemed to be lack of an accurate understanding about the scope of the TCE plume-related initial phase of construction. These funds will not be used extend water mains to Summit Village. Interestingly, county representatives have participated in a

high-profile, community-based, due diligence process coordinated by ACUTE for the past three years. This process involved a large cross-section of community, including DEQ, Health Department, local units of government, businesses, and property owners. This purpose of this process was to explore options for corrective actions with an immediate focus on salvaging the Cedar River Well Field from the TCE plume, as encouraged by our State elected officials when they appropriated funds \$300,000 in 2012. Some of that \$300,000 is still available and has been authorized by DEQ to help implement the initial phase of the construction; estimated cost \$1,253,000

The next step is for MAWSA’s Special Counsel (Jim Young) to develop yet another draft contract for review by an attorney authorized to review the draft contract, since the County’s current Prosecuting Attorney resigned from all civil law work mid-March, cited a lack of harmony with county commissioners and staff on various civil matters. It is still possible for the County Commissioners to consider approving the draft contract with MAWSA during their next meeting on April 9th.

Great Lakes Land Cover Change Chronicled

A new NOAA report says four percent of the U.S. Great Lakes region saw changes to its land cover--paved surfaces, trees, forests, grasses, and wetlands--from 1996 to 2010. That figure represents 7,144 square miles, almost the equivalent of Lake Ontario’s surface area.

The Great Lakes Regional Land Cover Change Report provides information about the data sets that cover the coastal portions of Minnesota, Wisconsin, Michigan, Illinois, Indiana, Ohio, Pennsylvania, and New York. The report is based on land cover change

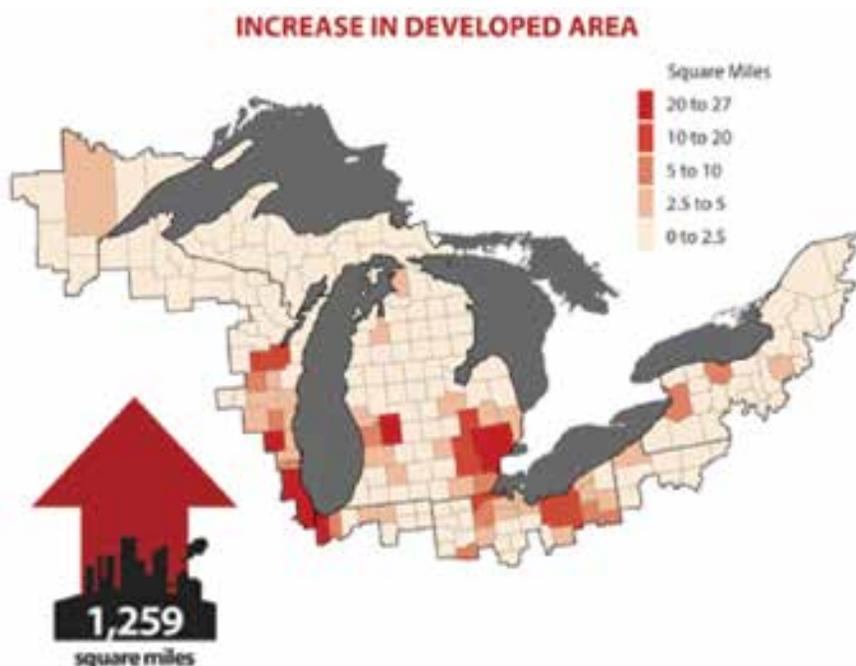
data from the NOAA Coastal Change Analysis Program (C-CAP). Land cover data are obtained and analyzed approximately every five years using satellite-based image data.

“People know the region is changing, but it is hard to pinpoint the extent. This report provides an overview of that information with numbers, graphics, and maps,” said Nate Herold, C-CAP coordinator at NOAA’s Office for Coastal Management. “Communities use this information to see how previous land use decisions and

changes in climate affect land cover, and help make informed decisions about the future.”

The Great Lakes study is part of a new group of NOAA nationwide reports showing that between 1996 and 2010, 64,967 square miles in coastal regions -- an area the size of Florida -- experienced changes in land cover, including a decline in wetlands and forest cover, with development a major contributing factor. Over the past five years,

See LAND COVERAGE page 7



The land cover report and data can be found at <http://www.coast.noaa.gov/digitalcoast/publications/regional-land-cover-change> and <http://www.coast.noaa.gov/digitalcoast/data/ccapregional>. These and other helpful data sets and tools can be found on NOAA’s Digital Coast. NOAA’s mission is to understand and predict changes in the Earth’s environment, from the depths of the ocean to the surface of the sun, and to conserve and manage our coastal and marine resources

Land Coverage

continued from page 6

NOAA scientists analyzed land cover data, which records the physical land type, rather than how land is used.

Overall, 8.4 percent of the nation's ocean and Great Lakes coastal regions experienced these changes. The five regional reports provide information about the data sets that cover the nation's ocean and Great Lakes coastal regions: West Coast, Gulf of Mexico, Great Lakes, Northeast, and Southeast. The reports

identify a wide variety of land cover changes that can increase a community's vulnerability to impacts from climate change, such as loss of coastal barriers to sea level rise and storm surge.

