

CONFERENCE PROGRAM

9th Biennial State of Lake Michigan/15th Annual Great Lakes Beach Association

Joint Conference

*Fostering Basin-wide
Partnership and Synergy*

featuring the 8th Annual Freshwater Summit on Oct. 30



OCTOBER 28-30, 2015 | Grand Traverse Resort and Spa | Acme, Michigan

WELCOME

On behalf of the entire conference planning team, we welcome you to the beautiful Grand Traverse Resort and Spa for the 9th Biennial State of Lake Michigan – 15th Annual Great Lakes Beach Association Joint Conference!

As in past years, around you will be a diverse mix of researchers, agency managers and staff, user groups, non-governmental organizations, business leaders, and everyday citizens who care about Lake Michigan and Great Lakes beaches. This year's content is among the most diverse of any Joint Conference. In addition to sessions describing the biological, chemical, and physical status of these amazing resources, this year we are venturing a bit further into the social sciences. You'll see how communities relate to water and how people connect to one another around water resources.

Also this year, we're excited to join our local partners and highlight the 8th Annual Freshwater Summit. The Freshwater Summit is held annually in Traverse City and features water issues of interest to the people in northwest Michigan. We have coordinated the scheduling of all the sessions to allow attendees to choose presentations from among all three meetings – Lake Michigan, Great Lakes Beaches, and the Freshwater Summit. We hope that you will take advantage of the many Joint Conference offerings and learn about a variety of contemporary issues.

Our combined conference theme is "Fostering Basin-wide Partnership and Synergy." Just as natural systems are interconnected, Great Lakes practitioners – scientists, managers, policy-makers, and advocates – each contribute a piece to the broader puzzle, even though we have different missions and responsibilities. We believe more can be accomplished if we better integrate our efforts. The program content provides examples of how this is happening already and highlights potential synergistic opportunities. We are confident that over the course of these three days, you will gain a broader understanding and appreciation of the people and organizations working around you.

Thank you for joining us as we build partnerships for successful solutions.

Shannon Briggs

Conference Co-Chair
Toxicologist/State Beach Coordinator
Michigan Department of Environmental Quality,
Water Resources Division

Matt Preisser

Conference Co-Chair
Lake Michigan Coordinator
Michigan Office of the Great Lakes





ACKNOWLEDGEMENTS

Contributions from the following individuals helped bring this event together. Thank you!

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY CONFERENCE COORDINATION TEAM

Jennifer Acevedo – MDEQ Office of Environmental Assistance
Alana Berthold – MDEQ Office of Environmental Assistance
Shannon Briggs – MDEQ Water Resources Division
Geneva Langeland – MDEQ Water Resources Division
Jim Ostrowski – MDEQ Office of Environmental Assistance
Matt Preisser – Michigan Office of the Great Lakes
Matt Tomlinson – MDEQ Office of Environmental Assistance
Lisa Twenter – MDEQ Office of Environmental Assistance
Lauren Wisnieski – MDEQ Water Resources Division

CONFERENCE STEERING COMMITTEE (INCLUDING FRESHWATER SUMMIT)

Rajesh Bejankiwar - International Joint Commission
Mark Breederland – Michigan Sea Grant
Cathy Breitenbach - Chicago Park District
Kimberly Busse - University of Wisconsin Oshkosh
Michelle Caldwell - Indiana Department of Environmental Management
Dave Clapp – Michigan Department of Natural Resources, Fisheries Division
Mary Clifton - Ohio Department of Health
Lisa Cotner – Illinois Department of Natural Resources
Christine Crissman – The Watershed Center Grand Traverse Bay
Donalea Dinsmore - Wisconsin Department of Natural Resources
Tom Edge - Environment Canada
Lucas Evans – formerly with Little Traverse Bay Bands of Odawa Indians
Lisa Fogarty – United States Geological Survey, Michigan Water Science Center
Andrew Friedrich - Illinois Environmental Protection Agency
Cynthia Hakala - Minnesota Department of Health
Vicky Harris – Wisconsin Marine Association
Sonia Joseph Joshi - National Oceanic and Atmospheric Administration
Julie Kinzelman - City of Racine, Wisconsin
Gregory Kleinheinz - University of Wisconsin Oshkosh
Christine Manninen – formerly with Great Lakes Commission
John Masterson – Wisconsin Department of Natural Resources
Adam Mednick - Wisconsin Department of Natural Resources
Rhonda Mesko - University of Wisconsin Oshkosh
Meredith Nevers – United States Geological Survey, Lake Michigan Ecological Research Station
Clare Robinson - Western University, Canada
David Rockwell - J & D Rockwell Enterprises Ltd
Vic Santucci – Illinois Department of Natural Resources
Ashley Snyder – Indiana Department of Environmental Management

Rachael Franks Taylor – National Oceanic and Atmospheric Administration
Diane Tecic – Illinois Department of Natural Resources
Sarah U'Ren – The Watershed Center Grand Traverse Bay
Janet Vail – Grand Valley State University, Annis Water Resources Institute
Hans VanSumeren – Northwestern Michigan College, Great Lakes Water Studies Institute
Richard Whitman – Great Lakes Environmental Associates
Eric Wiegert - New York Department of Health
Holly Wirick - United States Environmental Protection Agency

SESSION CHAIRS/MODERATORS

Amy Beyer – Conservation Resource Alliance
Mark Breederland – Michigan Sea Grant
Kim Busse – University of Wisconsin-Oshkosh
Dave Clapp – Michigan Department of Natural Resources, Fisheries Division
Chad Cook – University of Wisconsin Extension
Donalea Dinsmore – Wisconsin Department of Natural Resources
Lisa Fogarty – United States Geological Survey, Michigan Water Science Center
Jennifer Gray – Michigan Department of Health and Human Services
Vicky Harris – Wisconsin Marine Association
Jory Jonas – Michigan Department of Natural Resources
Sonia Joseph Joshi – National Oceanic and Atmospheric Administration
Mary Khoury – The Nature Conservancy
Greg Kleinheinz – University of Wisconsin-Oshkosh
Elizabeth Hinchey Malloy – United States Environmental Protection Agency, Great Lakes National Program Office
John Masterson – Wisconsin Department of Natural Resources
Amy McGovern – United States Fish and Wildlife Service
Adam Mednick – University of Wisconsin Sea Grant
Karen Vigmostad – Ecovision, LLC
Sue Watson – Environment Canada
Richard Whitman – Great Lakes Environmental Associates
Eric Wiegert – New York Department of Health
Ronda Wuycheck – Michigan Office of the Great Lakes

FIELD TRIP LEADS

Steve Largent – Grand Traverse Conservation District
John Lutchko and Hans VanSumeren – Northwestern Michigan College
Aaron Switzer – Michigan Department of Natural Resources, Fisheries Division
Sarah U'Ren – The Watershed Center Grand Traverse Bay

THANK YOU TO OUR GENEROUS SPONSORS

CONFERENCE PARTNERS



LUNCH SPONSOR DAY 2

Little Traverse Bay Bands of Odawa Indians

BREAKFAST SPONSOR DAY 2



EXHIBITORS

Grand Valley State University,
Robert B. Annis Water Resources Institute
National Park Service, Sleeping Bear Dunes
Herpetological Resource & Management (HRM)
U.S. Geological Survey
University of Michigan,
Graham Sustainability Institute

Great Lakes Environmental Center (GLEC)
Delta Institute
MDEQ Aquatic Invasive Species Program
Great Lakes Fishery Commission
Michigan State University Press
Thermo Fisher Scientific



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** Abstracts for all oral presentations, as well as presenter biographies, are available in a companion document. To reduce paper consumption, this large document will primarily be available in electronic form, although a limited number of print copies will be available at the event.*

GENERAL INFORMATION

Attendee Check in: All conference attendees, sponsors and exhibitors must check in at the registration desk located in the Michigan Ballroom Prefunction area. Note: Name badges must be worn at all times during the conference and reception hours and are required to participate in the conference sessions, meal functions, and receptions.

Full Conference registration: Includes admission to all conference sessions, adjunct meetings, training sessions, field trips (space is limited), multiple meals, and evening receptions. A limited number of walk-in registrations may be available.

Field Trips: Field Trip sign-in will take place in the Michigan Ballroom Prefunction area. Field trips start promptly at 1 PM. Attendees are encouraged to check in by 12:30 PM. Any remaining spots will be filled on a first come, first served basis.

Evening Receptions: An evening reception will be held on Wednesday and Thursday evenings (6 – 9 PM). The Wednesday reception is in the Michigan Ballroom Prefunction Area and Michigan Ballroom E, F, G, H – this includes exhibitors and poster sessions. Thursday’s reception is located on Level 17 of the Grand Traverse Resort.

Twitter: Follow @MichiganDEQ on Twitter and use the #SOLMGLBA hashtag when tweeting about the conference.

Conference Attire: Business casual is the suggested attire for this conference. It is recommended that you dress in layers as room temperatures may vary.

