

76th Midwest Fish and Wildlife Conference

January 24 - 27, 2016 Grand Rapids, Michigan



Great Waters • Great Lands • Great Responsibilities

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Hosted by



WELCOME

76th Midwest Fish and Wildlife Conference



Welcome to the Great Lakes State!

The **Michigan Department of Natural Resources** and Michigan's conservation community welcome you to Grand Rapids for the **76th Midwest Fish and Wildlife Conference**. Michigan's world-class resources include more than 40,000 miles of streams, more than 10,000 lakes, 38,575 sq. miles of Great Lakes water, and more public land (7,013 of 58,110 sq. miles) than any other state east of the Mississippi River. Here in Grand Rapids, you are just feet from a remarkable urban fishery, the Grand River that supports thousands of hours of fishing effort annually, and only a few miles from varied hunting and wildlife viewing opportunities. On top of this unique variety of resources, we have a long history of conservation with precursors to the DNR being established in 1873. Hunting and fishing are core values of Michigan's culture. It is on this natural resource canvas, that we are staging this remarkable conference.

We are excited to continue the long and extraordinary tradition of the Midwest Fish and Wildlife Conference begun by Dr. David Thompson with the Illinois Natural History Survey. His vision was a forum that focused on the key Midwest conservation issues that at the time included cottontails, squirrels, furbearers, waterfowl, quail, pond management, carp, catfish and sunfish; a tradition that we embrace today on a much more diverse scale. We face a multitude of challenges that are different from those discussed at the first Midwest Fish and Wildlife Conference; many resulting from the great changes in demographics, human population size, and social values when compared to the 1930s. Our conference theme: **Great Waters — Great Lands — Great Responsibilities** reflects the huge responsibilities and tasks that our profession must respond to and it is our hope that this conference will result in new thinking to help solve our many issues and reignite the passion of participants needed to tackle our natural resource challenges.

We have a notable slate of plenary and inaugural Ignite session speakers that will set the tone for each day. There are over 430 presentations, 19 symposia with many joint fish and wildlife sessions, and 130 posters that should provide key information for all attendees. There will be many opportunities to interact with your peers from fisheries, wildlife and natural resource education disciplines. Take advantage of this time to build new relationships, re-energize old ones, and learn much about natural resources management and education. It is our hope that you leave our state better prepared to tackle your day-to-day resource issues and we are prepared to assist you in the task in any way we can.

We are excited that you chose to come, and we welcome you to the Great Lakes State for the 76th Midwest Fish and Wildlife Conference.

Gary Whelan
Conference Co-Chair
Program Manager
Michigan Department of Natural Resources
Fisheries Division

Douglas Reeves
Conference Co-Chair
Assistant Division Chief
Michigan Department of Natural Resources
Wildlife Division

ACKNOWLEDGEMENTS

The Planning Team extends their gratitude to the Michigan Department of Natural Resources for hosting this Conference. Thank you to our sponsors and exhibitors for their financial investment, whose commitments help make this event possible. Thank you to the numerous volunteers who have dedicated their time and efforts to ensure a successful Conference. The Planning Team would also like to recognize and thank the staff of Delaney Meeting & Event Management for their guidance, assistance and partnership throughout the entire process.

CONFERENCE COMMITTEE	
Gary Whelan & Doug Reeves <i>Steering Committee; Conference Co-Chairs</i>	
Vicki Brown <i>Steering Committee; Conference Coordinator; Socials Chair</i>	
James Averill <i>Steering Committee</i>	Katie Keen <i>Sponsors & Exhibits Chair</i>
Travis Brenden <i>Fisheries Technical Sessions Chair</i>	Paul Keenlance <i>Steering Committee</i>
Joseph Bump <i>Steering Committee</i>	Jessica Mistak <i>Wild Jobs Café; Student Volunteers; Events, Raffle Co-Chair</i>
Janet Canode <i>Plenary Sessions/Theme Chair</i>	Ashley Moerke <i>Steering Committee</i>
Donna Davis <i>Information & Technology Chair</i>	Dean Molnar <i>Steering Committee; Security & Transportation Chair</i>
James Diana <i>Steering Committee</i>	Gary Roloff <i>Wildlife Technical Sessions Chair</i>
Kevin Frailey <i>Workshops/Public Engagement Chair</i>	Fran Ryan <i>Steering Committee</i>
Tracy Galarowicz <i>Steering Committee</i>	Lori Sargent <i>Registration Chair</i>
Anne Garwood <i>Steering Committee</i>	Jim Schneider <i>Wild Jobs Café; Student Volunteers; Events, Raffle Co-Chair</i>
Patrick Hanchin <i>Posters Chair</i>	Al Stewart <i>Steering Committee; Hospitality Chair</i>
Scott Hicks <i>Steering Committee</i>	Tracy Swem <i>Ignite Session Chair</i>
J. Marty Holtgren <i>Steering Committee</i>	Elyse Walter <i>Steering Committee; Social Media/ Marketing & Publicity Chair</i>

 facebook.com/midwestfw

 [#MidwestFW](https://twitter.com/MidwestFW)

GENERAL CONFERENCE INFORMATION

REGISTRATION & INFORMATION DESK:

The conference registration desk is located in the **Center Concourse** on the 2nd Floor. Stop here first to pick up conference materials, check out the Message/Job Board, and get information or assistance with conference functions. Hours of operation are listed below for quick reference:

Sunday, January 24	7:00 a.m. – 7:00 p.m.
Monday, January 25	7:00 a.m. – 6:00 p.m.
Tuesday, January 26	7:00 a.m. – 6:00 p.m.
Wednesday, January 27	7:00 a.m. – 11:00 a.m.

EXHIBITORS:

Exhibits will be on display in the **Center Concourse**. Exhibit Hall Hours:

Monday, January 25	7:00 a.m. – 5:00 p.m.
Tuesday, January 26	7:00 a.m. – 9:00 p.m.*
Wednesday, January 27	7:00 a.m. – 10:20 a.m.

***Tradeshow & Poster Social** (see details on page 6)

ATTENTION PRESENTERS! CHECK-IN/SPEAKER PREPARATION ROOM:

The Speaker Preparation Room is **Robinson**, located on the Concourse Level, 2nd Floor. All presenters **MUST** arrive and check-in here to upload their presentation at least 24 hours before scheduled presentation time. You can also use this room to review your presentation. Refer to Conference Schedule for hours of operation.

MESSAGE/JOB BOARD:

A bulletin board will be available near the Conference Registration Desk for posted messages, schedule changes and job postings.

STUDENT RIBBON:

In their registration packets, students will receive a colored ribbon to attach to their name tag. All meeting registrants are encouraged to engage students in conversations and professional activities in order to facilitate the networking process.

CELL PHONE ETIQUETTE:

⇒ **Please be considerate of presenters and turn your phones to vibrate or “do not disturb” mode while in sessions. THANK YOU!**

REFRESHMENTS & MEALS:



The Full Conference Registration and Student Registration fee includes access to the following social events and breaks: Welcome Reception on Sunday night; Student/ Professional Mixer on Monday afternoon; Offsite Social at Grand Rapids Museum on Monday night; Trade Show & Poster Social on Tuesday night; Continental Breakfast Monday, Tuesday and Wednesday; and refreshment breaks daily. **Refreshment breaks have been sponsored by the Lake St. Clair Level Sponsors.** Lunch will be on your own. A list of nearby lunch options is available at the conference registration desk.

HOTEL PARKING:

Special discounted rates have been arranged for conference attendees in the **Amway Grand Plaza Hotel Ramp** only. Be prepared to show your conference name badge to the ramp attendant as you depart, in order to receive the special rates. See Conference Registration Desk for additional parking details and rate information.

FEATURED EVENTS

WELCOME RECEPTION & AFTER PARTY

Sunday, January 24, 6:00 p.m. – 11:00 p.m. / Ambassador East & West

(Note: food and beverages will be available immediately following the tribal flag raising ceremony taking place at 6:00 p.m.)

Sponsored by: Bass Pro Shops; Cardno, Inc.; Invenergy, LLC; Jay's Sporting Goods; Meijer; Michigan Department of Agriculture & Rural Development; Michigan State University, College of Agriculture & Natural Resources, AgBioResearch and Extension; and the National Shooting Sports Foundation.

Start off the Conference with a bang by joining us for the **Welcome Reception** and **After Party!** Attendees will be greeted by the Conference Hosts and have a unique opportunity to witness one of our local Native American Tribes present their nation's flag to kick off our amazing Conference. Enjoy hors d' oeuvres and a complimentary beverage while networking and reconnecting with peers and professionals. The socializing continues during the After Party with Grand Rapid's own **Stay for the Pie**, a local band with a big sound and a big love of music! The fun-filled evening is the perfect way to jump start a week of networking, presentations, workshops, social events, and more!

The Ogitch-E-Daa color guard of the Match-E-Be-Nash-She-Wish Tribe, commonly known as the Gun Lake Tribe, will be presenting flags. The Ogitch-E-Daa is a group of military veterans and they will post the Tribal, State and American flags. With the Ogitch-E-Daa we will be honoring and recognizing the rich heritage that each of the flags embody.

AWARD PRESENTATION

Monday, January 25, 9:15 a.m. – 10:00 a.m. / Ambassador East & West

Janice Lee Fenske Memorial Award *Presented by: Jessica Mistak*

The Janice Lee Fenske Memorial Award was created in 2005 to recognize undergraduate and graduate students for their achievements in the field of fisheries or wildlife management. Each year, up to 25 Fenske Memorial Award finalists are selected based on their enthusiasm to protect fisheries and wildlife resources through management activities, selflessness and motivation to teach others, interest in professional involvement, integrity, positive attitude, and compassion.

North Central Division - American Fisheries Society Awards *Presented by: Melissa Wuellner, President, North Central Division of the American Fisheries Society*

- ★ **Outstanding Chapter (Small & Large):** Two awards (small chapter, large chapter) will be given to the chapters that have carried out the most active programs of enhancing professionalism and fisheries science.
- ★ **Best Chapter Communications:** One award will be given to the chapter that has developed the most efficient, useful, and attractive newsletter and website to disseminate information to its members.
- ★ **Outstanding Student Subunit:** One award will be given to the North Central Division student subunit that has carried out the most active program in developing interest among undergraduate and graduate students in fisheries science and fulfilling the mission of the American Fisheries Society.
- ★ **Meritorious Service:** This award recognizes extraordinary service to the American Fisheries Society (Chapter, Division, Section, or Parent Society level) by a North Central Division member
- ★ **Recognition of Joan Duffy Award recipients:** One award is given to a student from each North Central Division chapter for travel assistance to the Midwest Fish & Wildlife Conference.

The Wildlife Society Awards *Presented by: Mike Larson, President, North Central Section of The Wildlife Society*

- ★ **Outstanding Wildlife Student Awards**
One undergraduate and one graduate student recognized for academic achievement, professional experience, and activities in The Wildlife Society.
- ★ **Student Chapter of the Year Award**
An exemplary student chapter recognized for its contributions to The Wildlife Society's mission and goals.
- ★ **Professional Award of Merit**
The North Central Section's most prestigious award. Recognizing outstanding professional accomplishments in wildlife conservation and leadership over a period of years in any area of wildlife work.

FEATURED EVENTS

WILD JOBS CAFÉ

Monday, January 25 & Tuesday, January 26 / Grand View A & B

Students – Be sure to stop by the Wild Jobs Café on Monday and Tuesday anytime between 10:40 a.m. -12:00 p.m. and 1:00 p.m. - 4:00 p.m. Interact with potential employers, meet students and professionals within your area of interest, and get expert advice. Come often and stay as long as you'd like. Ongoing through the day on Monday and Tuesday, members of the Wild Jobs Cafe Subcommittee will be available for one-on-one discussions. Daily door prizes will also be awarded! Additionally, check out these specific offerings on Monday:

10:40 a.m. – 12:00 p.m.	Job Panel
1:00 p.m. – 2:00 p.m.	Grad School Panel
2:00 p.m. – 3:00 p.m.	Interview Skills
3:00 p.m. – 4:00 p.m.	Resume Writing

Professionals – Be sure to stop by and share your expertise as well as job or graduate school opportunities!

STUDENT/PROFESSIONAL MIXER

Monday, January 25, 4:30 p.m. – 5:45 p.m. / Grand View A & B; Heritage Hill and Thornapple

Come and join us for light hors d'oeuvres and conversation! This event will provide a unique opportunity for students to meet, ask questions, and network with many fish and wildlife leaders from around the region. Professionals will be grouped by interest and employment type in a small room setting where students will meet professionals first in a round-robin type rotation, followed by an open forum for follow up questions or further networking.

EVENING SOCIAL/RECEPTION AT THE GRAND RAPIDS PUBLIC MUSEUM

Monday, January 25, 6:00 p.m. – 10:00 p.m. / Offsite: Grand Rapids Public Museum

Sponsored by: Michigan Department of Natural Resources, Fisheries & Wildlife Divisions; and The Hal & Jean Glassen Memorial Foundation.

Emcee: Bill O'Neil, Deputy Director, Michigan Department of Natural Resources

Highlights of the event include the honorable Rosalyn Bliss, **Mayor of Grand Rapids**; Austen Brauker, **Traditional Drum***; historic 1928 Spillman **Carousel**; fun discovery **games**, and exciting **prize drawings**. Entries for the prize drawings can be earned by attending the Museum event, participating in the evening's games, and by participating in the earlier Student/Professional Mixer. The Van Dort Print Shop will be printing souvenir conference bookmarks on the antique press. Food and beverages will be served throughout the evening.

Museum Special Sturgeon Exhibit: *Grand River, Grand Fish* explores how the Great Lakes region's largest and oldest fish, the Lake Sturgeon, once found in great abundance, is now a threatened species in our watersheds. The exhibit takes visitors through the connections to Native Americans, fishing history in the region and current science.

* Austen Brauker is a member of the Little River Band of Ottawa Indians. He is an artist, painting murals, and creates many different traditional native crafts and various other forms of visual art. Austen is a long time musician and has performed regularly since he started playing music over thirty years ago. Austen plays many different styles of music on acoustic and electric guitars, mandolin, banjo, bass guitar, lap steel and slide blues. He plays the Native American flute and sings with a traditional Odawa drum group in Manistee, Michigan. He recently scored the soundtrack for an educational sturgeon documentary that was filmed locally, spotlighting the Little River Band of Ottawa Indians sturgeon rearing program.

TRADE SHOW & POSTER SOCIAL

Tuesday, January 26, 6:00 p.m. – 9:00 p.m. / Center Concourse, West Concourse & Crown Foyer

Sponsored by Consumers Energy, Great Lakes Fishery Trust, NextEra Energy Resources, and U.S. Fish and Wildlife Service.

Join your colleagues and visit with exhibitors and authors of contributed posters. Don't miss out on the student raffle! Light hors d'oeuvres and complimentary soda and beer (while supplies last) are available, as well as a cash bar.