Herold said private industry, government, and nonprofits also use land cover data and maps to make decisions about the future. For example, coastal land cover data helped the Great Lakes Commission identify and prioritize habitat restoration projects to

meet Great Lakes Regional Collaboration Strategy goals. Officials in Wisconsin identified potentially restorable wetlands in an effort to manage and control nonpoint source pollution.

Editor's Note: TLA continues to promote education relating to natural shorelines, greenbelts and the importance of wetlands in our watershed. We will continue to work towards keeping us off this map!"

- Coastal counties added over 1,259 square miles of development, an area larger than the cities of Chicago, Indianapolis, Detroit, Columbus, and Milwaukee combined.
- The largest sections of new development occurred in the counties surrounding Milwaukee, Chicago, Grand Rapids, and Detroit.
- The region lost 150 square miles of wetlands over 15 years, but 218 square miles of wetlands were gained, representing a net gain of 68 square miles of wetlands present in 1996. Wetlands lost were largely due to development around Chicago, Cleveland, and Buffalo. Low water levels, such as those seen around Saginaw Bay, Michigan, dominate the areas of wetland gains.
- The Great Lakes region experienced a net loss of 1,735 square miles of forest cover (2,773 square miles of forests were cut while 1,038 square miles of forest were regrown). Many of the region's forested areas are undergoing transitions that do not result in permanent loss.

- Membership counts! -

BASIC \$50 DONOR \$100 STEWARD \$500 BENEFACTOR \$1,000 LIFE \$2,000

Michigan Riparian Magazine Subscription add \$15

TOTAL AMOUNT ENCLOSED: \$ _____

NAME: _____

SUMMER POSTAL ADDRESS: (Street, P.O. Box) _____

TOWNSHIP: _____ TOWN: _____ ZIP: _____

SUMMER PHONE: _____

WINTER POSTAL ADDRESS: (Street, P.O. Box) _____

CITY: _____ STATE: _____ ZIP: _____

WINTER PHONE: _____

EMAIL: _____

May we include your name in our newsletter donor list? Yes No

Are you interested in volunteering in any of the following areas?

- | | |
|---|--|
| <input type="checkbox"/> Water Quality | <input type="checkbox"/> HS Intern Program |
| <input type="checkbox"/> Water Safety | <input type="checkbox"/> Education |
| <input type="checkbox"/> Invasive Species | <input type="checkbox"/> Membership |
| <input type="checkbox"/> Finance | <input type="checkbox"/> Public Relations |
| <input type="checkbox"/> Service | <input type="checkbox"/> Other |

Three Lakes Association is a 501(c)(3) corporation. Your dues and other contributions are tax deductible. Call for further information.

* * * * *

**To join Three Lakes Association, please visit our website 3lakes.com or return this form with your check to:
THREE LAKES ASSOCIATION
P.O. Box 689
Bellaire, MI 49615**



NON PROFIT ORG
US POSTAGE PAID
BELLAIRE, MICH
PERMIT NO.5

Three Lakes Association

P.O. Box 689

Bellaire, MI 49615

231-544-7221

www.3lakes.com

RETURN SERVICE REQUESTED

*Some of you are receiving this
TLA Quarterly as a courtesy
one-time only copy.*

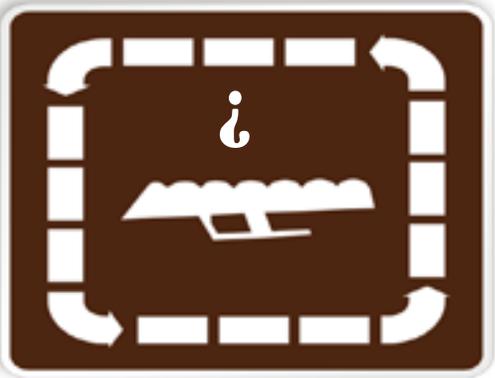


This newsletter printed on recycled paper

R² - Rights & Responsibilities **On Our Lakes**

You are invited....

Tuesday, June 16, 2015 at 5:00 pm
Thurston Park, Central Lake
What are your rights on the water? Do you know your responsibilities for living along the Chain of Lakes? Join the **Recreational Deputy from the Antrim County Marine Patrol** and Gail Gruenwald, environmental attorney and Executive Director of Tip of the Mitt, to learn your rights & responsibilities on the water. At the end of the presentation we will have the opportunity to answer all of your questions on the laws of the lakes.



📍 **FREE admission, open to the public**

📍 **Wine & hors d'oeuvres** following the program

More information: 231-533-8314 or info@grassriver.org

*Sponsored by Grass River Natural Area,
Three Lakes Association, Torch Lake Protection Alliance,
Friends of Clam Lake and Intermediate Lake Association
In Partnership with Antrim Conservation District, and
Tip of the Mitt Watershed Council*