Continuing Education: Continuing Education Hours (CEHs) and Professional Development Hours (PDHs) will be awarded. This conference is approved for up to 11 CEHs/PDHs for professional engineers. A certificate of completion to record your continuing education is available at the registration desk.



Presentations, Bios, and Abstracts: To reduce paper consumption, a limited number of the biography/abstract document were printed for the event. This document can be found on the conference website: www.michigan.gov/deqworkshops (select “DEQ Workshops”) or scan the QR code to the left. Presentations and other follow up materials will be posted to this website by November 16.

Wi-Fi: Complimentary Wi-Fi access is provided to all attending.

Special Needs: If you require any special accommodations throughout the event please see our event staff located at the registration desk.

About the Resort: Blanketing 900 acres of a region blessed with natural attributes, Grand Traverse Resort and Spa holds deep roots as an environmental partner while achieving new heights in eco-hospitality. A stream of “green” accolades earned over the years for initiatives at both at the Resort and beyond includes “Leader” certification from Green Lodging Michigan, and being named 2011 Business of the Year by the Northern Michigan Environmental Action Council.

THURSDAY, 10/29/2015



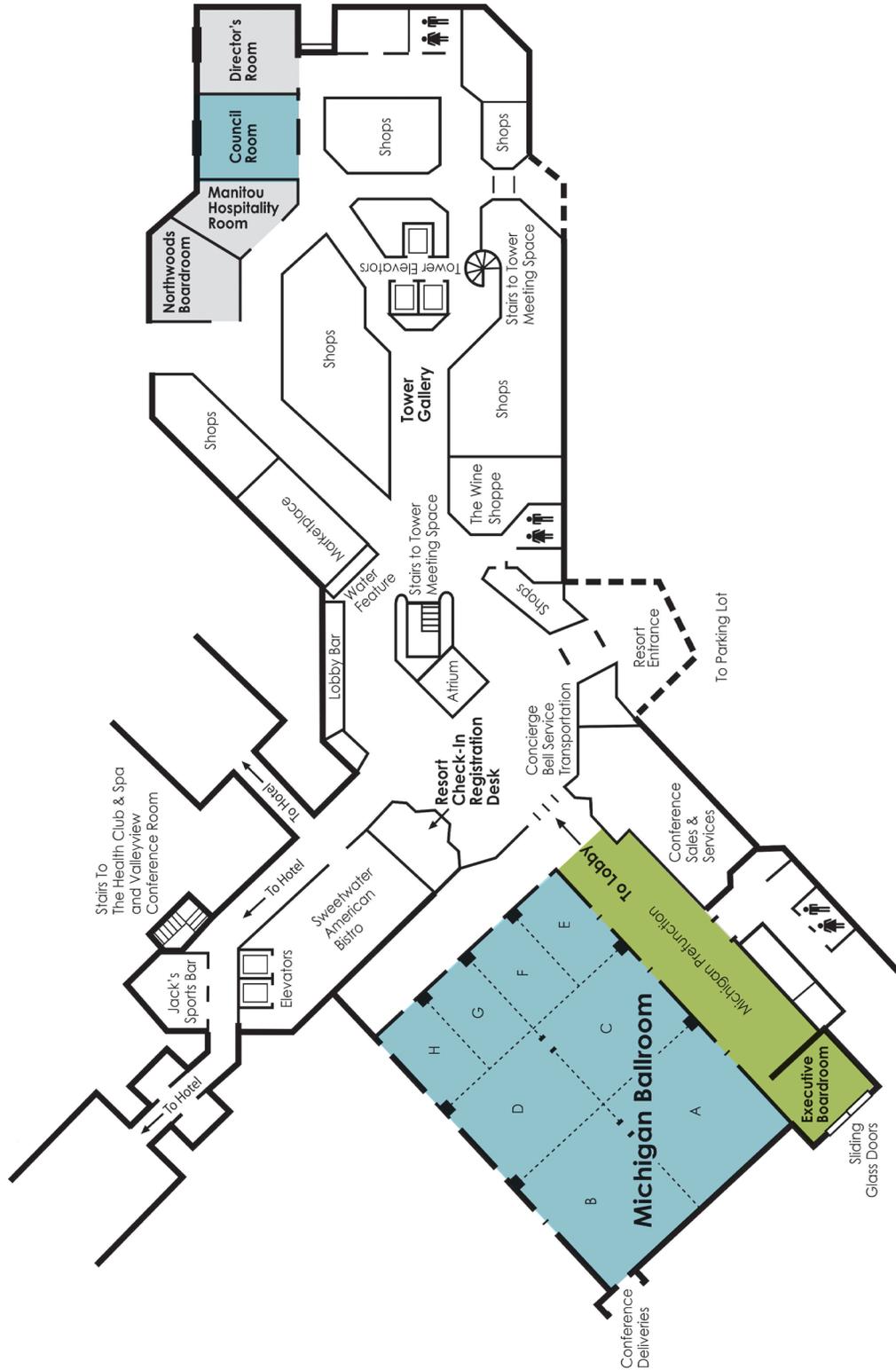
PROGRAMS AND LOCATIONS													
7:30 – 9 AM	<p>INFORMATION & REGISTRATION/ SIGN-IN (Michigan Prefunction Area)</p> <p>EXHIBITORS & POSTERS (Michigan Ballroom E-F-G-H & Michigan Prefunction Area)</p>												
9 – 10 AM	<p>CONTINENTAL BREAKFAST (Michigan Prefunction Area)</p> <p>PLENARY (Michigan Ballroom A-B-C-D)</p> <ul style="list-style-type: none"> • 9 – 9:15 AM Opening Remarks and Awards for Best Student Posters by Conference Co-Chairs (Shannon Briggs, MDEQ Water Resources Division & Matt Preisser, Michigan Office of the Great Lakes) • 9:15 – 9:30 AM Welcome (Jon W. Allan, Director, Michigan Office of the Great Lakes) • 9:30 – 9:45 AM Keynote (John Wathen, Senior Scientist, U.S. EPA-Office of Water) • 9:45 – 10 AM Special Acknowledgement - Judy Beck (Vicky Harris, Wisconsin Marine Association & Janet Vail, Grand Valley State University) 												
10 – 10:30 AM	<p>BREAK (Michigan Ballroom E-F-G-H & Michigan Prefunction Area) – Exhibitors & posters, coffee and light snacks</p>												
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5 PM	<p>ADJOURN (Dinner on own)</p>												
6 – 9 PM	<p>MEET & GREET EVENING RECEPTION (Tower Level 17) – Light hors d’oeuvres and cash bar</p>												