CONFERENCE SCHEDULE

SUNDAY, JANUARY 24, 2016

7:00 a.m. – 7:00 p.m.	Conference Registration Desk Open	<i>Center Concourse</i>
8:00 a.m. – 5:00 p.m.	Workshop: Beginning Your Professional Journey (for Students) <i>Sponsored by Grand Valley State University Biology Department</i>	<i>Emerald A & B</i>
8:00 a.m. – 4:00 p.m.	Workshop: Fish Bioenergetics 4.0	<i>Ruby</i>
8:00 a.m. – 1:00 p.m.	Workshop: Introduction to Sampling and Identification of Freshwater Fish Eggs and Larvae	<i>Thornapple</i>
9:00 a.m. – 4:00 p.m.	Workshop: Midwest Avian Data Center: Cutting Edge Knowledge, Sharing, and Conservation of Birds	<i>Heritage Hill</i>
12:00 p.m. – 6:00 p.m.	Exhibitor Set-up	<i>Center Concourse</i>
12:00 p.m. – 6:00 p.m.	Speaker Ready Room	<i>Robinson</i>
1:00 p.m. – 5:00 p.m.	Workshop: Midwest Fish & Wildlife Leadership Series	<i>Pearl</i>
2:30 p.m. – 4:30 p.m.	Workshop: How to Communicate Your Information with Power!	<i>Winchester</i>
3:00 p.m. – 4:00 p.m.	AFS NCD Ictalurid Technical Committee	<i>Grand View A</i>
3:00 p.m. – 5:00 p.m.	AFS NCD Walleye Technical Committee	<i>Thornapple</i>
4:00 p.m. – 4:30 p.m.	AFS NCD Rivers and Streams Technical Committee	<i>Grand View A</i>
4:30 p.m. – 5:30 p.m.	AFS NCD Executive Committee	<i>Grand View A</i>
6:00 p.m. – 9:00 p.m.	Welcome Reception – <i>Featuring a tribal flag raising ceremony. (Food and beverage will be available immediately following the ceremony.)</i>	<i>Ambassador East & West</i>
7:00 p.m. – 9:00 p.m.	After Party – <i>Enjoy the sounds of Stay for the Pie, a local 4-piece band that plays light classic rock music.</i>	<i>Ambassador East & West</i>

MONDAY, JANUARY 25, 2016

7:00 a.m. – 8:00 a.m.	Continental Breakfast with Exhibitors – <i>Sponsored by Herpetological Resource and Management; Michigan State Chapter of the National Wild Turkey Federation; Rocky Mountain Elk Foundation</i>	<i>Center Concourse</i>
7:00 a.m. – 6:00 p.m.	Conference Registration Desk Open	<i>Center Concourse</i>
7:00 a.m. – 6:00 p.m.	Speaker Ready Room	<i>Robinson</i>
8:00 a.m. – 10:00 a.m.	Plenary Session I & Awards Presentation <i>Michigan, We Have A Narrative: Why Science Needs Story</i> <i>Randy Olson, Author</i>	<i>Ambassador East & West</i>
10:00 a.m. – 10:20 a.m.	Refreshment Break with Exhibitors	<i>Center Concourse</i>
10:20 a.m. – 12:00 p.m.	Concurrent Technical Sessions and Symposia	<i>See Grid on pages 14 & 15</i>
10:40 a.m. – 4:00 p.m.	Wild Jobs Café	<i>Grand View A & B</i>
12:00 p.m. – 1:20 p.m.	Lunch Break on own	
1:00 p.m. – 5:00 p.m.	Poster Set-up	<i>West Concourse; Crown Foyer</i>
1:20 p.m. – 2:40 p.m.	Concurrent Technical Sessions and Symposia	<i>See Grid on pages 14 & 15</i>
2:40 p.m. – 3:00 p.m.	Refreshment Break with Exhibitors	<i>Center Concourse</i>

3:00 p.m. – 4:20 p.m.	Concurrent Technical Sessions and Symposia	<i>See Grid on pages 14 & 15</i>
3:00 p.m. – 4:30 p.m.	AFS NCD Business Meeting	Ambassador West
4:30 p.m. – 5:45 p.m.	Student/Professional Mixer <i>The mixer will provide a unique opportunity for students to meet and closely network with many fish and wildlife leaders from around the region.</i>	Grand View A & B; Heritage Hill; and Thornapple
6:00 p.m. – 10:00 p.m.	Reception at the Grand Rapids Public Museum <i>Sponsored by Michigan Department of Natural Resources, Fisheries & Wildlife Divisions; and The Hal & Jean Glassen Memorial Foundation</i> <i>The Museum is approximately 3-minutes walking distance from the hotel. If preferred or needed, shuttle service will be provided to and from the Museum, making continuous loops for the duration of the Reception.</i> ➤ Shuttle departs from Lyon Street entrance of the Amway Grand Hotel.	OFFSITE: Grands Rapids Museum www.grpm.org

TUESDAY, JANUARY 26, 2016

7:00 a.m. – 8:00 a.m.	Continental Breakfast with Exhibitors – Sponsored by Michigan Chapter of the American Fisheries Society; North Central Division of the American Fisheries Society; University of Michigan, School of Natural Resources and Environment	Center Concourse
7:00 a.m. – 6:00 p.m.	Conference Registration Desk Open	Center Concourse
7:00 a.m. – 6:00 p.m.	Speaker Ready Room	Robinson
8:00 a.m. – 9:45 a.m.	Plenary Session II: <ul style="list-style-type: none"> ▪ Strategic Visions for Conservation - William Demmer, President, Boone and Crockett Club ▪ Competing Values in Great Lakes Resource Management - Dr. Frank Lupi, Michigan State University 	Ambassador East & West
9:45 a.m. – 10:00 a.m.	Refreshment Break with Exhibitors	Center Concourse
10:00 a.m. – 11:00 a.m.	Future of the Nation’s Fisheries in the 21st Century: Policy Recommendations for the New Administration	Berkey
10:00 a.m. – 12:00 p.m.	Concurrent Technical Sessions	<i>See Grid on pages 14 & 15</i>
10:40 a.m. – 4:00 p.m.	Wild Jobs Café	Grand View A & B
12:00 p.m. – 1:20 p.m.	Lunch Break on own	
1:20 p.m. – 3:00 p.m.	TWS North Central Section Annual Member Meeting	Haldane Room
1:20 p.m. – 3:00 p.m.	Concurrent Technical Sessions and Symposia	<i>See Grid on pages 14 & 15</i>
3:00 p.m. – 3:20 p.m.	Refreshment Break with Exhibitors	Center Concourse
3:20 p.m. – 5:00 p.m.	Concurrent Technical Sessions and Symposia	<i>See Grid on pages 14 & 15</i>
5:00 p.m. – 6:00 p.m.	Michigan Chapter of AFS Business Meeting	Pearl
5:00 p.m. – 6:00 p.m.	University of Michigan – Flint Social	Grand View A
5:00 p.m. – 6:00 p.m.	AFS NCD Reservoirs Technical Committee	Atrium Room
5:30 p.m. – 7:00 p.m.	MSU Fisheries and Wildlife Alumni and Friends Social	Berkey
6:00 p.m. – 9:00 p.m.	Trade Show & Poster Social <i>Join your colleagues for hors d’oeuvres and beverages, and visit with exhibitors and authors of contributed posters.</i>	Center Concourse; West Concourse & Crown Foyer
6:30 p.m. – 8:00 p.m.	South Dakota State University Alumni & Friends Social	Heritage Hill

WEDNESDAY, JANUARY 27, 2016

7:00 a.m. – 8:30 a.m.	Continental Breakfast with Exhibitors – <i>Sponsored by National Rifle Association</i>	<i>Center Concourse</i>
7:00 a.m. – 11:00 a.m.	Conference Registration Desk Open	<i>Center Concourse</i>
7:00 a.m. – 11:00 a.m.	Speaker Ready Room	<i>Robinson</i>
8:00 a.m. – 8:55 a.m.	Plenary Session III: <i>Talk with Teddy - James Foote</i>	<i>Ambassador East & West</i>
8:55 a.m. – 10:00 a.m.	Ignite Session	<i>Ambassador East & West</i>
10:00 a.m. – 10:20 a.m.	Refreshment Break with Exhibitors	<i>Center Concourse</i>
10:20 a.m. – 12:00 p.m.	Concurrent Technical Sessions and Symposia	<i>See Grid on pages 14 & 15</i>
10:20 a.m. – 5:00 p.m.	Exhibitor Teardown	<i>Center Concourse</i>
12:00 p.m. – 1:20 p.m.	Lunch Break on own	
1:20 p.m. – 3:00 p.m.	Concurrent Technical Sessions and Symposia	<i>See Grid on pages 14 & 15</i>



PLENARY SESSIONS

➤ Raffle prize drawings featuring exciting prizes will be held at the end of each plenary session! You must be present to win.

Plenary I & Awards / Ambassador East & West

Monday, January 25, 8:00 a.m. – 10:00 a.m.

8:00 a.m.	Welcome & Opening Remarks <i>Gary Whelan, Co-Chair Midwest Fish and Wildlife Conference, Michigan Department of Natural Resources Fisheries Division</i>
8:05 a.m.	Posting of Colors – Michigan Department of Natural Resources Law Enforcement Division Color Guard <i>Dean Molnar, Michigan Department of Natural Resources</i>
8:10 a.m.	National Anthem <i>Doug Reeves, Michigan Department of Natural Resources</i>
8:15 a.m.	Introductory Comments <ul style="list-style-type: none"> ▪ <i>Bill Moritz, Director, Michigan Department of Natural Resources</i> ▪ <i>Brian Calley, Lt. Governor of Michigan</i>
8:35 a.m.	Plenary I: Michigan, We Have A Narrative: Why Science Needs Story <i>Randy Olson, Author</i>
9:15 a.m.	Awards Presentation: North Central Division - American Fisheries Society Presented by: <i>Melissa Wuellner, President, North Central Division of the American Fisheries Society</i>
9:30 a.m.	Awards Presentation: The Wildlife Society Presented by: <i>Mike Larson, President, North Central Section of The Wildlife Society</i>
9:45 a.m.	Awards Presentation: Janice Lee Fenske Memorial Award Presented by: <i>Jessica Mistak and Jim Schneider – Michigan Department of Natural Resources</i>
10:00 a.m.	Door Prize Distribution (must be present to win)
10:05 a.m.	Adjourn

Randy Olson, Author

For 25 years Randy Olson has been a man on a science communication mission. His journey is now documented in three books. The first, "Don't Be Such A Scientist: Talking Substance in an Age of Style" (Island Press, 2009) addressed the problems the science world has when it comes to communicating information to the public. For this he drew on his previous career as a marine biologist, which included earning his Ph.D. in Biology at Harvard University, then spending several years studying coral reef ecology on the Great Barrier Reef of Australia. Shortly after achieving tenure, he moved to Hollywood where he got screamed at by a psychotic acting teacher on the first night of acting class which changed his entire life as he tells in the book. It was the beginning of his looking at the communication dynamics of academics in general from a different, outside perspective. He earned an MFA in Cinema at the University of Southern California then wrote and directed several feature films including "Flock of Dodos: The Evolution-Intelligent Design Circus," which aired on Showtime in 2007. This led to his second book, co-authored with actors Dorie Barton and Brian Palermo and titled, "Connection: Hollywood Storytelling Meets Critical Thinking." Out of their Connection Storymaker Workshop they developed the tools needed to address the communications problems of science. Now he will be publishing his third book, "Houston, We Have A Narrative: Why Science Needs Story," which presents what he feels is the solution to the communications challenge — the need to understand and promote narrative principles through the world of science.



★ Dr. Randy Olson will hold a book signing in the Exhibit Hall on Monday from 10:00 a.m. – 4:00 p.m. after his plenary presentation. Copies of his two books will be available for purchase at a special discounted rate for conference attendees: "Houston, We Have a Narrative: Why Science Needs Story"; and "Don't Be Such a Scientist: Talking Substance in an Age of Style"

PLENARY SESSIONS

Plenary II / Ambassador East & West

Tuesday, January 26, 8:00 a.m. – 9:45 a.m.

8:00 a.m.	Opening Remarks <i>Doug Reeves, Co-Chair Midwest Fish and Wildlife Conference, Michigan Department of Natural Resources Wildlife Division</i>
8:05 a.m.	Strategic Visions for Conservation <i>William Demmer, President, Boone and Crockett Club</i>
8:55 a.m.	Competing Values in Great Lakes Resource Management <i>Dr. Frank Lupi, Michigan State University</i>

William Demmer, President, Boone and Crockett Club

Bill Demmer is a hunter, angler and businessman from Lansing, Michigan. He is also President of America's first conservation organization, the Boone and Crockett Club.



Dr. Frank Lupi, Michigan State University

Professor Frank Lupi is a Natural Resource and Environmental Economist with appointments in the Agricultural, Food, and Resource Economics and the Fisheries and Wildlife Departments at Michigan State University. He is a member of the Partnership for Ecosystem Research and Management, a collaborative effort between scientists at Michigan State University and Great Lakes resource management agencies. Lupi is an ecosystem valuation expert whose applied research addresses the economics of ecosystem services, fisheries, wildlife, and water. Current projects address resource management issues in the Great Lakes including the valuation of recreational fisheries; public demand and values for water quality; economic benefits of reducing non-point pollution from agriculture in Great Lakes watersheds; economic benefits of public lands for hunting; benefits of wildlife habitat restoration; and payment for environmental service policies to incentivize provision of ecosystem services.



Plenary III / Ambassador East & West

Wednesday, January 27, 8:00 a.m. – 8:55 a.m.

8:00 a.m.	Opening Remarks <i>Gary Whelan, Co-Chair Midwest Fish and Wildlife Conference, Michigan Department of Natural Resources Fisheries Division</i>
8:05 a.m.	Talk with Teddy <i>James Foote</i>
8:55 a.m.	Midwest Ignite Session <i>(See details on next page.)</i>

James Foote

James Foote's remarkable portrayal of Theodore Roosevelt has been honed over the past quarter century. Mr. Foote, 59, who lives in Sea Cliff, New York, logs 20,000 miles a year portraying Theodore Roosevelt in speeches and interviews. He has been portraying T. R., a New York governor who became the 26th U.S. president of the United States, for more than 30 years. Theodore Roosevelt is remembered for his foreign policy, corporate reforms and ecological preservation.



IGNITE SESSION



WED JAN 27 MIDWEST IGNITE!

Clear. Concise. Relevant.

The Midwest Fish and Wildlife Conference is proud to present our inaugural Ignite Session: a unique way to connect ideas, engage the audience, and elicit discussion about anything and everything we are passionate about in the wildlife profession. Similar to TED talks, we've brought together a diverse set of speakers that reflect on careers in science, challenge our wildlife paradigms, excite us with tales from the field, and share cutting edge research with just 5 minutes and 20 automatically rotating slides!

Join us for an exciting round of 5 minute Ignite talks meant to inspire, engage and perhaps ruffle a few feathers! Come see our dynamic line-up of speakers:

Dr. Mike Jones, Michigan State University – "Why don't we just admit we don't know what we're doing?"

Dr. Kelly Millenbah, Michigan State University – "Education in the era of the millennials and beyond"

Dr. Jon Gilbert, Great Lakes Indian Fish and Wildlife Commission – "Are Indian treaty rights compatible with the North American model of wildlife conservation?"

Dr. Amber Roth, University of Maine – "Conservation art: art-science collaboration with conservation solutions"

Robin O'Malley, U.S. Geological Survey – "Limits to co-production in providing actionable science"

Dr. Tim Van Deelen, University of Wisconsin – "Professional ethics: it's time to get serious"



76th Midwest Fish and Wildlife Conference
January 24 - 27, 2016 • Grand Rapids, Michigan

Great Waters • Great Lands • Great Responsibilities

5 Minutes.

20 Slides.

No Going Back.

Powerful talks from
the leading edge of
your profession!

Come join the
conversation!

MIDWEST IGNITE!

At the Amway Grand
Plaza Hotel, Plenary
Speaker Ballroom

8:55 – 10:00 a.m.

Wednesday, January
27th

WORKSHOPS

The following workshops are being offered in conjunction with the 76th Midwest Fish & Wildlife Conference, and will all take place on **Sunday, January 24, 2016**. Space is limited. Pre-registration and additional fee required to attend.

◆ Introduction to Sampling and Identification of Freshwater Fish Eggs and Larvae

8:00 a.m. – 1:00 p.m. / *Thornapple*
\$60/Professional; \$45/Student

An introduction to sampling and identification of freshwater fish early life history stages, with an emphasis on Great Lakes and Midwestern fauna. Sample processing protocols, larval fish morphological features useful for identification, and a procedure for using dichotomous keys to identify specimens will be discussed.

◆ Fish Bioenergetics 4.0

8:00 a.m. – 4:00 p.m. / *Ruby*
\$70 /Professional; \$30 /Student

Instructors: *Dr. David Deslauriers, Post Doctoral Fellow, Department of Biological Sciences, University of Manitoba; Dr. Steven R. Chipps, Unit Leader, USGS South Dakota Cooperative Fish & Wildlife Research Unit, Department of Natural Resource Management, South Dakota State University*

Bioenergetics models are widely used as a tool in fisheries management and research. Although Fish Bioenergetics 3.0 (Hanson et al. 1997) remains a popular software package, it is now over 18 years old and is incompatible with many new operating systems. Moreover, since Fish Bioenergetics 3.0 was released, the number of published fish bioenergetics models has increased from 33 to 115 models. This workshop will introduce Fish Bioenergetics 4.0, an R-based platform that consists of a graphical user interface application (Shiny by RStudio). An overview of bioenergetics concepts and applications, and an introduction to the new modeling platform will be covered. Example exercises and group projects will aid in navigating the software and to answer basic and applied questions in fish ecology.