FRIDAY, 10/30/2015

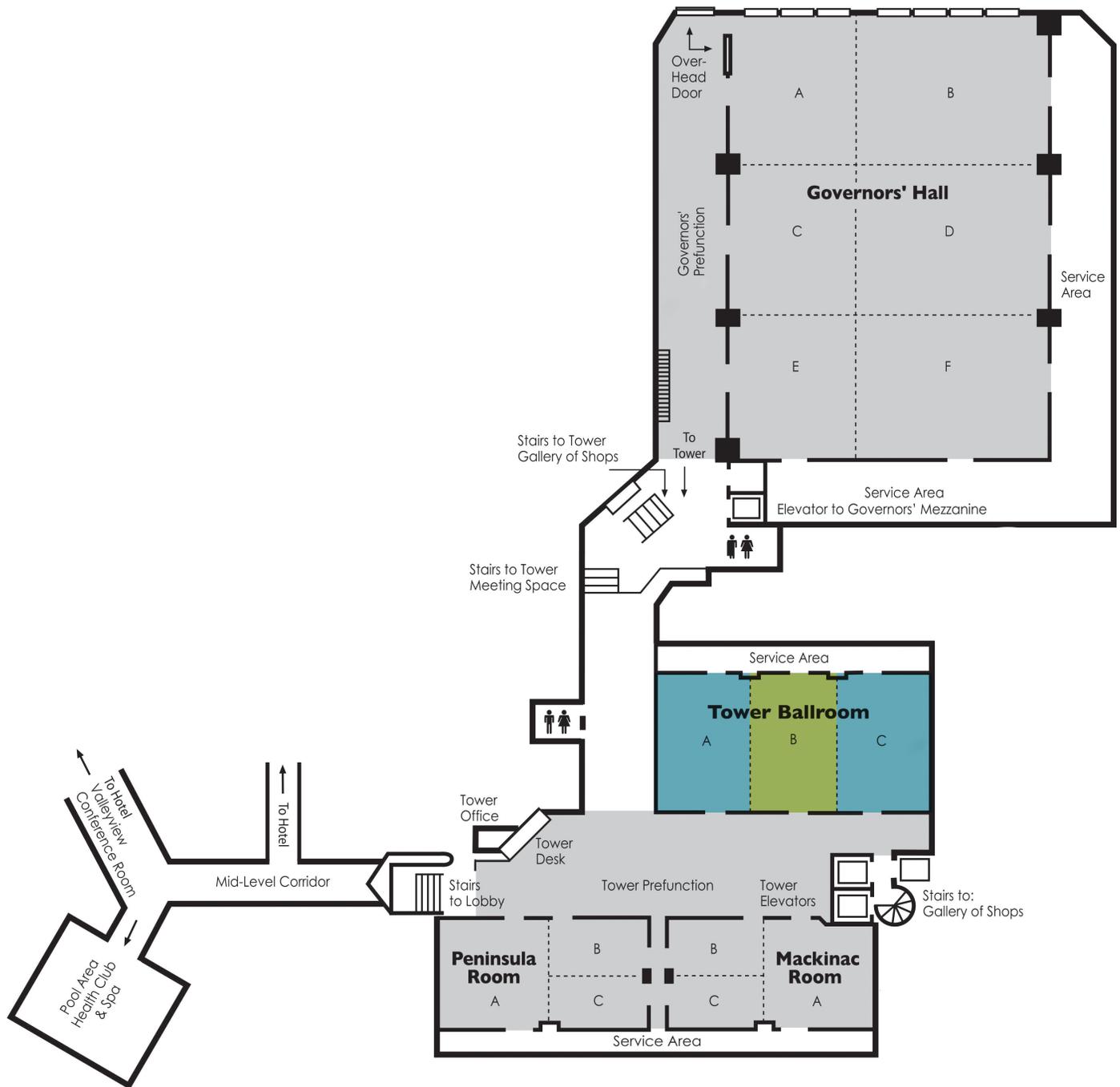


TIME		PROGRAMS AND LOCATIONS			
7:30 – 8:30 AM	INFORMATION & REGISTRATION/ SIGN-IN <i>(Michigan Prefunction Area)</i>	CONTINENTAL BREAKFAST <i>(Michigan Prefunction Area)</i>			
8:30 – 10 AM	Exploring Ways to Reduce Swimming Fatalities <i>(Chair: Eric Wiegert, New York Department of Health)</i>	LAKE MICHIGAN TRACK I MI BALLROOM A & B Lake Michigan Fish and Fisheries: Current Issues <i>(Chair: Dave Clapp, Michigan Department of Natural Resources)</i>	LAKE MICHIGAN TRACK II MI BALLROOM C & D Lake Michigan Islands <i>(Chair: Karen E. Vigmostad, Ecovision LLC)</i>	FRESHWATER SUMMIT TOWER BALLROOM A-B-C 8:30 – 8:45 AM Welcome, Grand Traverse Band of Ottawa and Chippewa Indians 8:45 – 9:45 AM Great Lakes Evaporation <i>(John Lenters, LimnoTech)</i> 9:45 – 10:15 AM Great Lakes Coastal Wetlands <i>(Don Uzarski, Central Michigan University)</i>	
10 – 10:30 AM	BREAK <i>(Michigan Ballroom E-F-G-H & Michigan Prefunction Area) – coffee & light snacks</i>	BREAK <i>(Tower Prefunction Area) – coffee & light snacks</i>			
10:30 – Noon	Restoring Recreational and Ecosystem Quality to Great Lake Beaches <i>(Chair: Richard Whitman, Great Lakes Environmental Associates)</i>	Restoring the Health of the Green Bay Ecosystem Under a Changing Climate: Modeling Land Use, Management, and Future Outcomes <i>(Chair: Chad Cook, University of Wisconsin Extension)</i>	Coastal Resiliency <i>(Chair: Ronda Wuycheck, Michigan Office of the Great Lakes)</i>	10:30 – 11 AM Microplastics in the Great Lakes <i>(Sherril Mason, State University of New York – Fredonia)</i> 11 AM – Noon Panel Discussion • Melissa Duhaim, University of Michigan • Tim Hoellein, Loyola University Chicago • Jeanie Williams, Inland Seas Education Association	
Noon – 1:30 AM	LUNCH <i>(Michigan Ballrooms A-B-C-D-E-F-G-H)</i>				
1:30 – 3 PM	Beach Outreach and Decision Making <i>(Chair: Sonia Joseph Joshi, National Oceanic and Atmospheric Administration)</i>	Contaminants in Lake Michigan Water and Fish <i>(Chair: Jennifer Gray, Michigan Department of Health and Human Services)</i>	Literacy, Awareness, and Heritage <i>(Chair: Vicky Harris, Wisconsin Marine Association)</i>	1:30 – 2:50 PM Lightning Talks (10 minutes each) • Mark Breederland, Michigan Sea Grant • Hans VanSumeren, Great Lakes Water Studies Institute • Sarah U'Ren, The Watershed Center Grand Traverse Bay • Jeanie Williams, Inland Seas Education Association • Dennis McCauley, Great Lakes Environmental Center • Rachael Franks Taylor, National Oceanic and Atmospheric Administration • Steve Largent, Grand Traverse Conservation District	
3 – 3:30 PM	ADJOURN				

LOBBY LEVEL



LOWER LEVEL



WEDNESDAY

7:30 AM

REGISTRATION OPEN ALL DAY (*Michigan Prefunction Area*)

8 – 9 AM

BEACH 101

Level 17

This is a “big picture” overview of monitoring beaches. Training includes developing a sampling plan, options for lab testing, communicating results to the public, why sanitary surveys are important and how they improve beaches, using Virtual Beach to forecast water quality, identifying sources of contamination, and initiating remediation projects.

Attendance: Open

Contacts: Shannon Briggs (*briggss4@michigan.gov*) and Holly Wirick (*wirick.holiday@epa.gov*)

8 AM – NOON

COASTAL STORMS PROGRAM - BEACH SAFETY/DANGEROUS NEARSHORE CURRENTS

Tower Ballroom C

The 2015 Dangerous Currents - Coastal Storms Project Great Lakes Regional Meeting will include a short review of project goals and accomplishments, progress with state working groups, status of the safety and rescue equipment distribution, discussion of the “Be Current Smart” outreach campaign, and regional updates. The bulk of the meeting will be the discussion of the Water Safety Program Sustainability Plan.

Attendance: Members Only

Contact: Clarence Fullard (*cfullard@umich.edu*)

9 – 10 AM

SANITARY SURVEYS

Level 17

Are you frustrated reporting “unknown sources” as the reason for a beach closure? Beach managers will explain how to use a one page sanitary survey with routine monitoring data to identify sources of pollution. Sanitary surveys lead to corrective actions, successful remediation projects, and serve as stepping stones to build forecast models with Virtual Beach.

Attendance: Open

Contacts: Kim Busse (*bussek@uwosh.edu*) and Greg Kleinheinz (*kleinhei@uwosh.edu*)

9 AM – 4 PM

MICHIGAN DUNE ALLIANCE FALL 2015 MEETING

Tower Ballroom B

The Fall 2015 meeting of the Michigan Dune Alliance will be an opportunity for MDA partners to provide updates and outcomes from 2015 activities, plan for our 2016 activities, and give input on organizational structure and function. We will also take time to discuss the future of the organization, including increasing our breadth, depth, and visibility.

Attendance: 9-3 pm (members only) and 3-4 pm (open to public, new members welcome)

Contact: Kaldis Grants, Coastal Restoration Coordinator (TNC) (*kaldis.grants@tnc.org*) or visit www.nature.org/dunes

10 AM – NOON

Level 17

QUANTITATIVE POLYMERASE CHAIN REACTION SHOP TALK

The qPCR shop talk will be an open discussion for qPCR users to discuss what methods work and don't work. All levels of experience are welcome to join and to share experiences, issues, and successes with qPCR. We can discuss topics from choosing a mastermix to workflow tips and tricks.

Attendance: Open

Contacts: Erin Dreelin (dreelin@msu.edu) and Tiong Gim Aw (tgaw@msu.edu)

NOON – 1 PM

LUNCH (*Michigan Ballroom A-B-C-D*)

12:30 – 5 PM

Tower Ballroom A

LAKE MICHIGAN MONITORING COORDINATION COUNCIL MEETING

The Lake Michigan Monitoring Coordination Council (LMMCC) was formed in 1999 to support monitoring efforts in the Lake Michigan basin as they relate to the needs of the Lake Michigan Lakewide Action and Management Plan (LAMP). This meeting will help strengthen relationships among participants involved in Lake Michigan monitoring basin-wide and further the goals, objectives and partner roles as they relate to the LMMCC's work with the Lake Michigan LAMP Partnership, the Cooperative Science and Monitoring Initiative (CSMI), and monitoring-related annexes of the Great Lakes Water Quality Agreement.

Attendance: Open to the public (new members welcome)

Contact: John Hummer (jhummer@glc.org), Lisa Fogarty (lfogart@usgs.gov)

1 – 5 PM

FIELD TRIPS (*See page 25 for more information*)

Field trip participants are asked to meet at the Resort entrance at 1 p.m.

1 – 2 PM

Level 17

GREAT LAKES BEACH ASSOCIATION BOARD MEETING

This is a meeting for elected members of the Great Lakes Beach Association. Others are invited to listen in and provide comment.

2 – 4 PM

Level 17

QUANTITATIVE POLYMERASE CHAIN REACTION DATA CRUNCHING WITH U.S. EPA TRAINING

Having issues with your standard curve or calculating results when running qPCR? Dr. Rich Haugland will provide training and guide you through the calculations. We will have an open discussion for all your questions, comments, and helpful tips. Please visit the web U.S. EPA Web page to see the calculation spreadsheet before the meeting:

<http://water.epa.gov/scitech/methods/cwa/bioindicators/index.cfm>

Attendance: Open

Contacts: Rich Haugland (haugland.rich@epa.gov) and Tami Sivy (tsivy@svsu.edu)

3 – 5 PM

Tower Ballroom C

CLADOPHORA/HABS CONVERSATION

The U.S. Geological Survey will host a discussion of the nuisance Cladophora problem in the Great Lakes with links to harmful algal blooms. The Cladophora problem continues to influence the nearshore areas of the lakes and their closely associated ecosystem such as beach sand. Join us to discuss what we have learned and how best to join forces to understand and mitigate this problem. Potential discussion topics include (a) distribution and causes, (b) eutrophication, HABS, and affected biological communities (e.g., microbes, macroinvertebrates, fish), (c) modeling Cladophora distribution and movement, (d) effects on human and wildlife health (water quality, bird botulism), and (e) managing Cladophora problems. Individuals from science, management, and policy are all encouraged to participate in this discussion.

Attendance: Open

Contacts: Murulee Byappanahalli (byappan@usgs.gov) and Meredith Nevers (mnevers@usgs.gov)

5 – 6:30 PM

Tower Ballroom B

**COLLABORATION AROUND THE BASIN:
LAKE MICHIGAN OUTREACH & EDUCATION**

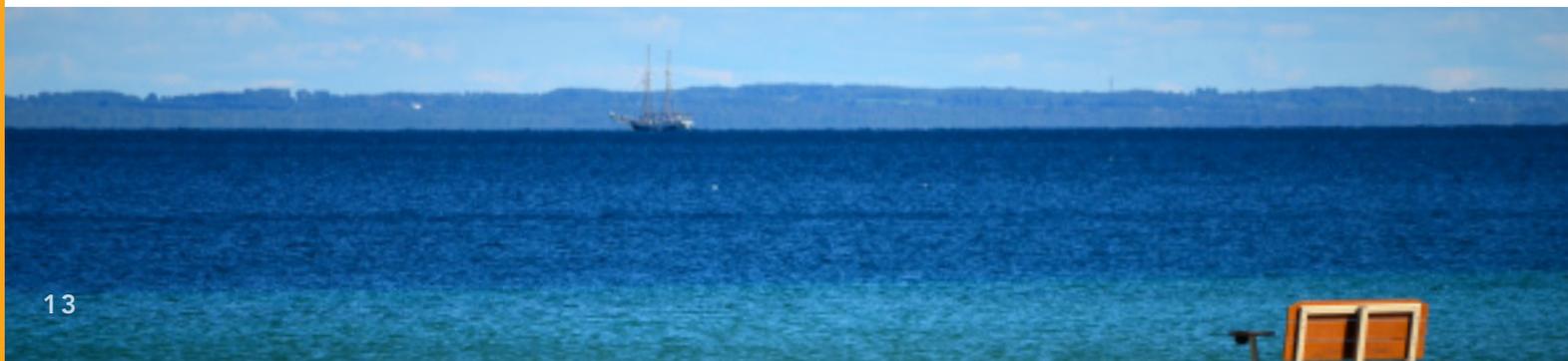
Communities throughout the Lake Michigan basin fall in four states, 40 coastal counties, and thousands of cities, municipalities, and villages. Although a coordinated management approach for Lake Michigan is often encouraged, facilitating a common dialogue across communities can be challenging. Several organizations – the Lake Michigan Forum, the Lake Michigan Watershed Academy, and Lake Michigan Stakeholders – do just that. These groups connect natural resource professionals, community planners, elected officials, and the broader public on critical Lake Michigan issues. This joint meeting will be an opportunity to learn about the activities of these groups and the future of funding for cross-basin outreach and education. Join this conversation as a participant and find out how you can plug in from your community. A meeting agenda will be posted on the LMS website. Following the presentations and Q&A, head to the Conference Meet & Greet Evening Reception to socialize with group members and other attendees and broaden your network.

Attendance: Open to the public (new members welcome)

Contact: Todd Verboomen (TVerboomen@ecwrpc.org)

5 – 6 PM**DINNER ON OWN****6 – 9 PM****MEET & GREET RECEPTION** (*Michigan Ballroom E-F-G-H and Michigan Prefunction Area*)

Exhibitors & posters, light hors d'oeuvres and cash bar



THURSDAY

Abstracts for all oral presentations, as well as presenter biographies, are available in a companion document. To reduce paper consumption, this large document will primarily be available in electronic form, although a limited number of print copies will be available at the event.

7:30 AM

REGISTRATION OPEN ALL DAY (Michigan Prefunction Area)

7:30 – 9 AM

CONTINENTAL BREAKFAST (Michigan Prefunction Area)

9 – 10 AM

MI Ballroom
A-B-C-D

PLENARY

Opening Remarks and Awards for Best Student Posters by Conference Co-chairs*
Shannon Briggs, Michigan Department of Environmental Quality, Water Resources Division; Matt Preisser, Michigan Office of the Great Lakes



Welcome

Jon W. Allan, Director, Michigan Office of the Great Lakes



Keynote Speaker

John Wathen, Senior Scientist, Fish and Beach Programs, Standards and Health Protection Division of the Office of Science and Technology, U.S. Environmental Protection Agency, Office of Water



Special Acknowledgement - Judy Beck

Vicky Harris, Wisconsin Marine Association, and Janet Vail, Grand Valley State University

**SOLM/GLBA wishes to announce that student authors that are presenting a poster at the Conference will qualify for entry in the Student Poster Contest. First, second and third place awardees will receive \$250, \$100 and \$50, respectively. Posters will be judged on presentation, content and significance.*

10 – 10:30 AM

BREAK (Michigan Ballroom E-F-G-H and Michigan Prefunction Area)

Exhibitors & posters, coffee and light snacks

10:30 AM – NOON

Beach Track
Council Room

BEACH CONTAMINATION ISSUES IN THE GREAT LAKES

Moderators: Greg Kleinheinz, University of Wisconsin-Oshkosh, and Donalea Dinsmore, Wisconsin Department of Natural Resources

10:30 - Abundance and Environmental Drivers of Anthropogenic Litter on 5 Lake Michigan Beaches

Jamie Cross, Adopt-a-Beach Manager, Alliance for the Great Lakes

10:50 - Methods to Sample E. coli in Foreshore Sand and Pore Water

Laura Vogel, PhD Candidate, University of Western Ontario

11:10 - QPCR: A Rapid Method to Monitor Water Quality at a National Park

Dawn Shively, U.S. Geological Survey

11:30 - Quantitative Microbial Risk Assessment for Recreational Waters at Three Lake Michigan Beaches

Tucker R. Burch, Research Hydrologist, U.S. Geological Survey, Wisconsin Water Science Center

11:50 - Discussion/Take-away

10:30 AM – NOON

Lake MI Track I
Tower Ballroom A

MONITORING TO SUPPORT DECISION-MAKING, PART I: REMOTE SENSING AND OTHER TECHNOLOGIES

Moderator: Lisa Fogarty, Chief, Hydrologic Studies Section, U.S. Geological Survey, Michigan Water Science Center

10:30 - A Decade of Nearshore Ecosystem Change: Observations from Sleeping Bear Dunes
Brenda Moraska Lafrancois, Midwest Region Aquatic Ecologist, National Park Service

10:50 - Remote Sensing for Great Lakes Mapping and Monitoring
Amanda Grimm, Assistant Research Scientist, Michigan Technological University – Michigan Tech Research Institute

11:10 - Long-Term Trends in Nearshore Chlorophyll Concentrations Throughout Lake Michigan
Margaret Hutton, Purdue University

11:30 - Monitoring Spatial-Temporal Variations of Fox River Plume Using MODIS Remote Sensing Imagery

Sajad Ahmad Hamidi, University of Wisconsin - Milwaukee

11:50 - Discussion/Take-away

10:30 AM – NOON

Lake MI Track II
Tower Ballroom B

LAKE MICHIGAN IMPORTANT SPECIES & HABITATS

Moderator: Amy McGovern, Liaison to the U.S. EPA Great Lakes National Program Office, U.S. Fish and Wildlife Service

10:30 - The Michigan Dune Alliance: Collaborating to Restore Eastern Lake Michigan Coastal Ecosystems