◆ Beginning Your Professional Journey

8:00 a.m. – 5:00 p.m. / *Emerald A & B*
\$25.00 (lunch is included)

Sponsored by Grand Valley State University Biology Department

Jim Schneider, Michigan State University; John P. Loegering, Ph.D., University of Minnesota

This workshop will address the needs of Fisheries and Wildlife undergraduate students to prepare for their first post-baccalaureate position, whether as a graduate student or employee. The workshop will consist of four sections: Resumes and Professional Correspondence; Academic and Employer Panels; Networking; and Interviewing.

◆ Midwest Avian Data Center: Cutting Edge Knowledge, Sharing & Conservation of Birds

9:00 a.m. – 4:00 p.m. / *Heritage Hill*
\$10 (on own for lunch)

The model for how aggregations of data can be used in bird conservation has evolved over the last ten years from centralized data management to distributed data sharing, and the main hub for data sharing in North America is the Avian Knowledge Network (AKN). In 2011, the Midwest Coordinated Bird Monitoring Partnership launched a new regional node of the AKN, the Midwest Avian Data Center. Since then, we have successfully incorporated over 300,000 new bird observations, developed a new application to help people manage and enter bird monitoring data, and enhanced our decision support tools. We are now actively training and growing the community of users, from those who want to manage and share their own data to those who want to use data for research, conservation planning, or evaluating conservation outcomes at various scales.

◆ Midwest Fish & Wildlife Leadership Series

1:00 p.m. – 5:00 p.m. / *Pearl*

\$25 TWS Members; \$40 Non-members

The Workshop Leadership Series provides training and continuing education for all natural resource professionals - from students to seasoned professionals. Everyone is a leader within their respective agencies. The workshop will emphasize practical skills, tools, and experiences applicable to all attendees. Students and professionals will enhance their leadership skills, expand leadership contacts, and explore areas for professional growth.

◆ How to Communicate your Information with Power!

2:30 p.m. - 4:30 p.m. / *Winchester*

**** SOLD OUT!**

Randy Olson, Monday's keynote speaker and author of "Don't Be Such A Scientist: Talking Substance in an Age of Style," leads a limited participant workshop to develop your communication skills. Randy's ABT (And, But, Therefore) formula will take you from a data quoting scientist and researcher to an effective and powerful storyteller. Learn to take your scientific findings and humanize your work making it relevant to the masses.

TECHNICAL SESSIONS & SYMPOSIA GRID

Here's a quick reference guide of all concurrent technical sessions and symposia by date, time and meeting room location.

MONDAY, JANUARY 25, 2016

10:20 AM – 12:00 PM											
Ambassador E	Ambassador W	Pearl	Emerald A	Emerald B	Imperial	Vandenberg A	Vandenberg B	Governors	Pantlind	Gerald Ford	Atrium
S01-SPECIAL SYMPOSIUM: Collaboration and Challenges with Prevention, Control, and Management of Invasive Species	CO 1- GENERAL FISHERIES: Great Lakes	S02- SPECIAL SYMPOSIUM: Restoring Aquatic Habitat Connectivity in the Great Lakes: Launching the Connectivity Collaborative	CO 2- GENERAL SESSION: Public Engagement	S03- SPECIAL SYMPOSIUM: Wood Turtle Research and Management in the Upper Midwest	S04- SPECIAL SYMPOSIUM: Tribal Research Collaborations: Developing Working Relationships between Agencies	CO 3- GENERAL WILDLIFE: Amphibian Conservation	S05- SPECIAL SYMPOSIUM: State-Space Models for Fish and Wildlife Population Dynamics	CO 4- GENERAL WILDLIFE: Bird Conservation	CO 5- GENERAL FISHERIES: Fish Population Dynamics	S06- SPECIAL SYMPOSIUM: Recreational Fisheries in the Midwest: Challenges and Opportunities	S07- SPECIAL SYMPOSIUM: Advances in Molecular, Population and Quantitative Genetic Methods
1:20 PM – 2:40PM											
S01 - Symposium <i>continued</i> Invasive Species	CO 1- <i>continued</i> GENERAL FISHERIES: Great Lakes	S02- Symposium <i>continued</i> Connectivity Collaborative	CO 2- <i>continued</i> Public Engagement	S03 - Symposium <i>continued</i> Wood Turtle Research	S04- Symposium <i>continued</i> Tribal Research	CO 6- GENERAL WILDLIFE: Deer, Elk, Bison	S05- Symposium <i>continued</i> State-Space Models	CO 4- <i>continued</i> GENERAL WILDLIFE: Bird Conservation	S08- SPECIAL SYMPOSIUM: New Tools in the Detection and Control of Bigheaded Carps	S06- Symposium <i>continued</i> Recreational Fisheries in the Midwest	S07- Symposium <i>continued</i> Genetic Methods
3:00 PM – 4:20 PM											
S01 - Symposium <i>continued</i> Invasive Species		S02- Symposium <i>continued</i> Connectivity Collaborative	CO 2- <i>continued</i> Public Engagement	CO 7- GENERAL FISHERIES: Aquatic Invertebrates	S09- SPECIAL SYMPOSIUM: Updates in Eastern Massasauga Ecology, Management, and Conservation Status	CO 6- <i>continued</i> GENERAL WILDLIFE: Deer, Elk, Bison	S05- Symposium <i>continued</i> State-Space Models	CO 8- GENERAL WILDLIFE: Hunters & Wildlife	S08- Symposium <i>continued</i> Bigheaded Carps	S06- Symposium <i>continued</i> Recreational Fisheries in the Midwest	S07- Symposium <i>continued</i> Genetic Methods

TUESDAY, JANUARY 26, 2016

10:00 AM – 12:00 PM											
Ambassador E	Ambassador W	Pearl	Emerald A	Emerald B	Imperial	Vandenberg A	Vandenberg B	Governors	Pantlind	Gerald Ford	Atrium
S01 - Symposium <i>continued</i> Invasive Species	S10- SPECIAL SYMPOSIUM: Landscape Conservation Science and Management	S11- SPECIAL SYMPOSIUM: Legends and Legacies: Michigan's Fishery Research and Management	S12- SPECIAL SYMPOSIUM: Advancing the Science of Fish Age and Growth: Tools to Address Common Challenges	S13- SPECIAL SYMPOSIUM: Fostering Recruitment Success of Sturgeon and Paddlefish Through Habitat and Population Restoration	S09- Symposium <i>continued</i> Massasauga Ecology, Management, and Conservation Status	S14- SPECIAL SYMPOSIUM: Applying Climate Science to State-level Resource Management	S15- SPECIAL SYMPOSIUM: Understanding Mussel Distribution and Habitat Associations in the Midwest:	CO 8- <i>continued</i> GENERAL WILDLIFE: Hunters & Wildlife	S08- Symposium <i>continued</i> New Tools in the Detection and Control of Bigheaded Carps	CO 9- GENERAL FISHERIES: Aquatic Restoration and Enhancement	CO 10- GENERAL FISHERIES: Catfish
1:20 PM – 3:00 PM											
S01 - Symposium <i>continued</i> Invasive Species	S10- Symposium <i>continued</i> Landscape Conservation	S11- Symposium <i>continued</i> Legends and Legacies: Michigan's Fishery Research and Management	S12- Symposium <i>continued</i> Advancing the Science of Fish Age and Growth: Tools to Address Common Challenges	S13- Symposium <i>continued</i> Fostering Recruitment Success of Sturgeon and Paddlefish	S09- Symposium <i>continued</i> Massasauga Ecology, Management, and Conservation Status	S14- Symposium <i>continued</i> Applying Climate Science to State-level Resource Management	S15- Symposium <i>continued</i> Understanding Mussel Distribution and Habitat Associations in the Midwest	CO 11- GENERAL WILDLIFE: Grassland Bird Conservation	S08- Symposium <i>continued</i> Bigheaded Carps	CO 9- <i>continued</i> GENERAL FISHERIES: Aquatic Restoration and Enhancement	S16- SPECIAL SYMPOSIUM: New Solutions to Old Problems: Innovative Approaches to Reservoir Fisheries Management
3:20 PM – 5:00 PM											
S01 - Symposium <i>continued</i> Invasive Species	S10- Symposium <i>continued</i> Landscape Conservation	S11- Symposium <i>continued</i> Legends and Legacies: Michigan's Fishery Research and Management	CO 12- GENERAL WILDLIFE: Tools and Techniques	CO 13- GENERAL WILDLIFE: Beyond the Midwest	S09- Symposium <i>continued</i> Massasauga Ecology	CO 14- GENERAL WILDLIFE: Forest Bird Conservation	CO 15- GENERAL WILDLIFE: Bat and Other Small Mammals	CO 16- GENERAL WILDLIFE: Turtle and Tortoise Ecology	S08- Symposium <i>continued</i> Bigheaded Carps	CO 9- <i>continued</i> GENERAL FISHERIES: Aquatic Restoration and Enhancement	S16- Symposium <i>continued</i> Reservoir Fisheries Management

TECHNICAL SESSIONS & SYMPOSIA GRID

WEDNESDAY, JANUARY 27, 2016

10:20 AM – 12:00 PM								
10:20 AM – 12:00 PM	<i>Pearl</i>	<i>Emerald A</i>	<i>Emerald B</i>	<i>Imperial</i>	<i>Vandenberg A</i>	<i>Vandenberg B</i>	<i>Governors</i>	
	S17- SPECIAL SYMPOSIUM: Wild and Domestic Interactions in Fish and Wildlife: A Two-Way Street	CO 17- GENERAL WILDLIFE: Bird Conservation	CO 18- GENERAL FISHERIES: Imperiled Species	S18- SPECIAL SYMPOSIUM: Wildlife Habitat Management Techniques	CO 19- GENERAL WILDLIFE: Furbearer Conservation	S19- SPECIAL SYMPOSIUM: Food for Thought: Trial, Error and Adaptation for Successful Hunter Recruitment, Retention and Reactivation	S10- Symposium <i>continued</i> Landscape Conservation	
	<i>Pantlind</i>	<i>Gerald Ford</i>	<i>Atrium</i>	<i>Thornapple</i>	<i>Ruby</i>	<i>Grand View A</i>		
S01 - Symposium <i>continued</i> Invasive Species	CO 20- GENERAL FISHERIES: Fish Techniques	CO 21- GENERAL FISHERIES: Percids	CO 22- GENERAL FISHERIES: Freshwater Fish	CO 23- GENERAL WILDLIFE: Wildlife Diseases	CO 24 - GENERAL FISHERIES: Rivers/Streams			

1:20 PM – 3:00 PM							
1:20 PM – 3:00 PM	<i>Pearl</i>	<i>Imperial</i>	<i>Vandenberg A</i>	<i>Vandenberg B</i>	<i>Governors</i>	<i>Pantlind</i>	
	S17- Symposium <i>continued</i> Wild and Domestic Interactions	S18- Symposium <i>continued</i> Wildlife Habitat Management Techniques	CO 19- <i>continued</i> GENERAL WILDLIFE: Furbearer Conservation	S19- Symposium <i>continued</i> Hunter Recruitment	S10- Symposium <i>continued</i> Landscape Conservation	S01 - Symposium <i>continued</i> Invasive Species	
	<i>Gerald Ford</i>	<i>Atrium</i>	<i>Thornapple</i>	<i>Ruby</i>	<i>Grand View A</i>		
CO 20- <i>continued</i> GENERAL FISHERIES: Fish Techniques	CO 21- <i>continued</i> GENERAL FISHERIES: Percids	CO 22- <i>continued</i> GENERAL FISHERIES: Freshwater Fish	CO 23- <i>continued</i> GENERAL WILDLIFE: Wildlife Diseases	CO 24- <i>continued</i> GENERAL FISHERIES: Rivers/Streams			

PLEASE NOTE:

- ☛ The full schedule of Technical Sessions and Symposia follows on pages 16– 46. The sessions are organized by Day and by Time. The Special Symposia are listed first, in numerical order (S01, S02, etc.); then all of the general **Contributed Oral** sessions, indicated by “CO,” in numerical order (CO 1, CO 2, etc.)
- ☛ The presenting author is the first name listed, or as indicated with an asterisk. *
- ☛ Full abstracts are only available on the conference website.
- ☛ Please check the Conference Registration Desk onsite for any last minute cancellations and changes to the technical schedule.

TECHNICAL SESSIONS & SYMPOSIA: MONDAY

MONDAY, JANUARY 25 ♦ 10:20 AM – 12:00 PM

Reminder: The presenting author is the first name listed, or as indicated with an asterisk. *

S01 SPECIAL SYMPOSIUM: Collaboration and Challenges with Prevention, Control, and Management of Invasive Species

Location: Ambassador E

Organized by: Seth Herbst, Sue Tangora – Michigan Department of Natural Resources

Moderator: Seth Herbst

- 10:20 AM **S01-1 A Risk Assessment Toolbox That Rapidly Supports Nonnative Species Risk Management.** Michael H. Hoff*, U.S. Fish and Wildlife Service; Bruce G. Marcot, U.S. Forest Service; Susan D. Jewell, Craig D. Martin, Carrie E. Givens – U.S. Fish and Wildlife Service.
- 10:40 AM **S01-2 A Review of Traits-Based Approaches to Understanding Invasiveness.** Brandon K. Peoples*, Reuben R. Goforth – Department of Forestry and Natural Resources, Purdue University.
- 11:00 AM **S01-3 Vector- and Species-Based Strategy for Early Detection of Non-Native Aquatic Species in Lakes Erie and Huron.** Stephen R. Hensler*, Anjanette Bowen – U.S. Fish and Wildlife Service; Eric Stadig, Purdue University (Fort Wayne); Sandra Keppner, U.S. Fish and Wildlife Service; Jesse McCarter, University of Michigan; Jessica Loughner, Chris Olds, Dan Drake, Robert Haltner, Heidi Himes, Josh Schloesser – U.S. Fish and Wildlife Service.
- 11:20 AM **S01-4 Understanding The Risk of Direct Movement of Freshwater Fishes Through The Welland Canal.** Jaewoo Kim*, Great Lakes Laboratory for Fisheries and Aquatic Sciences, Fisheries and Oceans Canada; Nicholas E. Mandrak, Department of Biological Sciences, University of Toronto Scarborough.
- 11:40 AM **S01-5 Aquatic Invasive Species Passage Project Screening Tool.** Nate Jacobson*, Doug Bradley, Scott Bell – LimnoTech; Donovan Henry, U.S. Fish and Wildlife Service.

S02 SPECIAL SYMPOSIUM: Restoring Aquatic Habitat Connectivity in the Great Lakes: Launching the Connectivity Collaborative

Location: Pearl

Organized by: Mary Khoury, The Nature Conservancy

Moderator: Joseph Sheahan, U.S. Fish and Wildlife Service

- 10:20 AM **S02-1 Uniting Adaptive Management Through the Great Lakes Region Aquatic Habitat Connectivity Collaborative.** Lisa Walter*, Great Lakes Fishery Commission; Joseph Sheahan*, U.S. Fish and Wildlife Service.
- 10:40 AM **S02-2 Development of Tributary Connectivity Priorities For Great Lakes Migratory Fishes.** Matthew Herbert*, Mary Khoury, Eugene Jacobson, Jared Ross, Patrick Doran – The Nature Conservancy; Peter McIntyre, Center for Limnology, University of Wisconsin; Matthew Diebel, Wisconsin Department of Natural Resources; Thomas Neeson, Margaret Guyette, Allison Moody – Center for Limnology, University of Wisconsin.
- 11:00 AM **S02-3 Optimizing Barrier Removals in the Great Lakes Basin: Accounting For Native and Invasive Species.** Allison T. Moody*, Thomas M. Neeson – Center for Limnology, University of Wisconsin; Matthew W. Diebel, Wisconsin Department of Natural Resources; Patrick J. Doran, The Nature Conservancy; Michael Ferris, Wisconsin Institutes for Discovery, University of Wisconsin; Jesse O'Hanley, University of Kent; Peter B. McIntyre, Center for Limnology, University of Wisconsin.
- 11:20 AM **S02-4 Predicting and Visualizing Sea Lamprey Spread Stemming From Proposed Barrier Removal.** Dale Burkett, Pete Hrodey* – Great Lakes Fishery Commission.
- 11:40 AM **S02-5 Using an Updated Road Network to Map Watershed Infrastructure Vulnerability for the Western Upper Peninsula of Michigan.** Mark Fedora, Christopher Kovala – Ottawa National Forest; Colin Brooks, David Banach* – Michigan Tech Research Institute.