Shaun Howard, Eastern Lake Michigan Project Manager, The Nature Conservancy

10:50 - Great Lakes Piping Plover - Status of the Population and Recovery Effort
Vincent Cavalieri, Wildlife Biologist, U.S. Fish and Wildlife Service

11:10 - Amphibians and Reptiles of the Lake Michigan Basin: Status and Conservation
David Mifsud, Herpetologist, Herpetological Resource and Management

11:30 - Lake Sturgeon Passage on the Menominee River - a Habitat-Based Partnership
Robert F. Elliott, U.S. Fish and Wildlife Service, Green Bay Fish and Wildlife Conservation Office

11:50 - Discussion/Take-away



10:30 AM – NOON

Lake MI Track III
Tower Ballroom C

COASTAL PLANNING & SUSTAINABLE DEVELOPMENT

Moderator: Mark Breederland, Extension Educator, Michigan Sea Grant

10:30 - Coastal Land Cover Change and Analysis in Great Lakes

John McCombs, Senior Remote Sensing Specialist, The Baldwin Group at National Oceanic and Atmospheric Administration Office for Coastal Management

10:50 - Sustainable Small Harbor Management – Building a Strategy

Donald C. Carpenter, Professor of Civil Engineering, Lawrence Technological University

11:10 - Indiana's Clean Marina Program: Implementation and Collaboration

Ashley Snyder, RAP and LAMP Program Coordinator, Indiana Department of Environmental Management

11:30 - Incorporating Green Infrastructure into Local Decision Making in Michigan City, IN

Bill Schleizer, Managing Director, Delta Institute

11:50 - Discussion/Take-away**NOON – 1:30 PM****LUNCH** (Michigan Ballroom A-B-C-D)

Guest speakers: Mary Catterlin and Amy Lukas, "Lake Michigan in a Dugout Canoe"

Over lunch, you will hear the story of two women chasing their ridiculous dream: to journey around Lake Michigan aboard their handmade dugout sailing canoe, an adventure that would ultimately take them over 1200 miles in 93 days. Amy and Mary hope to inspire attendees to push dreams into reality.

**1:30 – 3 PM**

Beach Track
Council Room

PATHOGENS AND HARMFUL ALGAL BLOOMS: NEW METHODS TO MONITOR, MODEL AND MITIGATE HEALTH AND ECONOMIC IMPACTS

Moderator: Sue Watson, Environmental Canada

1:30 - Emerging and Climate-Sensitive Pathogens in Ambient Water Settings

Michael J. Beach, Associate Director for Health Water, Centers for Disease Control and Prevention (CDCP)

1:45 - One Health Surveillance of Harmful Algal Bloom-related Illnesses – A Reporting System Pilot

Virginia A. Roberts, MSPH, Epidemiologist, Great Lakes Project Coordinator, CDCP

2:00 - Beach Bloom Risk Management: Development and Implementation of On-Site Response Tools

Sue Watson, Watershed Hydrology and Ecology Research Division, Environment Canada

2:15 - Factors Related to Microcystin Concentrations at Ohio Recreational Lakes

Donna Francy, Hydrologist, U.S. Geological Survey

2:30 - Valuing the Impact of Harmful Algal Blooms on Lake Erie Beaches

Frank Lupi, Professor of Agricultural, Food, & Resource Economics and Fisheries & Wildlife, Michigan State University

2:45 - Discussion/Take-away

1:30 – 3 PM

Lake MI Track I
Tower Ballroom A

MONITORING TO SUPPORT DECISION-MAKING, PART II: LAKE MICHIGAN MONITORING PROGRAMS

Moderator: Lisa Fogarty, U.S. Geological Survey

1:30 - U.S. Geological Survey Nutrient Monitoring in Major Tributaries to the Great Lakes
Jon Hortness, Chief, Northern Illinois Field Office, U.S. Geological Survey

1:50 - Lake Michigan 2015 Cooperative Science and Monitoring Initiative Field Year Overview
Paul J. Horvatin, Chief, Monitoring Indicators and Reporting Branch, U.S. Environmental Protection Agency – Great Lakes National Program Office

2:10 - What Does the 2015 Lake Michigan Monitoring Inventory Tell Us?
John Hummer, Project Manager/Contractor, Great Lakes Commission

2:30 - Panel Discussion – 30 min

1:30 – 3 PM

Lake MI Track II
Tower Ballroom B

CONNECTIVITY OF GREAT LAKES RIVERS: WHY IT MATTERS, WHERE TO WORK, AND HOW TO ACCOMPLISH RESTORATION

Moderator: Mary Khoury, Aquatic Ecologist/Conservation Planner, The Nature Conservancy

1:30 - Characterizing Great Lakes Migratory Fish Species: Basin-wide Patterns and New Discoveries

Solomon David, Postdoctoral Research Associate, Shedd Aquarium

1:50 - Targeting Barrier Removal to Benefit Migratory Fish Species in the Great Lakes
Mary Khoury, Aquatic Ecologist and Conservation Planner, The Nature Conservancy

2:10 - Mapping Watershed Infrastructure Vulnerability in the Western Upper Peninsula of Michigan

Mark Fedora, Supervisory Hydrologist, Ottawa National Forest

2:30 - View from the Field - Connecting Streams in Northern Michigan
Amy Beyer, Director, Conservation Resource Alliance

2:50 - Discussion/Take-away

1:30 – 3 PM

Lake MI Track III
Tower Ballroom C

LAKE MICHIGAN BOUILLABASSE

Moderator: Jory Jonas, Fisheries Research Biologist Specialist, Michigan Department of Natural Resources - Fisheries Division

1:30 - Managing Historic Shipwrecks in Lake Michigan with Mobile Sonar and 3D Modeling
Christopher S. Hartzell, Collins Engineers, Inc.

1:50 - Dangerous Great Lakes Nearshore Waves and Currents: Field and Satellite Observations
Guy A. Meadows, Director, Great Lakes Research Center, Michigan Technological University

2:10 - Status of Information/Issues Regarding Commercial Net Pen Aquaculture in the Great Lakes

Tammy Newcomb, Senior Water Policy Advisor, Michigan Department of Natural Resources

2:30 - Great Lakes, Dark Skies: Effects of Artificial Light in Coastal Areas

Mary Stewart Adams, Program Director, Headlands International Dark Sky Park

2:50 - Discussion/Take-away



3 – 3:30 PM

BREAK (*Michigan Ballroom E-F-G-H and Michigan Prefunction Area*)

Exhibitors & posters, coffee and light snacks

3:30 – 5 PM

Beach Track
Council Room

MODELING AND MAPPING

Moderator: Kim Busse, University of Wisconsin - Oshkosh

3:30 - Mapping Submerged Aquatic Vegetation in the Great Lakes Using Satellite Imagery
Amanda Grimm, Assistant Research Scientist, Michigan Technological University –
Michigan Tech Research Institute

3:50 - Hemispheric ENSO Cycling and Lake Michigan Coastal Dune Evolution: A Relationship?
Alan F. Arbogast, Chairperson, Department of Geography, Michigan State University

4:10 - Six Key Steps for Developing and Using Predictive Tools at Your Beach
Samantha Fontenelle and Joanna Mott, U.S. Environmental Protection Agency

4:30 - Implementing Predictive Models: Practical Advice and New Tools
Adam Mednick, Wisconsin Sea Grant

4:50 - Discussion/Take-away

3:30 – 5 PM

Lake MI Track I
Tower Ballroom A

LAKE MICHIGAN GOVERNANCE & MANAGEMENT

Moderator: Elizabeth Hinchey Malloy, Lake Erie and Lake Michigan Manager, U.S.
Environmental Protection Agency – Great Lakes National Program Office

3:30 - Integrated Watershed Monitoring Programs for the Protection of Northwest Indiana Surface Waters
Julie Peller, Associate Professor of Chemistry, Valparaiso University

3:50 - Geospatial Framework and Spatially Referenced Decision Tools for Great Lakes Management

Catherine Riseng, Assistant Research Scientist, University of Michigan, and Kevin Wehrly,
Research Biologist, Michigan Department of Natural Resources, Institute for Fisheries Research

4:10 - Great Lakes Blue Accounting: Empowering Decisions to Realize Regional Water Values
Steve Cole, Chief Information Officer, Great Lakes Commission

4:30 - Diffusion and Transformation of Knowledge about Climate Change through Social Networks in the Great Lakes Region

Kenneth A. Frank, Professor of Sociometrics, Measurement and Quantitative Methods and
Professor of Fisheries and Wildlife, Michigan State University

4:50 - Discussion/Take-away

3:30 – 5 PM

Lake MI Track II
Tower Ballroom B

BOARDMAN RIVER REBORN – COMMUNITY LESSONS IN DAM REMOVAL

Moderator: Amy Beyer, Director, Conservation Resource Alliance

3:30 - Overview

Amy Beyer, Director, Conservation Resource Alliance

3:45 - Advances in Design and Restoration Techniques Part 1

Troy Naperala, PE, Michigan Water Business Line Leader, AECOM

4:00 - Advances in Design and Restoration Techniques Part 2

Marty Melchior, Regional Director, Inter-Fluve

4:15 - Prosperity Planning – A New Look at the Concept of Watershed Planning Beyond Dam Removal