Monday, January 25 ♦ 10:20 AM – 12:00 PM

S03 SPECIAL SYMPOSIUM: Wood Turtle Research and Management in the Upper Midwest

Location: Emerald B

Organized by: Donald Brown, West Virginia University

Moderator: Donald Brown

- 10:20 AM **S03-1 Upper Midwest Collaboration Effort on Wood Turtle Research and Management: Forging an Approach for Efficient and Effective Conservation for Wood Turtle.** Richard Baker, Gaea Crosier, Carol Hall, Maya Hamady* – Minnesota Department of Natural Resources; Karen Kinkaid, Iowa Department of Natural Resources; Yuman Lee, Michigan Natural Features Inventory, Michigan State University Extension; Madaline Cochrane, University of Minnesota, Natural Resources Research Institute; Carly Lapin, Wisconsin Department of Natural Resources.
- 10:40 AM **S03-2 Snapshot Comparison of Wood Turtle Population Size and Structure Between 1990 and 2015 in Minnesota.** Donald J. Brown*, School of Natural Resources, West Virginia University; Madaline M. Cochrane, Natural Resources Research Institute, University of Minnesota-Duluth; Mark D. Nelson, U.S. Forest Service, Northern Research Station; Richard R. Buech, U.S. Forest Service (Retired), Forestry Sciences Lab; Ron A. Moen, Natural Resources Research Institute, University of Minnesota-Duluth.
- 11:00 AM **S03-3 Movement Patterns of a Wood Turtle Population in Minnesota.** Madaline M. Cochrane*, Natural Resources Research Institute, University of Minnesota-Duluth; Donald J. Brown, School of Natural Resources, West Virginia University; Ron A. Moen, Natural Resources Research Institute, University of Minnesota-Duluth.
- 11:20 AM **S03-4 Wood Turtle Research and Conservation Strategies in Wisconsin.** Carly Lapin*, Jim Woodford, Tiffany Bougie, Laura Jaskiewicz – Wisconsin Department Of Natural Resources.
- 11:40 AM **S03-5 Assessment and Conservation of a Wood Turtle *Glyptemys insculpta* Population Over 46 Years in Northern Michigan.** James H. Harding, Michigan State University; Peter Wilson, Independent Researcher; David A. Mifsud, Herpetological Resource and Management.

S04 SPECIAL SYMPOSIUM: Tribal Research Collaborations: Developing Working Relationships between Agencies

Location: Imperial

Organized by: Eric Clark, Sault Ste. Marie Tribe of Chippewa Indians; Bob Sanders, Little River Band of Ottawa Indians

Moderator: Bob Sanders

- 10:20 AM **S04-1 Beyond Trust Obligations: The Imperatives For Tribal Collaboration.** Heather K Stricker*, Forest County Potawatomi Community.
- 10:40 AM **S04-2 A Lesson In Success: The Story of the Modeling Subcommittee.** Dave Caroffino*, Michigan Department of Natural Resources; Steve Lenart, U.S. Fish and Wildlife Service.
- 11:00 AM **S04-3 A Beach Seine-Based Coregonid Recruitment Survey: “Multi-agency Collaboration in the Bag!”** Kevin Donner, Barry Weldon – Little River Band of Ottawa Indians.
- 11:20 AM **S04-4 Teaming up to Preserve Prairie, People, and Pets: A Collaboration Between the Northern Cheyenne Tribe and Lincoln Park Zoo.** Mary Beth Manjerovic, Rachel Santymire – Lincoln Park Zoo; Evan Sorley, University of Minnesota; Adriann Killsnight, Mark Roundstone – Northern Cheyenne Reservation.
- 11:40 AM **S04-5 Mannomin *Zizania spp.* (Wild Rice) Species Habitat Variables and Monitoring.** Allison Smart*, Little River Band of Ottawa Indians; Stephanie Ogren, Grand Rapids Public Museum; Scott McNaught, Central Michigan University.

S05 SPECIAL SYMPOSIUM: State-Space Models for Fish and Wildlife Population Dynamics

Location: Vandenberg B

Organized by: Bryan Stevens, Reneé Reilly, David Williams – Michigan State University

Moderator: Reneé Reilly

- 10:40 AM **S05-1 KEYNOTE PRESENTATION: State-Space Models as a Unifying Framework For Analyzing Fish and Wildlife Time Series Data.** Ken B. Newman*, U.S. Fish and Wildlife Service.
- 11:20 AM **S05-2 Inferences on Demographic Rates Using State-Space Models.** Elise Zipkin*, Sam Rossman – Michigan State University.
- 11:40 AM **S05-3 Estimating Population Abundance Trends Via Presence-Absence Data.** Sam Rossman*, Elise Zipkin – Michigan State University.

Monday, January 25 ♦ 10:20 AM – 12:00 PM

S06 SPECIAL SYMPOSIUM: Recreational Fisheries in the Midwest: Challenges and Opportunities

Location: Gerald Ford

Organized by: Mitchell Zischke, Purdue University; Charles Roswell, Illinois University

Moderator: Mitchell Zischke

- 10:20 AM **S06-1 An Introduction to Michigan's Statewide Angler Survey Program.** Tracy Kolb*, Zhenming Su – Michigan Department of Natural Resources.
- 10:40 AM **S06-2 The Urban Experience: Angling On Illinois' Portion of Lake Michigan and the Utility of Angling Data.** Charles Roswell*, Sergiusz Czesny – Illinois Natural History Survey; Steven Robillard, Daniel Makauskas – Illinois Department of Natural Resources; Joshua Dub, Illinois Natural History Survey.
- 11:00 AM **S06-3 Using Historical Creel Survey Data for Southern Lake Michigan to Identify Drivers of Fishery Change.** Mitchell Zischke*, Purdue University; Charlie Roswell, Illinois Natural History Survey; Ben Dickinson, Indiana Department of Natural Resources; Ben Gramig, Purdue University.
- 11:20 AM **S06-4 Great Lakes Angler Demographic Change: Age-Period-Cohort Analysis of Wisconsin Anglers, 2000-2013.** Erin Burkett*, Richelle Winkler – Michigan Technological University.
- 11:40 AM **S06-5 A Discussion of Fish Contaminants in the Context of the Future Management of Great Lakes Fisheries.** Ryan R. Holem, GEI Consultants of Michigan, P.C.

S07 SPECIAL SYMPOSIUM: Advances in Molecular, Population and Quantitative Genetic Methods Applied to the Management of Fish and Wildlife Populations

Location: Atrium

Organized by: Andrew Mahon, Central Michigan University; Kim Scribner, Michigan State University

Moderator: Andrew Mahon

- 10:20 AM **S07-1 Markers, Methods, and Applications of Genetic Data Applied to the Management of Fish and Wildlife Populations.** Kim Scribner*, Department of Fisheries and Wildlife and Department of Zoology, Michigan State University; Andrew Mahon, Institute for Great Lakes Research, Department of Biology, Central Michigan University.
- 10:40 AM **S07-2 Indexing Recruitment Fluctuations for Populations Contributing to Mixtures by Simultaneous Analysis of Age and Genetic Information.** Travis Brenden*, Iyob Tsehaye, James Bence; Weihai Liu, Jeannette Kanefsky, Kim Scribner – Michigan State University.

- 11:00 AM **S07-3 Use of Molecular Markers For Management of Endangered Fishes: The Razorback Sucker *Xyrauchen texanus* as a Case Study.** Thomas E. Dowling*, Department of Biological Sciences, Wayne State University; Paul C. Marsh, School of Life Sciences, Arizona State University, and Marsh & Associates; Thomas F. Turner, Department of Biology and Museum of Southwestern Biology, University of New Mexico, Albuquerque.
- 11:20 AM **S07-4 Gene Flow From an Adaptively Divergent Source Causes Genetic Rescue, Not Outbreeding Depression, in Two Wild Populations of Trinidadian Guppies.** Sarah W. Fitzpatrick, Michigan State University; Lisa M. Angeloni, W. Chris Funk – Colorado State University.
- 11:40 AM **S07-5 Broad-Scale Spatial Genetic Structure in a High Gene Flow Species, Mule Deer.** Emily K. Latch*, Dawn M. Reding, James R. Heffelfinger, Olin E. Rhodes, Jr. – University of Wisconsin-Milwaukee.

CO 1 GENERAL FISHERIES: Great Lakes

Location: Ambassador W

Moderator: Ed Baker, Michigan Department of Natural Resources

- 10:20 AM **CO 1-1 Great Lakes Anglers' Preferred Trade-Offs Between More Fish, Native Fish, and Risk of Ecosystem Collapse.** Jody Simoes, Michigan Department of Natural Resources; Frank Lupi, Michigan State University.
- 10:40 AM **CO 1-2 Lake Trout Spawning Habitat Selection in the Drummond Island Refuge: Paradigm or Paradox?** Steven Farha*, Michigan State University-Center for Systems Integration and Sustainability; Thomas Binder, Michigan State University; John Janssen, University of Wisconsin-Milwaukee; Stephen Riley, U.S. Geological Survey-Great Lakes Science Center; J. Ellen Marsden, University of Vermont-Rubenstein School of Environment and Natural Resources; Mike Hansen, U.S. Geological Survey - Hammond Bay Biological Station; Charles Bronte, U.S. Fish and Wildlife Service; Charles Krueger, Michigan State University - Center for Systems Integration and Sustainability.
- 11:00 AM **CO 1-3 Role of Olfactory Cues During Reproduction in Lake Trout and Implications for Restoration.** Tyler Buchinger, Michigan State University; Nicholas Johnson, U.S. Geological Survey; Weiming Li, Michigan State University.
- 11:20 AM **CO 1-4 Lake Trout Hooking Mortality in lakes Superior and Huron.** Shawn P. Sitar*, James E. Johnson, (retired); Ji X. He – Michigan Department of Natural Resources.
- 11:40 AM **CO 1-5 Cisco Assessment in Northeastern Lake Michigan.** Jason B. Smith*, Little Traverse Bay Bands of Odawa Indians; Annalise M. Povolo, Michigan Department of Natural Resources Fisheries Division.

CO 2 GENERAL SESSION: Public Engagement

Location: Emerald A

Moderator: Kevin Frailey, Michigan Department of Natural Resources

- 10:20 AM **CO 2-1 Using Social Media to Increase Public Understanding of Research.** Tyler R. Petroelje*, Ashley Lutto, Nick Fowler – Mississippi State University; Dean Beyer, Jr., Michigan Department of Natural Resources; Jerrold Belant, Mississippi State University.
- 10:40 AM **CO 2-2 Biologists Meet the Benchmarks.** Kevin Frailey, Michigan Department of Natural Resources.
- 11:00 AM **CO 2-3 Adapting Your Presentation Style to Your Audience.** Natalie J. Elkins, Michigan Department of Natural Resources.
- 11:20 AM **CO 2-4 Social Media 101.** Tyler Czarnopis*, Michigan Department of Natural Resources.
- 11:40 AM **CO 2-5 Examples of Social Media Success.** Tyler Czarnopis*, Michigan Department of Natural Resources.

CO 3 GENERAL WILDLIFE: Amphibian Conservation

Location: Vandenberg A

Moderator: Jack Dingleline, U.S. Fish and Wildlife Service

- 10:20 AM **CO 3-1 An Introduction to the Michigan Amphibian and Reptile Best Management Practices Manual: A Critical Resource For Conservation of Herpetofauna.** David A. Mifsud*, Maegan Stapleton – Herpetological Resource and Management, LLC.
- 10:40 AM **CO 3-2 Conspecific Attraction in Anuran Amphibians.** Valerie L. Buxton, University of Illinois; Michael P. Ward, University of Illinois, Illinois Natural History Survey; Jinelle H. Sperry, University of Illinois, Engineer Research and Development Center.
- 11:00 AM **CO 3-3 Range Expansion of the Green Treefrog *Hyla cinerea* in Indiana.** Michael J. Lodato, Nathan J. Engbrecht* – Cardno; Sarabeth Klueh-Mundy, Indiana Department of Natural Resources; Zachary Walker, Wyoming Game and Fish Department.
- 11:20 AM **CO 3-4 20 Years of the Michigan Frog and Toad Survey.** Lori Sargent, Michigan Department of Natural Resources.
- 11:40 AM **CO 3-5 Assessment and Conservation of the Northern Mudpuppy *Necturus maculosus* Along the Lake Huron to Lake Erie Corridor, Michigan.** David Mifsud*, Herpetological Resource and Management; Katherine Greenwald, Eastern Michigan University; Maegan Stapleton, Herpetological Resource and Management; Amber Stedman, Eastern Michigan University; Richard Kik IV, Belle Isle Aquarium; Paul Muelle, Huron-Clinton Metropolitan Authority; Jaquie Craig, U.S. Geological Survey; James Boase, U.S. Fish and Wildlife Service; James Francis, Michigan Department of Natural Resources; Mike

Thomas, Michigan Department of Natural Resources; Andrew Briggs, U.S. Fish and Wildlife Service; Justin Chiotti, U.S. Fish and Wildlife Service; Ed Roseman, U.S. Geological Survey; Greg Kennedy, U.S. Geological Survey; Mary Bohling, Michigan SeaGrant.

CO 4 GENERAL WILDLIFE: Bird Conservation

Location: Governors

Moderator: Sean Sultaire, Michigan State University

- 10:20 AM **CO 4-1 Understanding Population Dynamics of Bald Eagles in Michigan, 1961-2015.** William Bowerman*, Latice Fuentes, Kendall Simon, Tyler Pittman – University of Maryland; David Best, U.S. Fish and Wildlife Service; Teryl Grubb, U.S. Forest Service; James Sikarskie, Michigan State University.
- 10:40 AM **CO 4-2 The Role of Cities in Facilitating American Goldfinch *Spinus tristis* Overwintering at High Latitudes.** Corrie Navis*, Peter Bednekoff – Eastern Michigan University.
- 11:00 AM **CO 4-3 Distribution, Migration Chronology, and Survival Estimate of Eastern Population Sandhill Crane.** David L. Fronczak, U.S. Fish and Wildlife Service; David E. Andersen*, U.S. Geological Survey; Everett E. Hanna, Long Point Waterfowl; Thomas R. Cooper, U.S. Fish and Wildlife Service.
- 11:20 AM **CO 4-4 Modeling Population Dynamics of Sandhill Cranes Using a Multi-State Open Robust Model and Simulation.** Michael Wheeler*, Tim Van Deelen – University of Wisconsin Madison; Jeb Barzen, International Crane Foundation; Shawn Crimmins, University of Wisconsin Madison.
- 11:40 AM **CO 4-5 Robust Spatial Prioritizations for Avian Conservation in the Upper Mississippi River and Great Lakes Regions Under a Changing Climate.** Chad Wilsey, National Audubon Society.

CO 5 GENERAL FISHERIES: Fish Population Dynamics

Location: Pantlind

Moderator: Casey Huckins, Michigan Technological University

- 10:20 AM **CO 5-1 Commercial Harvest and Population Demographics of Smallmouth Buffalo in the Middle Mississippi River.** Seth Love*, Southeast Missouri State University; Sara Tripp, Quinton Phelps – Missouri Department of Conservation.
- 10:40 AM **CO 5-2 Assessing Short and Long-Term Persistence of Translocated Plains Topminnow *Fundulus sciadicus* Populations in Nebraska Streams.** Joseph D. Thiessen*, Department of Biology, University of Nebraska at Kearney; Keith Koupal, Nebraska Game and Parks Commission; Casey Schoenebeck, Department of Biology, University of Nebraska at Kearney.

Monday, January 25 ♦ 10:20 AM – 12:00 PM

11:00 AM **CO 5-3 Life-History Expression of Three Popular Sportfish From Three Distinct Habitats in the Illinois River Watershed.** Jason A. DeBoer, Andrea K. Fritts, Mark W. Fritts, Richard M. Pendleton, Levi E. Solomon, T.D. VanMiddlesworth, and Andrew F. Casper – Illinois River Biological Station, Illinois Natural History Survey, Prairie Research Institute, University of Illinois-Urbana Champaign.

11:20 AM **CO 5-4 Biotic and Abiotic Factors Affecting Salmonid and Sculpin Abundance, Density, and Biomass in Tributaries of the Manistee River, Michigan.** Cameron W. Goble, Nancy A. Auer, Casey J. Huckins, Brian M. Danhoff – Michigan Technological University; J. Marty Holtgren, Michigan Department of Natural Resources; Stephanie A. Ogren, Little River Band of Ottawa Indians.

11:40 AM **CO 5-5 Evaluating Movement and Spatial Distributions of Smallmouth Bass and Saugeye in a Thermally Dynamic Environment Using a Spatially-Explicit Individual-Based Model.** David Coulter, Department of Forestry and Natural Resources, Purdue University; James Breck, Institute for Fisheries Research, Michigan Department of Natural Resources, School of Natural Resources and Environment, University of Michigan; Cary Troy, School of Civil Engineering, Purdue University; Maria Sepúlveda, Department of Forestry and Natural Resources, Purdue University; Tomas O. Höök, Department of Forestry and Natural Resources, Purdue University.



MONDAY, JANUARY 25 ♦ 1:20 PM – 4:20 PM

S01 SYMPOSIUM *continued*: Collaboration and Challenges with Prevention, Control, and Management of Invasive Species

Location: Ambassador E

Organized by: Seth Herbst, Sue Tangora – Michigan Department of Natural Resources

Moderator: Sue Tangora

- 1:20 PM **S01-6 Invasive Species Management in Uncertain Times: How To Be Proactive, Not Reactive.** Kile Kucher*, Michigan Department of Natural Resources.
- 1:40 PM **S01-7 Lake Erie Asian Carp Response Exercise: A Collaborative Approach for Responding to Aquatic Invasive Species in the Great Lakes.** Seth J. Herbst, Nick Popoff*, Jim Francis, Jeff Tyson, Chris Vandergoot, Tammy Newcomb – Michigan Department of Natural Resources.
- 2:00 PM **S01-8 Exotic Aquatic Plant Watch: Development and Evaluation of a Volunteer Monitoring Program For Aquatic Invasive Plant Species in Michigan Lakes.** Angela De Palma*, Jo A. Latimore – Michigan State University.
- 2:20 PM **S01-9 Telecoupling and the Great Lakes: Understanding Global and Local Socio-Environmental Systems Using Zebra Mussels as a Case Study.** James Roche*, Michigan Sea Grant Extension and the Glassen Scholars Program; Heather Triezenberg, Michigan Sea Grant Extension.
- 2:40 PM BREAK
- 3:00 PM **S01-10 Aquatic Invasive Pathogens in North America: What is Here and What is Coming Next?** Kensey Thurner*, Department of Forestry and Natural Resources, Purdue University.
- 3:20 PM **S01-11 Aquatic-Based Recreation Users in Michigan: Risk Perceptions of VHS and Trust in Agency Management.** Erin L. Jarvie*, Department of Fisheries and Wildlife, Center for Systems Integration and Sustainability, Michigan State University; Heather A. Triezenberg, Michigan Sea Grant, Center for Systems Integration and Sustainability, Michigan State University.
- 3:40 PM **S01-12 Responding to Hemlock Woolly Adelgid in Michigan.** John Bedford, Michigan Department of Agriculture and Rural Development.
- 4:00 PM **S01-13 Can We Save Our Beech and Oak? Impacts, Vectors and Control Strategies For Two Harmful Tree Diseases.** Bob Heyd*, Roger Mech, Ryan Wheeler – Michigan Department of Natural Resources.

S02 SYMPOSIUM *continued*: Restoring Aquatic Habitat Connectivity in the Great Lakes: Launching the Connectivity Collaborative

Location: Pearl

Organized by: Mary Khoury, The Nature Conservancy

Moderator: Lisa Walter, Great Lakes Fishery Commission

- 1:20 PM **S02-6 Emerging Technologies for Sea Lamprey Control.** Michael J. Siefkes*, Great Lakes Fishery Commission; Nicholas S. Johnson, U.S. Geological Survey.
- 1:40 PM **S02-7 Consequences of Contaminant Biotransport By Pacific Salmon For Upper Great Lakes Tributaries.** B.S. Gerig*, D.T. Chaloner – University of Notre Dame; D.J. Janetski, Indiana University of Pennsylvania; R.R. Rediske, Annis Water Resources Institute, Grand Valley State University; A.H. Moerke, Lake Superior State University; J. McNair, Annis Water Resources Institute, Grand Valley State University; D.A. Pitts, G.A. Lamberti – University of Notre Dame.
- 2:00 PM **S02-8 Assessing the Ecological Effectiveness of Restoring Aquatic Organism Passage.** Keith H. Nislow, Jason A. Coombs – U.S. Forest Service/ University of Massachusetts; Andrew Whiteley, University of Massachusetts; Benjamin H. Letcher, U.S. Geological Survey Conte Anadromous Fish Research Center.
- 2:20 PM **S02-9 Information Management to Support Collaborative Decision Making.** Scott Sowa, Mary Khoury*, Shawn Weis, Amber Datta, Eugene Yacobson, Sandy Carter – The Nature Conservancy.
- 2:40 PM BREAK
- 3:00 PM **S02-10 Collaborative Restoration of Aquatic Resources in the South Central Lake Superior Basin.** Erin Johnston*, Keweenaw Bay Indian Community; Pamela Nankervis, U.S. Forest Service; Luis Verissimo, Keweenaw Bay Indian Community; Chris Kovala, Mark Fedora – U.S. Forest Service; Shaun Hamilton, Trust for Public Lands; Geri Grant, Carl Lindquist – Superior Watershed Partnership; Peter McIntyre, Matthew Diebel – University of Wisconsin Madison.
- 3:20 PM **S02-11 Decision-Making Tools and Aquatic Connectivity in the Great Lakes Basin: A 2014 Workshop Sponsored by the Great Lakes Fishery Trust.** Tammy Newcomb*, Michigan Department of Natural Resources; Mark Coscarelli, Great Lakes Fishery Trust.

Monday, January 25 ♦ 1:20 PM – 2:40 PM & 3:00 PM - 4:20 PM

S03 SYMPOSIUM *continued*: Wood Turtle Research and Management in the Upper Midwest

Location: Emerald B

Organized by: Donald Brown, West Virginia University

Moderator: Donald Brown

- 1:20 PM **S03-6 An 18-year study of Wood Turtles *Glyptemys insculpta* in Northern Lower Michigan.** Timothy Lewis*, University of St Thomas; Todd Arnold, University of Minnesota; Alaini Schneider, University of St Thomas; Philip Huber, U.S. Forest Service.
- 1:40 PM **S03-7 Wood Turtle Conservation and Research in Michigan as Part of Upper Midwest Collaborative Effort.** Yu Man Lee*, Michigan Natural Features Inventory/Michigan State University Extension; Timothy L. Lewis, University of St. Thomas.
- 2:00 PM **S03-8 Status Assessment of the Wood Turtle in the Northeastern USA, From Maine To Virginia.** Michael T. Jones*, Lisabeth L. Willey, Paul R. Sievert, Thomas S.B. Akre, Lorien Lemmon, Jeff Dragon, Lori Erb, Brian Zarate, Michael Marchand, JD Kleopfer, Derek Yorks, Jonathan Mays, Phillip deMaynadier, Glenn Johnson, Lori Johnson, Kathy Gipe, Chris Urban, Kieran O'Malley, Scott Angus, Barry Wicklow, Jay Drasher, Ed Thompson, Scott Smith, Deanna McCullum, Angelena Ross, Bill Hoffman, J.W. Tamplin, Thomas Pluto, Hank Gruner, Steve Parren, Jenny Dickson, Chris Raithe, Maureen Toner, Russell Burke, Tom Duchak, Ray Farrell, Colin Osborn.
- 2:20 PM **S03-9 Landscape Genetics and Wood Turtles.** Deahn Donner*, Paula Marquardt – U.S. Forest Service; Donald Brown, West Virginia University.

S04 SYMPOSIUM *continued*: Tribal Research Collaborations: Developing Working Relationships between Agencies

Organized by: Eric Clark, Sault Ste. Marie Tribe of Chippewa Indians; Bob Sanders, Little River Band of Ottawa Indians

Moderator: Bob Sanders

- 1:20 PM **S04-6 Collaborative Approaches to Coastal Marsh Restoration in the Upper St. Marys River.** Joseph Lautenbach, Eric Clark, Shane Lishawa, Nick Reo – Inland Fish and Wildlife, Sault Tribe.
- 1:40 PM **S04-7 Pooling Resources to Inform Management; A Case Study of an American Marten Resource Collaboration.** Paul Keenlance*, Grand Valley State University; Maria Spriggs, Busch Gardens; Robert Sanders, Ari Cornman – Little River Band of Ottawa Indians; Joseph Jacquot, Grand Valley State University.
- 2:00 PM **S04-8 PANEL DISCUSSION: Tribal Research Collaborations.**

S05 SYMPOSIUM *continued*: State-Space Models for Fish and Wildlife Population Dynamics

Location: Vanderberg B

Organized by: Bryan Stevens, Reneé Reilly, David Williams – Michigan State University

Moderator: Reneé Reilly

- 1:20 PM **S05-4 Fishery Stock Assessments: An Overview of State-Space Applications.** James R. Bence, Quantitative Fisheries Center, Department of Fisheries and Wildlife, Michigan State University.
- 1:40 PM **S05-5 Performance of a Bayesian State-Space Model of Semelparous Species for Stock-Recruitment Data Subject to Measurement Error.** Zhenming Su, Michigan Department of Natural Resources.
- 2:00 PM **S05-6 Integrated Assessment of Harvested Wild Turkey Populations in Southern Michigan: A State-Space Approach.** Bryan S. Stevens*, James R. Bence, William F. Porter, Michael L. Jones – Michigan State University; David R. Luukkonen, Michigan Department of Natural Resources.
- 2:20 PM **S05-7 Use of Dynamic Factor Analysis in Analyzing Multidimensional State Space Data Over Time.** Brian A. Maurer, Michigan State University.
- 2:40 PM BREAK
- 3:00 PM **S05-8 Assessing Factors Influencing Population Dynamics in Lake Huron Fish Communities Using Dynamic Factor Analysis.** Andrew Dennhardt*, James Bence, Travis Brenden, Brian Maurer, William Fetzer – Michigan State University; Catherine Riseng, Kevin Wehrly, Danielle Forsyth – University of Michigan.
- 3:20 PM **S05-9 PANEL DISCUSSION: Future Directions and Barriers to Implementation of State-Space Methods in Applied Fisheries and Wildlife Research.**

S06 SYMPOSIUM *continued*: Recreational Fisheries in the Midwest: Challenges and Opportunities

Location: Gerald Ford

Organized by: Mitchell Zischke, Purdue University; Charles Roswell, Illinois University

Moderator: Charles Roswell

- 1:20 PM **S06-6 Spatial Patterns of Charter Boat Catches in Lake Michigan: Analyzing Patterns and Web-Based Visualization.** Tomas O. Höök*, Purdue University Forestry and Natural Resources and Illinois-Indiana Sea Grant; Nicholas Simpson, Andrew Honsey, Jarrod Doucette – Purdue University; Edward Rutherford, NOAA-Great Lakes Environmental Research Laboratory.
- 1:40 PM **S06-7 Fishing Online: Evaluating the Impact of Online Communications on Angler Engagement.** Julie Claussen*, Kim Stanhope, Jeffrey A. Stein – University of Illinois.

Monday, January 25 ♦ 1:20 PM – 2:40 PM & 3:00 PM - 4:20 PM

- 2:00 PM **S06-8 A Roving Creel Survey of Selected Southeast Minnesota Trout Streams.** Vaughn A. Snook*, Douglas J. Dieterman – Minnesota Department of Natural Resources.
- 2:20 PM **S06-9 Analysis of Lake Huron Recreational Fisheries Data Using Models Dealing With Excessive Zeros.** Zhenming Su, Institute for Fisheries Research, Michigan Department of Natural Resources, and University of Michigan.
- 2:40 PM BREAK
- 3:00 PM **S06-10 Evaluation of Sample Design and Estimation Methods for Great Lakes Angler Surveys.** Zhenming Su, Institute for Fisheries Research, Michigan Department of Natural Resources, and University of Michigan.
- 3:20 PM **S06-11 Demand For Fishery Regulations: Effects of Angler Heterogeneity and Catch Improvements on Preferences for Gear and Harvest Restrictions.** Scott Knoche*, Morgan State University; Frank Lupi, Michigan State University.
- 3:40 PM **S06-12 Measuring the Relationship between Sportfishing Trip Expenditures and Anglers' Species Preferences.** James M. Long, Oklahoma Cooperative Fish and Wildlife Research Unit, Oklahoma State University; Richard T. Melstrom*, Department of Agricultural Economics, Oklahoma State University.
- 4:00 PM **S06-13 PANEL DISCUSSION: Recreational Fisheries in the Midwest.**

- 2:20 PM **S07-9 Developing Genomic Resources for Mule Deer *Odocoileus hemionus* Using Exon Capture Techniques.** John H. Powell*, Inland Fish and Wildlife Department Sault Ste. Marie Tribe of Chippewa Indians; Stephen J. Amish, Fish and Wildlife Genomics Group, University of Montana; Gwilym D. Haynes, Department of Biological Sciences Simon Fraser University; Gordon Luikart, Fish and Wildlife Genomics Group, University of Montana; Emily K. Latch, Department of Biological Sciences, University of Wisconsin-Milwaukee.
- 2:40 PM BREAK
- 3:00 PM **S07-10 Genetic and Environmental Components of Phenotypic and Behavioral Trait Variation During Lake Sturgeon *Acipenser fulvescens* Early Ontogeny.** Kari Dammerman, Department of Zoology, Michigan State University; Juan Pedro Steibel, Department of Animal Science, Michigan State University; Kim Scribner*, Department of Fisheries and Wildlife and Department of Zoology, Michigan State University.
- 3:20 PM **S07-11 Applications of Genetic Methods To Determine Species Identity For Fisheries Management.** Wendylee Stott*, Ed Roseman, Kevin Keeler – U.S. Geological Survey Great Lakes Science Center.
- 3:40 PM **S07-12 Comparison of Bioinformatics Tools For Detection and Identification of Fish Pathogens in Metagenomic Samples.** Kensey Thurner*, Department of Forestry and Natural Resources, Purdue University.

S07 SYMPOSIUM *continued*: Advances in Molecular, Population and Quantitative Genetic Methods Applied to the Management of Fish and Wildlife Populations

Location: Atrium

Organized by: Andrew Mahon, Central Michigan University; Kim Scribner, Michigan State University
Moderators: Kim Scribner (1:20 – 2:40 pm) and Andrew Mahon (3:00 – 4:00 pm)

- 1:20 PM **S07-6 Advances in Active and Passive Environmental DNA Surveillance in Aquatic Ecosystems.** Andrew R. Mahon, Department of Biology, Institute for Great Lakes Research, Central Michigan University.
- 1:40 PM **S07-7 Persistence of Walleye Strains in Southern Minnesota.** Loren Miller*, Ryan Doorenbos, Craig Soupir – Minnesota Department of Natural Resources.
- 2:00 PM **S07-8 Spatial and Temporal Genetic Analysis of Walleye *Sander vitreus* in the Ohio River.** Kevin Page*, Richard Zweife – Ohio Department of Natural Resources, Division of Wildlife; Wendylee Stott, Great Lakes Science Center.

S08 SPECIAL SYMPOSIUM: New Tools in the Detection and Control of Bigheaded Carps

Location: Pantlind

Organized by: Jon Amberg and Brent Knights – U.S. Geological Survey; Caleb Hasler and Cory Suski – Illinois University
Moderators: Brent Knights (1:20 – 2:40 pm) and James Lamer, Western Illinois University (3:00 – 4:20 pm)

- 1:20 PM **S08-1 Fish Community Response to the Establishment and Expansion of Asian Carp Along a Spatio-Temporal Gradient.** Jason A. DeBoer, Mark W. Fritts, Daniel K. Gibson-Reinemer, Andrew F. Casper – Illinois River Biological Station, Illinois Natural History Survey, Prairie Research Institute, University of Illinois-Urbana Champaign.
- 1:40 PM **S08-2 Upstream-Downstream Variation in Silver Carp Life-History Traits Along an Invasion Front.** Christopher Sullivan*, Carlos Camacho, Michael J. Weber – Department of Natural Resource Ecology and Management, Iowa State University; Clay L. Pierce, Department of Natural Resource Ecology and Management, Iowa State University and U.S. Geological Survey.

Monday, January 25 ♦ 1:20 PM – 2:40 PM & 3:00 PM - 4:20 PM

2:00 PM **S08-3 Entrainment, Retention, and Transport of Fish by Barge Traffic in the Illinois River.** Jeremiah J. Davis*, Samuel T. Finney, Rebecca N. Neeley, Robert L. Simmonds – U.S. Fish and Wildlife Service
Carterville Fish and Wildlife Conservation Office

2:20 PM **S08-4 The Shoaling Behavior of Invasive Bigheaded Carps Suggest These Species Can Be Targeted Using Judas Fish.** Ratna Ghosal*, Peter Xiong, Peter W. Sorensen – Department of Fisheries, Wildlife and Conservation Biology, University of Minnesota.