Becky Ewing, Associate Director, Rotary Charities of Traverse City

4:30 - Funder's Collaborative at Work

Kathy Huschke, Executive Director, Oleson Foundation

4:45 - Discussion/Take-away**3:30 – 5 PM**

Lake MI Track III
Tower Ballroom C

WATERSHED IMPACTS ON LAKE MICHIGAN AND MANAGEMENT TECHNIQUES

Moderator: John Masterson, Lake Michigan LAMP Coordinator, Wisconsin Department of Natural Resources

3:30 - Utilizing Partnerships and Green Infrastructure to Restore Kids Creek

Sarah U'Ren, Program Director, The Watershed Center Grand Traverse Bay

3:50 - Agricultural Collaboration in the Macatawa Watershed

Kelly Goward, Macatawa Watershed Project Manager, Macatawa Area Coordinating Council

4:10 - Building a Regional Partnership to Address Septic System Impacts to Lake Michigan

David Ortel, Environmental Scientist, Indiana State Department of Health, and Mike Molnar, Director, Lake Michigan Coastal Program, Indiana Department of Natural Resources

4:30 - Riparian Inventory: A GIS Approach

Sinan Abood, Spatial Analyst-Research Fellow, U.S. Department of Agriculture - Forest Service

4:50 - Discussion/Take-away**5 – 6 PM****DINNER ON OWN****6 – 9 PM****MEET & GREET (Tower Level 17)**

Light hors d'oeuvres and cash bar

FRIDAY

7:30 – 8:30 AM

CONTINENTAL BREAKFAST AND REGISTRATION (*Michigan Prefunction Area*)

8:30 – 10 AM

Beach Track
Council Room

EXPLORING WAYS TO REDUCE SWIMMING FATALITIES

Moderator: Eric Wiegert, New York Department of Health

8:30 - Applications from the Great Lakes Current Incident Database: Beach Safety & Forecasts
Megan Dodson, Meteorologist, National Oceanic and Atmospheric Administration
National Weather Service

8:50 - Reducing Drownings using the Haddon Matrix and NYSDOH's Epidemiological Drowning Data

Eric Wiegert, MPH, and Francesco Pia, PhD, New York State Department of Health

9:10 - Integrated Nowcast - Forecast Operational System (INFOS) for Rip Current Observation, Prediction, and Warning in Lake Michigan

Chin Wu, Professor, University of Wisconsin - Madison

9:30 - Be Current Smart: Targeting Parents and Teens to Improve Water Safety

Gene Clark, Coastal Engineering Specialist, Wisconsin Sea Grant Institute; Elizabeth LaPorte, Science Outreach Manager, University of Michigan, Graham Sustainability Institute; Brent Schleck, Coastal Storms Outreach Coordinator, Minnesota Sea Grant

9:50 - Discussion/Take-away

8:30 – 10 AM

Lake MI Track I
MI Ballroom A & B

LAKE MICHIGAN FISH AND FISHERIES: CURRENT ISSUES

Moderator: Dave Clapp, Director, Charlevoix Research Station, Michigan Department of Natural Resources, Fisheries Division

8:30 - Shifts in Age of Great Lakes Lake Trout; an Inter-laboratory Comparison
Elizabeth Murphy, MPH, U.S. Environmental Protection Agency

8:50 - Resource Subsidies for Young Fish in Southern Lake Michigan Rivermouths
Sarah R. Stein, Department of Forestry and Natural Resources, Purdue University

9:10 - Lake Michigan Steelhead: Where Were You Hatched?

Nicole Watson, Graduate Research Assistant, Central Michigan University

9:30 - Post-stocking Survival and Spatial Spread of Lake Trout Stocked in Lake Michigan

Matthew S. Kornis, Fish Biologist/Data Analyst, Great Lakes Fish Tag and Recovery Lab, U.S. Fish and Wildlife Service

9:50 - Discussion/Take-away

8:30 – 10 AM

Lake MI Track II
MI Ballroom C & D

LAKE MICHIGAN ISLANDS

Moderator: Karen Vigmostad, Ecovision

8:30 - Lake Michigan Islands: A Biodiversity and Conservation Overview

Dave Ewert, Senior Conservation Scientist, The Nature Conservancy

8:50 - Michigan's Emerald Isle: Amphibians and Reptiles of the Beaver Island Archipelago

David Mifsud, Herpetologist, Herpetological Resource and Management

9:10 - Collaborative Approach for Management of State Lands on Northern Lake Michigan Islands

Pat Lederle, Planning and Adaptation Section Supervisor, Michigan Department of Natural Resources, Wildlife Division

9:30 - Sharing Solutions Between Beaver Island, Michigan and Maine Island Communities – Building Local Capacity Through Community Exchanges

Matt Preisser, Lake Michigan Coordinator, Michigan Office of the Great Lakes

9:50 - Discussion/Take-away

10 – 10:30 AM

BREAK (Michigan Ballroom E-F-G-H and Michigan Prefunction Area)

Coffee and light snacks

10:30 AM – NOON

Beach Track
Council Room

RESTORING RECREATIONAL AND ECOSYSTEM QUALITY TO GREAT LAKE BEACHES

Moderator: Richard Whitman, Great Lakes Environmental Associates

10:30 - Sherman Park Beach Restoration: BMP Design, Partnerships, and Planning for the Future

Tonya Lewandowski, Sr. Engineer, Environmental Consulting & Technology

10:45 - A Coastal City with No Beach: Restoring an Abandoned Beach in Green Bay, WI

Angela Kowalzek-Adrians, Natural Resource Planner, Bay-Lake Regional Planning Commission

11:00 - Improving Water Quality for Maumee Bay State Park: Restoring Ecosystems for Health

Pamela Struffolino, Operations and Research Facilitator, University of Toledo

11:15 - Chrysler Beach Restoration: Stormwater Improvements in an Urban Area

Lauren Hoffman, Landscape Ecologist, Environmental Consulting & Technology

11:30 - Evaluate Immediate and Long-term BMP Effectiveness of GLRI Restoration Efforts at Urban Beach and Nearshore Sites of Southern and Western Lake Michigan

Richard Whitman, PhD, U.S. Geological Survey Great Lakes Science Center

11:45 - Discussion/Take-away

10:30 AM – NOON

Lake MI Track I
MI Ballroom A & B

RESTORING THE HEALTH OF THE GREEN BAY ECOSYSTEM UNDER A CHANGING CLIMATE: MODELING LAND USE, MANAGEMENT, AND FUTURE OUTCOMES

Moderator: Chad Cook, Natural Resource Educator, University of Wisconsin-Extension

10:30 - Green Bay Hypoxia, Eutrophication and Climate Change – An Overview

J. Val Klump, Senior Director and Associate Dean of Research, University of Wisconsin – Milwaukee, School of Freshwater Sciences

10:45 - Nutrient Export to Green Bay under Various Watershed Management and Climate Scenarios

Kevin Fermanich, Professor, Environmental Science & Geoscience, University of Wisconsin – Green Bay

11:00 - Contribution of Advective Heat Transport to Stratification in Green Bay, Lake Michigan

J. Val Klump, Senior Director and Associate Dean of Research, University of Wisconsin – Milwaukee, School of Freshwater Science

11:15 - Green Bay Nutrient, Hypoxia, and HABs Model: Development, Application, and Management Implications

Ed Verhamme, Project Engineer, LimnoTech

11:35 - Green Bay Ecosystem Modeling: Stakeholder Input and Management Analysis Tool Implications

Chad Cook, Natural Resource Educator, University of Wisconsin - Extension

11:50 - Discussion/Take-away

10:30 AM – NOON

Lake MI Track II
MI Ballroom C & D

COASTAL RESILIENCY

Moderator: Ronda Wuycheck, Chief, Coastal Management Program, Michigan Office of the Great Lakes

10:30 - Why do Lake Levels Matter?

Elizabeth A. LaPorte, Science Outreach Manager, University of Michigan Graham Sustainability Institute

10:50 - What makes a Great Lakes Community “Coastal”?