2:40 PM BREAK

3:00 PM **S08-5 Using Modeling to Identify Ways Asian Carp Pass Through Locks and Dams in the Upper Mississippi River and How it Might Be Reduced.** Daniel Zielinski*, Department of Fisheries, Wildlife, and Conservation Biology and Minnesota Aquatic Invasive Species Research Center, University of Minnesota; Vaughn Voller, Department of Civil, Environmental, and Geo- Engineering University of Minnesota; Jan Hoover, Engineer Research and Development Center U.S. Army; Peter Sorensen, Department of Fisheries, Wildlife, and Conservation Biology and Minnesota Aquatic Invasive Species Research Center.

3:20 PM **S08-6 Best Management Practices at Locks and Dams to Deter Bigheaded Carp Passage.** Marybeth Brey, U.S. Geological Survey, Upper Midwest Environmental Sciences Center; Brent Knights, U.S. Geological Survey, Upper Midwest Environmental Sciences Center.

3:40 PM **S08-7 Morphology of Native Cyprinid Embryos Overlaps That of Asian Carp.** James H. Larson, S. Grace McCalla, Amy E. George, Duane C. Chapman – U.S. Geological Survey; Christopher Rees, U.S. Fish and Wildlife Service; Brent C. Knights, Jon M. Vallazza, Jon Amberg – U.S. Geological Survey; Maren Tuttle-Lau, Emy Monroe – U.S. Fish and Wildlife Service.

4:00 PM **S08-8 Alternative Methods to Process Ichthyoplankton Tows for the Genetic Identification of Asian Carp Eggs and Larvae.** S. Grace McCalla, Brent C. Knights, Bridget Ladell, Jenna Malinauskas, James Larson, Jon Amberg – U.S. Geological Survey; Maren Tuttle-Lau, Emy Monroe – U.S. Fish and Wildlife Service.

CO 1 GENERAL FISHERIES: Great Lakes

Location: Ambassador W

Moderator: Shawn Sitar, Michigan Department of Natural Resources

1:20 PM **CO 1-6 Do Lake Huron Fish Prefer Hot Dogs or Potato Chips?** Patricia Armenio*, David "Bo" Bunnell, David Warner – U.S. Geological Survey, Great Lakes Science Center.

1:40 PM **CO 1-7 Most Chinook Salmon Stocked Into Northern Lake Huron Have Been Feeding in Lake Michigan Since the Collapse of Alewives in Lake Huron.** Rick Clark*, René Reilly, James R. Bence – Quantitative Fisheries Center, Michigan State University; Randall M. Claramunt, John A. Clevenger – Michigan Department of Natural Resources, Charlevoix Fisheries Research Station; Matthew S. Kornis, Charles R. Bronte – U.S. Fish and Wildlife Service, Green Bay Fish and Wildlife Conservation Office; Charles P. Madenjian, Edward F. Roseman, U.S. Geological Survey – Great Lakes Science Center.

2:00 PM **CO 1-8 Current Growth, Condition, and Fecundity Trends of Alewives in Lake Michigan.** Zach Prause*, Thomas Lauer – Ball State University.

2:20 PM **CO 1-9 An Aquatic Ecological Classification for the Laurentian Great Lakes.** Catherine Riseng*, University of Michigan, School of Natural Resources and Environment; Kevin Wehrly, Michigan Department of Natural Resources; James McKenna, U.S. Geological Survey, Great Lakes Science Center; Chris Castiglione, U.S. Fish and Wildlife Service; Lizhu Wang, International Joint Commission; Edward Rutherford, NOAA, Great Lakes Environmental Laboratory; Lacey Mason, University of Michigan, School of Natural Resources and Environment; Lucinda Johnson, University of Minnesota, Natural Resources Research Institute.

CO 2 GENERAL SESSION: Public Engagement

Location: Emerald A

Moderator: Kevin Frailey, Michigan Department of Natural Resources

1:20 PM **CO 2-6 These Resources Are YOUR Resources.** Kevin Frailey, Michigan Department of Natural Resources.

1:40 PM **CO 2-7 How Marketing Can Move The Needle (And Float Your Boat!).** Kristin M. Phillips*, Michigan Department of Natural Resources.

2:00 PM **CO 2-8 The Michigan Wildlife Council's Challenge - Making Hunting, Fishing and Trapping Relevant to Non-sportsmen and Women.** Carol Moncrieff Rose, Michigan Wildlife Council.

2:20 PM **CO 2-9 Increased Hunting/Fishing Awareness through Marketing.** Kelly A. Wolgamott*, Travel Michigan.

Monday, January 25 ♦ 1:20 PM – 2:40 PM & 3:00 PM - 4:20 PM

2:40 PM BREAK

3:00 PM **CO 2-10 Evaluating the Launch of the Deer Management Assistance Program in Wisconsin.** Ben Beardmore*, Robert H. Holsman, Robert Nack – Wisconsin Department of Natural Resources.

3:20 PM **CO 2-11 Why Sturgeon Matter.** Marty Holtgren, Michigan Department of Natural Resources.

3:40 PM **CO 2-12 Sturgeon Partners: A Grand Fish and a Grand Museum.** Stephanie Ogren*, Grand Rapids Public Museum.

4:00 PM **CO 2-13 Little Traverse Bay Bands of Odawa Indians Nme (Lake Sturgeon) in the Classroom: Adapting Fisheries Management Educational Outreach to the High School Level in the Context of Standards-Based Learning Goals.** Douglas Larson*, Jannan Cotto, Alison Simon, Dorothy Perry, Theresa Chingwa – Little Traverse Bay Bands of Odawa Indians.

CO 4 GENERAL WILDLIFE: Bird Conservation

Location: Governors

Moderator: Andy Crosby, Michigan State University

1:20 PM **CO 4-6 Grassland Birds and Roads: Does Occurrence Differ With Road Type and Proximity To Roads?** Kassondra Hendricks*, Department of Natural Resource Management, South Dakota State University; Kristel Bakker, College of Arts and Sciences, Dakota State University; Chuck Dieter, Department of Natural Resource Management, South Dakota State University.

1:40 PM **CO 4-7 Breeding Bird Use and Nesting Ecology in Moist-Soil Wetlands Managed for Waterfowl.** Kristen M. Finch*, Thomas J. Benson – The University of Illinois at Urbana-Champaign; Heath M. Hagy, Illinois Natural History Survey.

2:00 PM **CO 4-8 Evaluating the Relationship Between Food Availability and Wetland Landscape Structure in Determining Dabbling Duck Habitat Use During Migration.** Travis J Schepker*, University of Missouri; Elisabeth Webb, Missouri Cooperative Fish and Wildlife Research Unit; Ted LaGrange, Nebraska Game and Parks Commission.

2:20 PM **CO 4-9 Bird Conservation in the Great Lakes Region.** Rebeccah Sanders*, Melanie Driscoll, Chris Canfield – National Audubon Society.

CO 6 GENERAL WILDLIFE: Deer, Elk, Bison

Location: Vandenberg A

Moderator: Steven Gray, Michigan State University

1:20 PM **CO 6-1 Elk Management in the Eastern United States.** Shelby Hiestand*, Jennifer Kleitch – Michigan Department of Natural Resources; Jeremy Banfield, Pennsylvania Game and Fish; Will Bowling, Kentucky Department of Fish and Wildlife Resources; Kevin Wallenfang, Wisconsin Department of Natural Resources.

1:40 PM **CO 6-2 Habitat Selection of Reintroduced Bison in Northern Illinois.** Julia C. Brockman*, Clayton K. Nielsen – Southern Illinois University; Jeffery W. Walk, The Nature Conservancy.

2:00 PM **CO 6-3 Resolving Deer-Human Conflicts Within the Suburban Setting of East Lansing.** Sarah Plantrich*, Jordan Burroughs, Henry Campa III – Michigan State University Department of Fisheries and Wildlife; Catherine DeShambo, City of East Lansing; Tim Wilson, U.S.D.A.- Wildlife Services.

2:20 PM **CO 6-4 Assessing Local-Scale Population Abundance and Recovery of White-Tailed Deer Following a Disease Event.** Sonja A. Christensen*, David M. Williams, William F. Porter – Department of Fisheries and Wildlife, Michigan State University; Brent Rudolph, Michigan Department of Natural Resources; Amy C. Dechen Quinn, State University of New York.

2:40 PM BREAK

3:00 PM **CO 6-5 Spatially Explicit Assessment of Landscape Characteristics Influencing Trophy White-Tailed Deer Harvests Through Time.** Rebecca L. Cain*, David M. Williams, William F. Porter – Michigan State University.

3:20 PM **CO 6-6 Deer Migration and Habitat Use Within Moose Range in Northeast Minnesota.** Amanda McGraw*, Integrated Biosciences Graduate Program, University of Minnesota Duluth; Lou Cornicelli, Minnesota Department of Natural Resources; Ron Moen, Natural Resources Research Institute, University of Minnesota Duluth.

3:40 PM **CO 6-7 Development and Evaluation of a Habitat Suitability Model For White-Tailed Deer in an Agricultural Landscape.** Eric Anstedt*, John D. Krenz, Shannon J. Fisher – Minnesota State University; Marrett Grund, Minnesota Department of Natural Resources.

4:00 PM **CO 6-8 Dispersal of Yearling Male White-Tailed Deer in Wisconsin.** Brittany Peterson*, University of Wisconsin Madison; Dan Storm, Wisconsin Department of Natural Resources; Tim Van Deelen, University of Wisconsin Madison.

MONDAY, JANUARY 25 ♦ 3:00 PM – 4:20 PM

S09 SPECIAL SYMPOSIUM: Updates in Eastern Massasauga Ecology, Management, and Conservation Status

Location: Imperial

Organized by: Eric Hileman, Northern Illinois University

Moderator: Sarah Wiley, Northern Illinois University

- 3:00 PM **S09-1 Long-term Monitoring of the Eastern Massasauga in Illinois.** Sarah J. Baker*, Michael J. Dreslik, Christopher A. Phillips – Illinois Natural History Survey.
- 3:20 PM **S09-2 Eastern Massasauga Population Modelling and Assessment In Michigan.** Yu Man Lee*, Helen Enander – Natural Features Inventory/Michigan State University Extension.
- 3:40 PM **S09-3 Effective and Census Population Size in Eastern Massasaugas.** Danielle Bradke*, Jeffrey Bartman, Nathan Kudla – Grand Valley State University; Eric Hileman, Northern Illinois University; Jennifer Moore, Grand Valley State University.
- 4:00 PM **S09-4 Response of Massasaugas *Sistrurus catenatus* to Habitat Alteration From Timber Harvest and Fire Near Their Northern Range Limit.** Michael J. Ravesi*, Indiana University – Purdue University Fort Wayne; Evin T. Carter, University of Tennessee Knoxville; Sasha J. Tetzlaff, Indiana University – Purdue University Fort Wayne; Brett A. DeGregorio, U.S. Army Engineer Research and Development Center-Construction Engineering Research Laboratory; Bruce A. Kingsbury, Indiana-Purdue University Fort Wayne.

CO 7 GENERAL FISHERIES: Aquatic Invertebrates

Location: Emerald B

Moderator: Kevin Kapuscinski, Lake Superior State University

- 3:00 PM **CO 7-1 Effects of Macrophytes on Zooplankton Abundance and Composition.** Hailey Yondo*, Department of Fisheries and Wildlife, Michigan State University; Joel K. Nohner, William W. Taylor – Center for Systems Integration and Sustainability, Department of Fisheries and Wildlife, Michigan State University.
- 3:20 PM **CO 7-2 Spatiotemporal Differences in the Condition of *Bythotrephes longimanus* in Lake Michigan.**

Margaret Hutton*, Purdue University; Paris Collingsworth, Purdue University and Illinois-Indiana Sea Grant; Samuel Guffey, Purdue University; Ed Rutherford, NOAA-Great Lakes Research Laboratory; Mitchell Zischke, Tomas Höök – Purdue University.

3:40 PM

CO 7-3 Assessment of Organic Substrates as Sites for Zebra Mussel *Dreissena polymorpha* Attachment in Four West-Central Minnesota Lakes. April R. Londo, Shannon J. Fisher – Minnesota State University, Mankato.

4:00 PM

CO 7-4 The Responses of Freshwater Unionid Mussels to Elevated CO₂ in the Context of Fish Barriers. Kelly Hannan*, Jennifer Jeffrey, Adam Wright, Caleb Hasler, Cory Suski – University of Illinois Urbana-Champaign.

CO 8 GENERAL WILDLIFE: Hunters & Wildlife

Location: Governors

Moderator: Pat Lederle, Michigan Department of Natural Resources

3:00 PM

CO 8-1 Understanding the Social Habitat of Hunters in Michigan. Chris Henderson*, Michigan Technological University.

3:20 PM

CO 8-2 Wisconsin Pheasant Hunter Survey. Brian J. Dhuey*, Krista Mcginley – Bureau of Wildlife Management, Wisconsin Department of Natural Resources.

3:40 PM

CO 8-3 National Mourning Dove Hunter Attitudes and Opinions On Lead (Pb) Poisoning. Christopher T. Rota, John H. Schulz* – Department of Fisheries and Wildlife Sciences, University of Missouri; Ronald A. Reitz, Missouri Department of Conservation; Joshua J. Millspaugh, Department of Fisheries and Wildlife Sciences, University of Missouri; Kenneth D. Richkus, U.S. Fish and Wildlife Service, Division of Migratory Bird Management; William F. Harvey Iv, Maryland Department of Natural Resources; Shaun L. Oldenburger, Texas Parks and Wildlife Department; Michael J. Rabe, Arizona Game and Fish Department.

4:00 PM

CO 8-4 Sharing and Receiving Wild Harvested Venison in Michigan: Implications for Relevancy of Hunters and Hunting. Amber D. Goguen, Shawn J. Riley* – Michigan State University; Brent A. Rudolph, Michigan Department of Natural Resources; John F. Organ, U.S. Geological Survey Cooperative Fish and Wildlife Research Units.

TECHNICAL SESSIONS & SYMPOSIA: TUESDAY

TUESDAY, JANUARY 26 ♦ 10:00 AM – 12:00 PM

S01 SYMPOSIUM *continued*: Collaboration and Challenges with Prevention, Control, and Management of Invasive Species

Location: Ambassador E

Organized by: Seth Herbst, Sue Tangora – Michigan Department of Natural Resources

Moderator: Seth Herbst

- 10:00 AM **S01-14 Invasive Mussel Collaborative: Connecting People, Science and Management.** Erika Jensen*, Sarah Cook – Great Lakes Commission.
- 10:20 AM **S01-15 Current State of Michigan Crayfishes.** Kelley Smith*, Daniel Hayes – Michigan State University; Seth Herbst, Michigan Department of Natural Resources; Michael Jones, Michigan State University; Nicholas Popoff, Michigan Department of Natural Resources; Brian Roth, Michigan State University.
- 10:40 AM **S01-16 Comparison of The Effects of Dreissenid Mussels on Native Virile Crayfish and Invasive Rusty Crayfish in Lake Michigan.** Mael Glon, Central Michigan University; Larson, E. R, University of Illinois Urbana-Champaign, Department of Natural Resources and Environmental Sciences; Reisinger, L. S. , Pangle, K. L. – Central Michigan University.
- 11:00 AM **S01-17 Sea Lamprey Control in the Great Lakes.** Lynn Kanieski*, U.S. Fish and Wildlife Service Marquette Biological Station, Sea Lamprey Control.
- 11:20 AM **S01-18 A Portable Trap With Electric Lead Removes Up To 80% of Invasive Sea Lamprey in Free-Flowing Streams.** Nicholas Johnson*, Scott Miehl – U.S. Geological Survey, Great Lakes Science Center, Hammond Bay Biological Station.
- 11:40 AM **S01-19 Development of an Unmanned Submersible for Benthic Larval Fish Sampling.** Dylan Olson, University of Wisconsin-Milwaukee.

S08 SYMPOSIUM *continued*: Bigheaded Carps

Location: Pantlind

Organized by: Jon Amberg and Brent Knights – U.S. Geological Survey; Caleb Hasler and Cory Suski – University of Illinois

Moderator: S. Grace McCalla, U.S. Geological Survey

- 10:00 AM **S08-9 Development of a Rapid Mobile Test for Detection of Edna From Bigheaded Carp.** Leah Cronan*, Lucigen Corporation; Chris Merkes, U.S. Geological Survey, Upper Midwest Environmental Sciences Center; Chris Rees, U.S. Fish

and Wildlife Service; Jon Amberg, U.S. Geological Survey, Upper Midwest Environmental Sciences Center; Thomas Schoenfeld, Lucigen Corporation.

10:20 AM

S08-10 Detecting Aquatic Invasive Species Among Transported Fish Using a LAMP Assay and a Portable Instrument. Christopher M. Merkes, Craig A. Jackson, Jon J. Amberg – U.S. Geological Survey.

10:40 AM

S08-11 Environmental DNA (eDNA) and Invasive Silver Carp *Hypophthalmichthys molitrix*: Detection of Spawning in the Missouri River. Cari-Ann Hayer, U.S. Geological Survey, Columbia Environmental Research Center; Katy Klymus, Missouri Cooperative Fish and Wildlife Research Unit, Department of Fisheries and Wildlife, University of Missouri; Nathan Thompson, U.S. Geological Survey, Columbia Environmental Research Center; Craig Paukert, U.S. Geological Survey, Missouri Cooperative Fish and Wildlife Research Unit, Department of Fisheries and Wildlife, University of Missouri; Duane Chapman, Catherine A. Richter* – U.S. Geological Survey, Columbia Environmental Research Center.

11:00 AM

S08-12 Fusobacteria as a Marker to Estimate the Abundance of Asian Carp and Total Fish Population in Illinois River. Wen-Tso Liu*, University of Illinois at Urbana-Champaign; Lin Ye, State Key Laboratory of Pollution Control and Resource Reuse, Nanjing University; Camila Carlos, Ya Zhang, Takashi Narihiro, Masaru Nobu – Department of Civil and Environmental Engineering, University of Illinois at Urbana-Champaign; Andrew F. Casper, Illinois Natural History Survey, Prairie Research Institute, University of Illinois at Urbana-Champaign; Jon Amberg, Mark Gaikowski – Upper Midwest Environmental Sciences Center, U.S. Geological Survey.

11:20 AM

S08-13 Overview of Aquatic Pesticide Registration With EPA. Kim T. Fredricks*, Terrance D. Hubert – Upper Midwest Environmental Sciences Center, U.S. Geological Survey.

11:40 AM

S08-14 Chemically-Mediated Feeding Behavior in the Bigheaded Carps. Aaron Claus, Peter Sorensen* – Department of Fisheries, Wildlife and Conservation Biology, University of Minnesota.

Tuesday, January 26 ♦ 10:00 AM – 12:00 PM

S09 SYMPOSIUM *continued*: Updates in Eastern Massasauga Ecology, Management, and Conservation Status

Location: Imperial

Organized by: Eric Hileman, Northern Illinois University

Moderator: Doug Wynn, The Ohio State University

- 10:00 AM **S09-5 Multi-scale Responses of Eastern Massasauga Rattlesnakes to Prescribed Fire.** Matt Cross, Bowling Green State University; Charles Mehne, Animal Clinic; Jack McGowan-Stinski, Ohio State University; Doug Pearsall, The Nature Conservancy; Jim Gillingham, Central Michigan University.
- 10:20 AM **S09-6 Minimizing Eastern Massasauga Management-Based Mortality With a Predictive Egress Phenology Model.** Eric T. Hileman, Richard B. King* – Northern Illinois University.
- 10:40 AM **S09-7 The Proposed Rule to List the Eastern Massasauga Rattlesnake *Sistrurus catenatus* as a Federally Threatened Species.** Michael Redmer, U.S. Fish and Wildlife Service.
- 11:00 AM **S09-8 Manipulation of Basking Sites for Endangered Eastern Massasauga Rattlesnakes in New York State.** Brent Johnson*, James Gibbs – State University of New York, College of Environmental Science and Forestry; Thomas Bell, New York State Department of Environmental Conservation.
- 11:20 AM **S09-9 Variation in Life History Traits: A Range-wide Synthesis for the Eastern Massasauga *Sistrurus catenatus*.** Eric T. Hileman*, Richard B. King – Northern Illinois University.
- 11:40 AM **S09-10 Conservation and Management of the Massasauga in Northeast Ohio.** Gregory Lipps*, Nicholas Smeenk – The Ohio State University.

S10 SPECIAL SYMPOSIUM: Landscape Conservation Science and Management

Location: Ambassador W

Organized by: Brad Potter, U.S. Fish and Wildlife Service

Moderator: Brad Potter

- 10:00 AM **S10-1 Mississippi Basin / Gulf Hypoxia Initiative: Seven LCCs Meet Large-Scale Agricultural Conservation Challenges From Grassland Birds and Pallid Sturgeon to Gulf Coast Shrimp.** Michael Schwartz, The Conservation Fund; Gwen White*, Glen Salmon, Eastern Tallgrass Prairie and Big Rivers LCC; Robert Clevenstine, U.S. Fish and Wildlife Service; Greg Wathen, Gulf Coast Plains & Ozarks LCC; Bill Bartush, Gulf Coast Prairie LCC; Nicole Athearn, Great Plains LCC; Richard Nelson, Plains & Prairie Potholes LCC; John Rogner, Upper Midwest & Great Lakes LCC; Jean Brennan, Appalachian LCC.

- 10:20 AM **S10-2 Beliefs, Attitudes, and Behaviors Toward Conservation And Gulf Hypoxia Among Illinois Agriculture Producers.** Craig A. Miller*, Illinois Natural History Survey, University of Illinois; Jerry J. Vaske, Colorado State University; Laura Schweizer, Illinois Natural History Survey, University of Illinois.
- 10:40 AM **S10-3 Bridging The Conservation Lands – Working Lands Divide With a Cost-Effective Strategy to Enhance Ecosystem Services.** J. Gordon Arbuckle, Iowa State University; Pauline Drobney, U.S. Fish and Wildlife Service; Mary A. Harris, Matthew J. Helmers – Iowa State University; Randall K. Kolka, U.S. Forest Service; Matt Liebman, Matthew E. O'Neal, Lisa A. Schulte, John C. Tyndall – Iowa State University.
- 11:00 AM **S10-4 Quantifying the Effect of Floodplain-River Connectivity: Sediment, Nitrogen, Phosphorus and Carbon Removal Via Flooding on the Maquoketa River Floodplain, Iowa.** W.B. Richardson*, U.S. Geological Survey, Upper Midwest Environmental Sciences Center; G. Nalley, U.S. Geological Survey Iowa Water Science Center; L. Bartsch, R. Kreiling – U.S. Geological Survey, Upper Midwest Environmental Sciences Center; J. Garrett, U.S. Geological Survey, Iowa Water Science Center; S. Bailey, U.S. Geological Survey, Upper Midwest Environmental Sciences Center.
- 11:20 AM **S10-5 Plowprint: Tracking Cumulative Loss of Grassland to Cropland Across the Plains and Prairie Potholes Landscape Conservation Cooperative.** Jeff Nelson*, Sarah Olimb, Anne Gage – Northern Great Plains Program World Wildlife Fund.
- 11:40 AM **S10-6 Human Dimensions of Habitat Loss in the Plains & Prairie Pothole Ecoregions: A Project Update.** Larry M. Gigliotti*, U.S. Geological Survey, South Dakota Cooperative Fish and Wildlife Research Unit; Lily A. Sweikert, Department of Natural Resources, South Dakota State University.

S11 SPECIAL SYMPOSIUM: Legends and Legacies: Michigan's Fishery Research and Management

Location: Pearl

Organized by: Robin DeBruyne, Edward Roseman – U.S. Geological Survey

Moderator: Kevin Keeler, U.S. Geological Survey

- 10:00 AM **S11-1 Introduction to "Legends and Legacies: Michigan's Fishery Research and Management"** Edward Roseman, U.S. Geological Survey
- 10:20 AM **S11-2 Cross-border Great Lakes Fishery Management: An Evolution of Cooperation.** Marc Gaden*, Robert Lambe – Great Lakes Fishery Commission.
- 10:40 AM **S11-3 Fish and Aquatic Conservation by the USFWS-Alpena Fish and Wildlife Conservation Office in Michigan Waters.** Scott Koproski, U.S. Fish and Wildlife Service.

Tuesday, January 26 ♦ 10:00 AM – 12:00 PM

- 11:00 AM **S11-4 Huron-Manistee National Forests Fisheries Program: Past and Future.** Andrea Ania, U.S. Forest Service.
- 11:20 AM **S11-5 Great Lakes Science Center: A History of Adaptation to a Fluid World.** Jeff Schaeffer, Great Lakes Science Center; Mark Vinson, Great Lakes Science Center, Ashland Biological Station; Michael Hansen, Great Lakes Science Center, Hammond Bay Biological Station.
- 11:40 AM **S11-6 Michigan DNR Fisheries Research Vessels: Their Role and Contributions to Five Decades of Science-Based Fisheries Management on the Great Lakes.** Gary Whelan*, Edward Baker, David Clapp, David Fielder, Todd Wills – Michigan Department of Natural Resources.

S12 SPECIAL SYMPOSIUM: Advancing the Science of Fish Age and Growth: Tools to Address Common Challenges

Location: Emerald A

Organized by: Timothy O'Brien, Edward Roseman, David Warner - U.S. Geological Survey

Moderator: Timothy O'Brien

- 10:00 AM **S12-1 KEYNOTE PRESENTATION: State of the Science of Fish Age and Growth.** Michael J. Hansen*, U.S. Geological Survey Hammond Bay Biological Station; Nancy A. Nate, Michigan State University.
- 10:40 AM **S12-2 Precision and Bias of Largemouth Bass Ages Estimated From Scales and Otoliths.** Stephen M. Tyszko*, Jeremy J. Pritt – Ohio Division of Wildlife.
- 11:00 AM **S12-3 Precision and Bias of Cleithra and Sagittal otoliths Used to Estimate Ages of Northern Pike.** Matthew Faust, Ohio Department of Natural Resources; Jason Breeggemann, Brian Graeb – South Dakota State University; Samantha Bahr, University of Wisconsin - Stevens Point.
- 11:20 AM **S12-4 Utility and Precision of Hard Structures Used To Estimate Age For Three Species of Lepisosteidae.** Sarah Huck*, Illinois Natural History Survey; Solomon David, John G. Shedd Aquarium/University of Wisconsin-Madison; Jeffrey Stein, Illinois Natural History Survey.
- 11:40 AM **S12-5 Age and Growth of Round Gobies in Lake Huron: Implications for Food Web Dynamics.** You J. Duan, Huazhong Agricultural University; Charles P. Madenjian*, U.S. Geological Survey Great Lakes Science Center; Cong X. Xie, Huazhong Agricultural University; Jame S. Diana, University of Michigan; Timothy P. O'Brien, U.S. Geological Survey Great Lakes Science Center; Ying M. Zhao, Ontario Ministry of Natural Resources; Ji X. He, Michigan Department of Natural Resources; Steven A. Farha, U.S. Geological Survey Great Lakes Science Center; Bin Huo, Huazhong Agricultural University.

S13 SPECIAL SYMPOSIUM: Fostering Recruitment Success of Sturgeon and Paddlefish Through Habitat and Population Restoration

Location: Emerald B

Organized by: Jason Fischer, Edward Roseman – U.S. Geological Survey

Moderator: Jason Fischer

- 10:00 AM **S13-1 Effects of Variability in Stream Physical and Biotic Factors on the Reproductive Success of Lake Sturgeon *Acipenser fulvescens*.** Kim Scribner*, Department of Fisheries and Wildlife and Department of Integrative Biology, Michigan State University; Kari Dammerman, Department of Integrative Biology, Michigan State University; Yen Duong, John Bauman – Department of Fisheries and Wildlife, Michigan State University; Karen Beatty, Department of Zoology, Michigan State University, Edward Baker, Marquette Fisheries Research Station, Michigan Department of Natural Resources.
- 10:20 AM **S13-2 Enhancing the Success of Streamside Culture for Lake Sturgeon.** John Bauman*, Michigan State University Fisheries and Wildlife Department; Edward Baker, Michigan Department of Natural Resources Fisheries Division; Kim Scribner, Michigan State University Fisheries and Wildlife Department and Zoology Department; Terry Marsh, Michigan State University Microbiology and Molecular Genetics Department.
- 10:40 AM **S13-3 Estimation of Cohort-specific First Year Survival and Evaluation of Lake Sturgeon Stocking in Black Lake, Michigan.** Edward A Baker*, Michigan Department of Natural Resources; Kim T. Scribner, Michigan State University.
- 11:00 AM **S13-4 Diet Overlap of Shovelnose Sturgeon and Pallid Sturgeon in the Upper Missouri and Lower Yellowstone River.** Addie Dutton, Christopher Guy – Montana Cooperative Fishery Research Unit, Montana State University; Eric Scholl, Nate Beckman, Wyatt Cros – Montana State University-Department of Ecology.
- 11:20 AM **S13-5 Growth Rate of Larval Pallid Sturgeon as Influenced by Historic Changes in Missouri River Water Temperatures.** Laura B. Heironimus, Department of Natural Resource Management, South Dakota State University; Steven R. Chipps*, U.S. Geological Survey South Dakota Coop Unit; David D. Deslauriers, Department of Natural Resource Management, South Dakota State University; David Galat, U.S. Geological Survey Missouri Coop Unit.
- 11:40 AM **S13-6 Lake Sturgeon Reproductive Ecology in the Upper Mississippi River.** John Buszkiewicz*, Southeast Missouri State University; Sara Tripp, Quinton Phelps, Dave Herzog – Missouri Department of Conservation.

Tuesday, January 26 ♦ 10:00 AM – 12:00 PM

S14 SPECIAL SYMPOSIUM: Applying Climate Science to State-level Resource Management

Location: Vandenberg A

Organized by: Jeffrey Morisette, Robin O'Malley and Mary Ratnaswamy – U.S. Geological Survey; Chris Hoving, Michigan Department of Natural Resources

Moderator: Robin O'Malley

- 10:00 AM **S14-1 Implementing Adaptation at the Field Level: Lessons Learned from Climate-adapted Habitat Management Projects in Michigan.** Christopher Hoving*, Michigan Department of Natural Resources, Wildlife Division.
- 10:20 AM **S14-2 Potential Impacts of Changing Winter Conditions During The 21st Century on the Migratory Behavior of Dabbling Ducks in Eastern North America.** Michael Notaro*, Nelson Institute Center for Climatic Research, University of Wisconsin-Madison; Michael Schummer, State University of New York at Oswego; Lena Vanden Elsen, University of Western Ontario, Long Point Waterfowl; John Coluccy, Ducks Unlimited.
- 10:40 AM **S14-3 Prioritizing Brook Trout Restoration in the Wisconsin Lake Superior Basin.** Jason Ross*, Henry Quinlan – U.S. Fish and Wildlife Service Ashland Fish and Wildlife Conservation Office.
- 11:00 AM **S14-4 An Assessment of Potential Changes in Habitat Classes Due to Climate Change in the Northeast Climate Science Center Region.** Nicholas A. Sievert*, University of Missouri; Yin-Phan Tsang, University of Hawaii; Wesley M. Daniel, Michigan State University; Craig P. Paukert, U.S. Geological Survey, Missouri Cooperative Fish and Wildlife Research Unit; Dana Infante, Michigan State University; Joanna Whittier, University of Missouri; Kyle Herreman, Michigan State University; Jana Stewart, U.G. Geological Survey; Tyler Wagner, U.G. Geological Survey, Pennsylvania Cooperative Fish and Wildlife Research Unit.
- 11:20 AM **S14-5 Climate Change Surpasses Land Use Change in the Contracting Range Boundary of Snowshoe Hares.** Sean M. Sultaire, Benjamin Zuckerberg, Jonathan N. Pauli – Department of Forest and Wildlife Ecology, University of Wisconsin-Madison.
- 11:40 AM **S14-6 Climate Variability Drives Population Cycling and Synchrony In Ruffed Grouse.** Benjamin Zuckerberg*, Department of Forest and Wildlife Ecology, University of Wisconsin-Madison; Lars Y. Pomara, Southern Research Station, U.S. Forest Service.

S15 SPECIAL SYMPOSIUM: Understanding Mussel Distribution and Habitat Associations in the Midwest: Is There a Method to our Madness?