Richard K. Norton, Professor and Chair, Urban and Regional Planning Program, University of Michigan

11:10 - Building Community Resilience in Coastal Communities

Claire Karner, Community Planner, Land Information Access Association

11:30 - Climate Data Localization and Resources for Great Lakes Communities

Elizabeth Gibbons, Director, University of Michigan Climate Center and Program Manager, Great Lakes Integrated Science + Assessments

11:50 - Discussion/Take-away

NOON – 1:30 PM

LUNCH (Michigan Ballroom A-B-C-D-E-F-G-H)

1:30 – 3 PM

Beach Track
Council Room

BEACH OUTREACH AND DECISION MAKING

Moderator: Sonia Joseph, Great Lakes Environmental Research Lab, National Oceanic and Atmospheric Administration

1:30 - Evaluating the Notification and Outreach Efforts of the Minnesota Beach Program

Cindy Hakala, Beach Program Coordinator, Minnesota Department of Health

1:50 - Enhancements to myBeachCast Mobile App

Steve Cole, Chief Information Officer, Great Lakes Commission

2:10 - The Great Lakes Observing System: Serving up Data to Support Beach Management in the Great Lakes

Andrea Maguire, Program Coordinator, Great Lakes Observing System (GLOS)

2:30 - U.S. EPA's Beach Program: Looking Forward to 2016

John Wathen, Senior Scientist, Fish and Beach Programs, Standards and Health Protection Division of the Office of Science and Technology, U.S. Environmental Protection Agency, Office of Water

2:50 - Discussion/Take-away

1:30 – 3 PM

Lake MI Track I
MI Ballroom A & B

CONTAMINANTS IN LAKE MICHIGAN WATER AND FISH

Moderator: Jennifer Gray, Toxicologist, Michigan Department of Health and Human Services

1:30 - Lake Michigan Lake Trout PCB Model Forecast Post Audit

Russell G. Kreis, Jr., Station Director and Branch Chief, U.S. Environmental Protection Agency, Office of Research and Development

1:50 - Contaminant Biotransport by Pacific Salmon to Lake Michigan Tributaries

Brandon Gerig, Doctoral Candidate, Department of Biological Sciences, University of Notre Dame

2:10 - Chemicals of Emerging Concern: Findings from Monitoring of Tributaries of Lake MI

Joseph W. Duris, Water Quality Specialist, U.S. Geological Survey, Michigan-Ohio Water Science Center

2:30 - Current (2008-12) Distribution and Body Burden of Monitored Contaminants in Lake Trout and Walleye in the Great Lakes

Elizabeth Murphy, MPH, U.S. Environmental Protection Agency

2:50 - Discussion/Take-away

1:30 – 3 PM

Lake MI Track II
MI Ballroom C & D

LITERACY, AWARENESS, AND HERITAGE

Moderator: Vicky Harris, Wisconsin Clean Marina Program Coordinator, Wisconsin Marine Association

1:30 - A Sustainable Lake Michigan Requires a Sustainable Framework for Literate, Engaged Stakeholders

Judy Beck, League of Women Voters - Lake Michigan Region

1:50 - Raising Public Awareness of Ecological Issues Through the Love Lake Michigan Campaign

Todd Parker, Senior Manager, Delta Institute; Jennifer Estill, Owner and Creative Director, Redhead Design Studio

2:10 - Making Lake Michigan Great: An Onboard Outreach and Education Project

Janet Vail, Research Scientist, Grand Valley University-Annis Water Resources Institute

2:30 - Michigan's Water Heritage Project: Our Stories about Water

Sarah Reding, Vice President of Conservation Stewardship, Kalamazoo Nature Center

2:50 - Discussion/Take-away

3 PM

ADJOURN

FRESHWATER SUMMIT

FRIDAY, OCT. 30 *(Tower Ballroom A-B-C)*

- 8:30 – 8:45 A.M.** **WELCOME**
Grand Traverse Band of Ottawa and Chippewa Indians
- 8:45 – 9:45 A.M.** **GREAT LAKES EVAPORATION**
John Lenters, Senior Scientist, LimnoTech
- 9:45 – 10:15 A.M.** **GREAT LAKES COASTAL WETLANDS**
Don Uzarski, Director, Central Michigan University (CMU) Biological Station and CMU Institute for Great Lakes Research
- 10:15 – 10:30 A.M.** **BREAK**
- 10:30 – 11 A.M.** **MICROPLASTICS IN THE GREAT LAKES**
Sherri Mason, Professor of Chemistry and Environmental Sciences Program Coordinator, The State University of New York - Fredonia
- 11 A.M. – NOON** **PANEL DISCUSSION**
Melissa Duhaime, Research Scientist, University of Michigan
Timothy Hoellein, Assistant Professor, Department of Biology, Loyola University
Jeanie Williams, Lead Scientist and Education Coordinator, Inland Seas Education Association
- NOON – 1:30 P.M.** **LUNCH**
- 1:30 – 2:50 P.M.** **LIGHTNING TALKS** *(10 minutes each)*
Mark Breederland, Michigan Sea Grant
Hans VanSumeren, Great Lakes Water Studies Institute
Sarah U'Ren, The Watershed Center Grand Traverse Bay
Jeanie Williams, Inland Seas Education Association
Dennis McCauley, Great Lakes Environmental Center
Rachael Franks Taylor, National Oceanic and Atmospheric Administration
Steve Largent, Grand Traverse Conservation District
- 2:50 P.M.** **ADJOURN**

FIELD TRIPS

Field trip participants are encouraged to check in at the registration desk (Michigan Prefunction Area) by 12:30 p.m. and meet at the Resort entrance at 1 p.m.

BOARDMAN RIVER RESTORATION & DAM REMOVAL

Location: Multiple sites along river

Lead: Steve Largent, Grand Traverse Conservation District

The former site of Brown Bridge Dam is the first stop after leaving Grand Traverse Resort. Brown Bridge Dam was removed in the fall of 2012 and is the first of three dams on the Boardman River scheduled for removal as part of the largest dam removal effort in Michigan's history. Participants will hear about removal and subsequent restoration efforts and see up close the 2.8 miles of new/relic river channel that formed after the dam was removed. The tour will then continue to Boardman Dam slated for removal in 2017. The tour will also include a stop at the Boardman River Nature Center before heading back to the Resort. To learn more, visit www.theboardman.org.

Attendance Max: 40

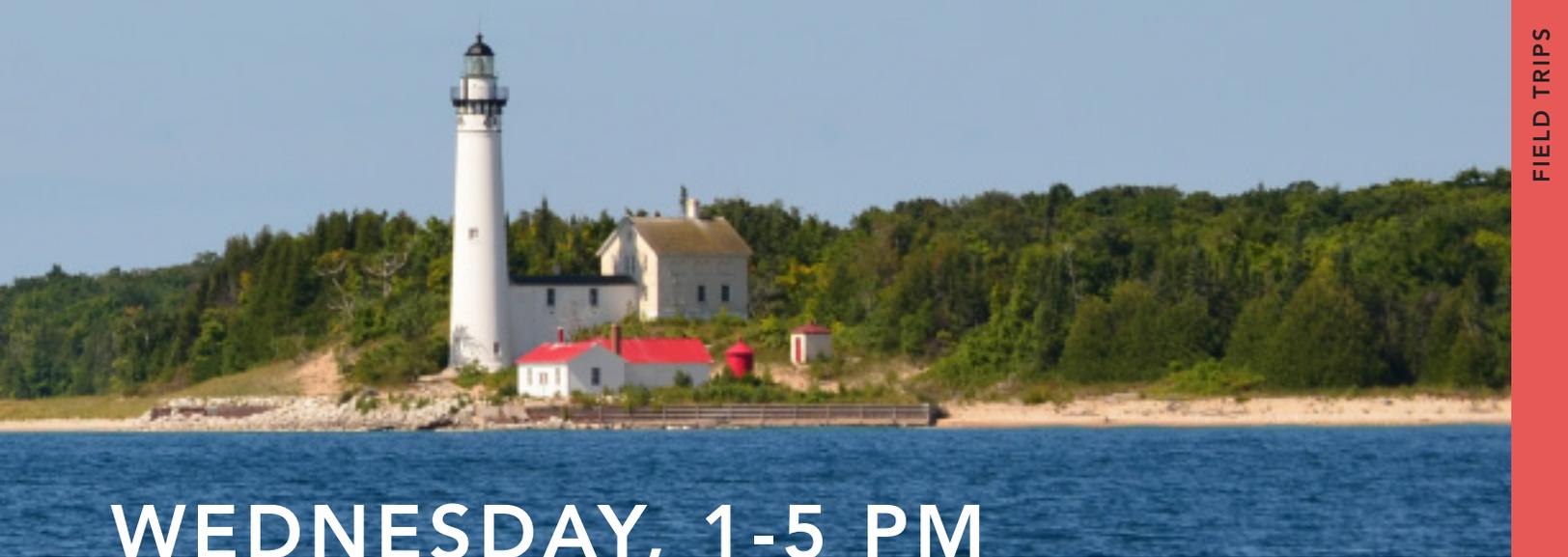
KIDS CREEK RESTORATION PROJECT TOUR

Location: Munson Medical Center (downtown Traverse City)

Lead: Sarah U'Ren, Program Director, The Watershed Center Grand Traverse Bay

Participants will see a variety of stream restoration and green infrastructure techniques being used to restore Kids Creek, an impaired stream in the Grand Traverse Bay Watershed. The tour begins where approximately 900 feet of creek, previously contained in underground culverts, was daylighted in 2013 and 72,000 square-feet of impervious surfaces was eliminated to create a new 1,200 foot meandering stream channel complete with almost 40,000 square-feet of new floodplain. From there we'll see the low impact development techniques to reduce stormwater inputs to Kids Creek at Munson's new \$45 million Cowell Family Cancer Center. A highlight of the tour will be a peek at the newly installed green roof at the Cancer Center, visible from the chemotherapy wing of the Center. From there we will tour Munson's campus, looking at other current and future green infrastructure techniques being installed to reduce stormwater impacts to Kids Creek, including underground infiltration trenches, rain gardens, pervious pavement, riparian buffers and more. Project funding so far totals over \$3.4 million from Federal and State grants, as well as local match and private funding.

Attendance Max: 30



WEDNESDAY, 1-5 PM

PLATTE RIVER STATE FISH HATCHERY TOUR

Location: Platte River State Fish Hatchery, Beulah, Michigan

Lead: Aaron Switzer, Fisheries Biologist, Michigan Department of Natural Resources

Join us for a one-of-a-kind tour of the Platte River State Fish Hatchery, which raises coho and chinook salmon and is the main egg take station for coho salmon in all of the Upper Great Lakes. Your tour will begin at the Visitor's Center at the hatchery where you will receive a brief history of why we have salmon in the Great Lakes. The hatchery tour will be guided by a fisheries biologist. You'll explore the life history of Pacific salmon and the life cycle in the hatchery. You will get to see live fish and experience what life is like at the hatchery. The adult feral brood stock will be in the river and many will be in the spawning facility where you will have the chance to participate in a mock egg take. If you ever wanted to get an up close experience with a salmon or just see the birthplace of Michigan's world class sport fishing industry, this is your chance.

Attendance Max: 40

ROV DEMONSTRATION AT NORTHWESTERN MICHIGAN COLLEGE

Location: Northwest Michigan College campus

Leads: Hans VanSumeren, Director, NMC Great Lakes Water Studies Institute, and John Lutchko, NMC Marine Technology Laboratory Coordinator

This field trip will feature hands on training and operation of NMC's fleet of Remotely Operated Vehicles (ROV). ROV's are used widely across the globe for subsea work in support of science and industry. NMC is home to the nation's first Bachelor's of Science in Marine Technology, first Freshwater Studies degree and numerous other water based training and education programs. The ROV is used throughout these programs and is critical to performing detailed work beneath the surface of the lake when depths, environmental considerations and duration prohibit diver intervention. Several types of ROV technology will be presented including a SAAB Seaeye Falcon, Outland 1000 and OpenROV platforms. Participants will gain first-hand experience operating the vehicles along with a basic understanding of the system operation and example missions. All operations will occur in NMC's newly constructed, 70,000 gallon indoor Marine Technology Laboratory.

Attendance Max: 6

POSTERS

A Next-Generation Sequencing-Based Approach to Determine Sources of Fecal Bacteria in the Lake Superior Watershed

Clairessa Brown (University of Minnesota – Twin Cities), Chan Lan Chun, Michael J. Sadowsky

A Probability-Based Assessment of Contaminants in Great Lakes Fish

Elizabeth Murphy (U.S. EPA-Great Lakes National Program Office), Leanne Stahl, Blaine Snyder, Jacqueline Fisher, Edwin Smith, John Wathen, Harry McCarty

A Specific and Sensitive qPCR Technique for Microbial Source Tracking

Tom Prychitko (Helix Biological Laboratory)

A Statewide Solution to a Statewide Problem—E. coli

Molly Rippke (Michigan Department of Environmental Quality, Water Resources Division)

An Evaluation of US EPA qPCR Method 1609 At Select Door County, WI Beaches

Aaron Campbell (University of Wisconsin-OshKosh), Nilay Sheth, Gregory Condon, Ka Moua, Ann Robbe, Gregory Kleinheinz

Avian Botulism, Quantitative PCR and Next Generation Sequencing: A Microbial Community Assessment

Natasha M. Isaacs (United States Geological Survey), Sheridan Haack, Carrie Givens, Stephen Riley

Development of U.S. EPA's National Fish Tissue Data Repository

Samantha Fontenelle (U.S. EPA-Office of Water, Office of Science & Technology), Leanne Stahl

Waukegan Harbor Citizens' Advisory Group: Eco Ambassadors

Brian Acosta (Swarthmore College)

Ecological Restoration of Degraded Urban Lands

Todd Parker (Delta Institute)

EPA's Probability-based Reassessment of Contaminants and Fatty Acids in Great Lakes Fish

Elizabeth Murphy (U.S. EPA-Great Lakes National Program Office), Leanne Stahl, Blaine Snyder, Harry McCarty, John Wathen, Edwin Smith, Tara Cohen

Floating Islands: Bio-mimicking Wetland Habitat

Mike Marek (Marek Landscaping, LLC)

Grand Calumet River Area of Concern Restoration

Ashley Snyder (Indiana Department of Environmental Management)

I Ain't Afraid of No Ghost (Net)

Titus Seilheimer (Wisconsin Sea Grant Institute)

Implications of Climate Change for Great Lakes Recreation and Tourism

Sarah Nicholls (Department of Community Sustainability and Geography, Michigan State University)

Influence of Geomorphic and Meteorological Factors on Escherichia coli at Chicago Beaches Chelsea

Weiskerger (Michigan State University), Meredith Nevers, Mantha Phanikumar

Invasive Species Prevention and Control on Belle Isle – Detroit River

Sam Lovall (Friends of the Detroit River), Michelle Seltzer, Jeffrey Ram, Mary Bohling, Ray Fahlsing, Robert Burns, Glenn Palmgren

Jeorse Park Beach: Exploratory Gull Exclusion Program to Improve Nearshore Water Quality

Yvonne Stokes (Wild Goose Chasers, Inc.), Vanessa Williams, Carla Wagner

Learning About the Past to Manage It for the Future – Shipwrecks

Mike Molnar (Indiana Lake Michigan Coastal Program), Cathy Draeger-Williams

Multiple Molecular Strategies for Improving Water Monitoring and Reducing Contamination at Chicago Beaches

Kasia Przybyla-Kelly (United States Geological Survey), Muruleedhara Byappanahalli, Ashley Spoljaric, Dawn Shively, Cathy Breitenbach, Marek Stankowski

Muskegon Lake Coastal Wetlands Habitat Restoration - Meeting AOC De-listing Targets

Kathy Evans (West Michigan Shoreline Regional Development Commission)

Open Water Patron Surveillance: a Human Information Processing Approach

Francesco A. Pia (Pia Consulting Services)

Optical Spectral Analysis of Recreational Water in Manitowish County, WI

Jennifer Rothe (University of Wisconsin-Oshkosh), Peter L. Lenaker, Rebecca B. Carvin, Gregory Kleinheinz, Colleen M. McDermott

Polybrominated Diphenyl Ethers (PBDEs) in Sport Fish from the Great Lakes

Meghan Williams (Wisconsin Department of Natural Resource), Candy Schrank, Henry Anderson, Pat McCann, Elizabeth Murphy

qPCR: A Rapid Method to Monitor Water Quality at a National Park

Dawn Shively (United States Geological Survey)

Quantifying Lake Michigan Coastal Wetland-Nearshore Linkages for Sustaining Sport Fishes

Katherine O'Reilly (University of Notre Dame), Amelia McReynolds, Craig Stricker, Gary A. Lamberti

Reducing Phosphorus Loading in the Milwaukee Watershed through Performance-based Payments

Bill Schleizer (Delta Institute)

The 2012-2017 Michigan Tourism Strategic Plan

Sarah Nicholls (Department of Community Sustainability and Geography, Michigan State University)

Tile Drains as a Source of Bioavailable Phosphorus in the Macatawa Watershed

Delilah R. Clement (Grand Valley State University), Alan D. Steinman

Time-series Observations Reveal Muskegon Lake Estuary as a "Goldilocks Zone" of Productivity

Bopi Biddanda (Grand Valley State University), Deb Dila, Tony Weinke, Scott Kendall, Chris VandenBerg, Nick Weber, Janet Vail

Transport and Accumulation of E. coli in Foreshore Beach Sand

Laura Vogel (Western University), Ming Zhi Wu, Denis O'Carroll, Clare Robinson

Understanding the Social Dynamics of Abundant Resources Management

Kristen Lynch (Michigan State University), Adam Zwickle, Sara Fingal, Joseph Hamm, Bruno Takahaski

Use of Rapid Bacteria Testing Using qPCR for Freshwater Sites in the Saginaw Bay Watershed

Tami Sivy (Saginaw Valley State University)

Village of Suttons Bay GLRI Stormwater Restoration Project - Two Years Later

Sarah U'Ren (The Watershed Center Grand Traverse Bay)

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