Location: Vandenberg B

Organized by: Kristen Bouska, Amanda Rosenberger – University of Missouri

Moderator: Amanda Rosenberger

- 10:00 AM **S15-1 Development of Sampling Protocols for Freshwater Mussel Density Estimates in the Meramec River Basin, Missouri.** Matthew C. Schrum, Amanda E. Rosenberger – Missouri Fish and Wildlife Cooperative; Steve McMurray, Missouri Department of Conservation.
- 10:20 AM **S15-2 Turning Data Acquired Into Information Desired Using Freshwater Mussel Projects in Illinois.** Alison P. Stodola, Sarah A. Douglass, J.S. Tiemann, Kirk W. Stodola – Illinois Natural History Survey.
- 10:40 AM **S15-3 Predicting Habitat Suitability for Michigan's Imperiled Mussels.** Wesley M. Daniel*, Arthur Cooper, Pete Badra, Dana M. Infante – Michigan State University.
- 11:00 AM **S15-4 Using Ecological Niche Modelling to Predict the Presence of Unionid Refuges After 25 Years of Dreissena Invasion in the Laurentian Great Lakes.** Jonathan M. Bossenbroek, University of Toledo; Lyubov E. Burlakova, State University of New York Buffalo State; Todd C. Crail, University of Toledo; Alexander Y. Karatayev, State University of New York Buffalo State; Robert A. Krebs, Cleveland State University; David T. Zanatta, Central Michigan University.
- 11:20 AM **S15-5 Longitudinal Patterns of Freshwater Mussel Assemblage Structure In Rivers of Central Michigan, U.S.A.** Amanda Chambers, Daelyn Woolnough – Department of Biology, Central Michigan University.
- 11:40 AM **S15-6 Associations Between Stream Hydrogeomorphology and Codependent Mussel-Fish Assemblages: Evidence From an Ohio, USA River System.** Clarissa Lawlis*, S. Mažeika P. Sullivan – The Ohio State University.

CO 8 GENERAL WILDLIFE: Hunters & Wildlife

Location: Governors

Moderator: Pat Lederle, Michigan Department of Natural Resources

- 10:00 AM **CO 8-5 Trust Me, You Don't Want To Use Bait: Examining Linkages Between Gaining Hunter Compliance and Building Trust in Agencies.** Brent A. Rudolph*, Michigan Department of Natural Resources; Shawn J. Riley, Michigan State University.

Tuesday, January 26 ♦ 10:00 AM – 12:00 PM

10:20 AM **CO 8-6 Mortality Rates of Squirrels on Hunted and Non-Hunted Sites in Southeast Minnesota.** Ryan Tebo*, Marrett Grund – Minnesota Department of Natural Resources.

10:40 AM **CO 8-7 Conservation in Context: Does The Public Support Killing In The Name Of Conservation?.** Michelle L. Lute*, Shahzeen Z. Attari – University of Nebraska-Lincoln.

CO 9 GENERAL FISHERIES: Aquatic Restoration/Enhancement

Location: Gerald Ford

Moderator: Troy Zorn, Michigan Department of Natural Resources

10:00 AM **CO 9-1 Biological Evaluation of the Milwaukee Harbor "Green" Breakwall.** Eric Geisthardt*, John Janssen – University of Wisconsin-Milwaukee; Burton Suedel, U.S. Army Corps of Engineering.

10:20 AM **CO 9-2 A Pre-Restoration Spawning Assessment of Saginaw Bay Reef Habitat.** Nick Kalejs*, Tomas Höök, Mitchell Zischke, Jay Beugly – Purdue University; Edward Roseman, Robert Hunter – Great Lakes Science Center, U.S. Geological Survey; David Fielder, Alpena Fisheries Research Station, Michigan Department of Natural Resources.

10:40 AM **CO 9-3 Use of Low-Cost Sonar To Assess Reef Habitat in Saginaw Bay and the St. Clair – Detroit River System, Michigan.** Todd Wills*, Michael Thomas, David Fielder, Ryan Carrow – Michigan Department of Natural Resources.

11:00 AM **CO 9-4 Effectiveness of Critical Lake Trout and Coregonid Reef Spawning Habitat Restoration in Northern Lake Michigan: Mitigating Environmental and Invasive Egg Predator Impacts (Part 1).** Randall Claramunt*, Michigan Department of Natural Resources; Eric Calabro, Central Michigan University; Matthew Herbert, The Nature Conservancy; Tracy Galarowicz, Central Michigan University; W. Lindsay Chadderton, Andrew Tucker – The Nature Conservancy.

11:20 AM **CO 9-5 Effectiveness of Critical Lake Trout and Coregonid Reef Spawning Habitat Restoration in Northern Lake Michigan: Mitigating Environmental and Invasive Egg Predator Impacts (Part 2).** Eric Calabro*, Central Michigan University; Randall Claramunt, Michigan Department of Natural Resources; Matthew Herbert, The Nature Conservancy; Tracy Galarowicz, Central Michigan University; W. Lindsay Chadderton, Andrew Tucker – The Nature Conservancy.

11:40 AM **CO 9-6 Larval Fish Communities Upstream and Downstream of Spawning Habitat Improvements in the St. Clair-Detroit River System.** Robin L. DeBruyne*, U.S. Geological Survey Great Lakes Science Center, University of Toledo, Lake Erie

Center; Edward F. Roseman, Robert D. Hunter, Stacey Ireland, Dustin Bowser – U.S. Geological Survey Great Lakes Science Center; Stacy Provo, U.S. Geological Survey Great Lakes Science Center and Center for Ecosystems Studies Unit, Michigan State University.

CO 10 GENERAL FISHERIES: Catfish

Location: Atrium

Moderator: Aaron Switzer, Michigan Department of Natural Resources

10:00 AM **CO 10-1 Demographics and Harvest of Three Commercially Exploited Species of Catfish in the Wabash River, IL.** Zachary A Mitchell*, Cassi J. Moody-Carpenter – Eastern Illinois University; Les D. Frankland, Illinois Department of Natural Resources; Eric K. Bollinger, Robert E. Colombo – Eastern Illinois University.

10:20 AM **CO 10-2 Channel Catfish Relative Weight (Wr) Within and Between River Basins In Western South Dakota.** Erin Peterson*, Stephen Jones, Nels H. Troelstrup, Jr., Katie N. Bertrand, Brian Graeb – South Dakota State University Department of Natural Resource Management.

10:40 AM **CO 10-3 Genetic Population Structure and Genetic Diversity of Adult Channel *Ictalurus punctatus* and Blue *I. furcatus* Catfish in Two Large Midwestern Rivers.** V. Alex Sotola*, Eastern Illinois University; Aaron Schrey, Armstrong State University; Eric Bollinger, Eastern Illinois University; Les Frankland, Illinois Department of Natural Resources; Gregory W. Whitedge, Southern Illinois University; Robert E. Colombo, Eastern Illinois University.

11:00 AM **CO 10-4 Movement of Large Blue and Flathead Catfish in the Ohio River.** Jeremy Pritt*, Richard Zweifel, Justin Walters, Matt Hangsleben – Ohio Department of Natural Resources, Division of Wildlife.

11:20 AM **CO 10-5 Assessment of Channel Catfish Habitat Use and Fine-Scale Seasonal Movement in the Wabash River Using Acoustic Telemetry.** Hanna G. Kruckman*, Eastern Illinois University; Les Frankland, Illinois Department of Natural Resources; Scott J. Meiners, Robert E. Colombo – Eastern Illinois University.

11:40 AM **CO 10-6 Movement Patterns of Channel Catfish in the Red River of the North.** Stephen Siddons*, Mark Pegg, Martin Hamel – University of Nebraska - Lincoln; Geoff Klein, Derek Kroeker – Manitoba Conservation and Water Stewardship, Fisheries Branch.

TUESDAY, JANUARY 26, 2016 1:20 PM – 5:00 PM

S01 SYMPOSIUM *continued*: Invasive Species

Location: Ambassador E

Organized by: Seth Herbst, Sue Tangora – Michigan Department of Natural Resources

Moderator: Sue Tangora

1:20 PM **S01-20 Multifaceted Monitoring and Assessment Indicates Challenges in the Control of Eurasian Watermilfoil in a Lake Superior Coastal Waterway and Inland Lakes of Michigan.** Casey Huckins*, Amy Marcarelli, Kevyn Juneau, Rodney Chimner, Colin Brooks, Pengfei Xue, Guy Meadows, Erika Hersch-Green – Michigan Technological University.

1:40 PM **S01-21 *Phragmites* Prevention and Control Coalition of Michigan’s UP.** Darcy Rutkowski, Jason Schnorr – Upper Peninsula Resource Conservation and Development Council; Teri Grout, Alger Conservation District.

2:00 PM **S01-22 Great Lakes *Phragmites* Collaborative: A Collective Impact Approach to Non-Native *Phragmites*.** Heather Braun*, Great Lakes Commission; Kurt Kowalski, U.S. Geological Survey – Great Lakes Science Center; Katherine Hollins, Great Lakes Commission.

2:20 PM **S01-23 Collective Development of a Science Agenda for Managing Non-Native *Phragmites australis* Through Microbial Intervention.** Kurt P. Kowalski*, Wes Bickford – U.S. Geological Survey, Great Lakes Science Center.

2:40 PM **S01-24 Mapping and Monitoring Distribution of *Phragmites australis* and Treatment Effects at Multiple Scales for management.** Laura Bourgeau-Chavez*, Sarah Endres, Eleanor Serocki – Michigan Tech Research Institute.

3:00 PM BREAK

3:20 PM **S01-25 Achieving Habitat Goals Through Cooperative Invasive Species Management Areas: Part 1.** Ryan Wheeler*, Dave Jentoft – Michigan Department of Natural Resources.

3:40 PM **S01-26 Achieving Habitat Goals Through Cooperative Invasive Species Management Areas: Part 2.** Jeremiah Heise*, Ryan Wheeler – Michigan Department of Natural Resources.

4:00 PM **S01-27 Grassland Bird Community Response To *Sericea lespedeza* Control Using Fire and Grazing.** Sarah Ogden*, Kansas Cooperative Fish and Wildlife Research Unit, Kansas State University; David A. Haukos, U.S. Geological Survey, Kansas Cooperative Research Unit, Kansas State University; KC Olson, Jonathan Alexander, Jack Lemmon – Kansas State University.

4:20 PM **S01-28 Collaborative, Integrated Feral Swine Damage Management in Illinois.** Bradley E. Wilson, Scott F. Beckerman* – USDA APHIS Wildlife Services; Mark G. Alessi, Douglas R. Dufford – Illinois Department of Natural Resources; Timothy S. White, USDA APHIS Wildlife Services.

4:40 PM **S01-29 Invasion of the Mute Swan.** Michael W. Eichholz, Cooperative Wildlife Research Laboratory, Center for Ecology, Department of Zoology, Southern Illinois University Carbondale; Dave Luukkonen, Michigan Department of Natural Resources and Department of Fisheries and Wildlife, Michigan State University; Barbara Avers, Michigan Department of Natural Resources.

S08 SYMPOSIUM *continued*: New Tools in the Detection and Control of Bigheaded Carps

Location: Pantlind

Organized by: Jon Amberg and Brent Knights – U.S. Geological Survey; Caleb Hasler and Cory Suski – University of Illinois

Moderators: Christopher Merkes, U.S. Geological Survey (1:20 – 3:00 pm) and Jon Amberg (3:20 – 5:00 pm)

1:20 PM **S08-15 Micro-particle Development and Efficacy for the Control of Bigheaded Carps.** Blake Sauey*, Joel Putnam, Jon Amberg – U.S. Geological Survey.

1:40 PM **S08-16 A Structural Activity Relationship (SAR) approach to identify new chemical controls for invasive aquatic species.** Joel G. Putnam, Terrance D. Hubert – U.S. Geological Survey, Upper Midwest Environmental Sciences Center; Tammy J. Clark, Viterbo University; Eric Leis, U.S. Fish and Wildlife Service; Justine Nelson, Viterbo University.

2:00 PM **S08-17 An Evaluation of Seismic Sound Generating Technologies as a Deterrent for Bigheaded Carps.** Jon J. Amberg*, Aaron R. Cupp, Richard A. Erickson – U.S. Geological Survey, Upper Midwest Environmental Sciences Center; Nicholas M. Swyers, Tyson W. Hatton – U.S. Geological Survey, Western Fisheries Research Center.

2:20 PM **S08-18 Evaluation of Non-Physical Barriers for Fish Movement: Water Gun, Boomers, Bubble, Sound, Alarm Cue, Light, and Electricity.** Jaewoo Kim*, Great Lakes Laboratory for Fisheries and Aquatic Sciences, Fisheries and Oceans Canada; Nicholas E. Mandrak, Department of Biological Sciences, University of Toronto Scarborough; Jackson A. Gross, Conservation and Aquatic Nuisance Species Program, Smith-Root, Inc.

Tuesday, January 26 ♦ 1:20 PM – 3:00 PM & 3:20 PM - 5:00 PM

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| 2:40 PM | S08-19 Developing an Acoustic Deterrent to Repel Asian and Common Carps. Clark E. Dennis III*, Daniel P. Zielinski, Peter W. Sorensen – Department of Fisheries, Wildlife and Conservation Biology University of Minnesota. | 1:40 PM | S09-12 Habitat Use and Detection of the Eastern Massasauga Rattlesnake Across Southern Michigan. Stephanie A. Shaffer*, Henry Campa III, Gary Roloff – Michigan State University; Daniel Kennedy, Michigan Department of Natural Resources. |
| 3:00 PM | BREAK | 2:00 PM | S09-13 Factors Affecting the Detection Probability and Capture Yield of an Imperiled Species. Michael Dreslik*, John Crawford, Sarah Baker, William Peterman, Christopher A. Phillips – Illinois Natural History Survey. |
| 3:20 PM | S08-20 Silver Carp <i>Hypophthalmichthys molitrix</i> Behavior and Bioacoustics. Brooke J. Vetter*, Kelsie A. Murchy – University of Minnesota Duluth, Aaron R. Cupp, Jon J. Amberg, Mark P. Gaikowski – U.S. Geological Survey; Allen F. Mensinger, University of Minnesota Duluth. | 2:20 PM | S09-14 The Massasauga at Killdeer Plains Wildlife Area, Ohio. Doug Wynn, The Ohio State University. |
| 3:40 PM | S08-21 The Effect of Temperature on Acoustical Deterrence of Bighead <i>Hypophthalmichthys nobilis</i> and Silver Carp <i>H. molitrix</i>. Kelsie A. Murchy, Emily A. Cardinal – University of Minnesota Duluth; Blake Sauey, Jon J. Amberg, Mark P. Gaikowski – U.S. Geological Survey; Allen F. Mensinger, University of Minnesota Duluth. | 2:40 PM | S09-15 To Forage, Mate or Thermoregulate? Influence of Food Supplementation on an Imperiled Rattlesnake <i>Sistrurus catenatus</i>. Sasha Tetzlaff, Purdue University; Evin Carter, University of Tennessee; Michael Ravesi, Purdue University; Brett DeGregorio, U.S. Army Engineer Research and Development Center-Construction Engineering Research Laboratory; Bruce Kingsbury, Purdue University. |
| 4:00 PM | S08-22 The Effectiveness of Carbon Dioxide as a Non-Physical Barrier for Fish Movement. Caleb T. Hasler*, Clark E. Dennis III, Adam W. Wright, Jennifer D. Jeffrey, Michael R. Donaldson, Shivani Adhikari – Department of Natural Resources and Environmental Sciences, University of Illinois; Jon Amberg, Mark Gaikowski – Upper Midwest Environmental Sciences Center, United States Geological Survey; Cory D. Suski, Department of Natural Resources and Environmental Sciences, University of Illinois. | 3:00 PM | BREAK |
| 4:20 PM | S08-23 Effects of Asian Carp Control Technology On Nontarget Native Unionid Mussels. Diane Waller*, Michelle Bartsch, Kim Fredricks, Craig Jackson, Jon Amberg – U.S. Geological Survey, Upper Midwest Environmental Sciences Center. | 3:20 PM | S09-16 Role of Historical Land Use in the Distribution of Eastern Massasauga Rattlesnake Habitat In Northeastern Ohio. Eric McCluskey*, Thomas Hetherington – Department of Evolution, Ecology, and Organismal Biology, Ohio State University. |
| 4:40 PM | S08-24 Carbon Dioxide as a Barrier To Asian Carp: The Impact On Genes Associated With The Stress Response and Shell Growth In A Non-Target Freshwater Mussel. Jennifer D Jeffrey*, Kelly D Hannan, Caleb T Hasler, Adam Wright, Cory D Suski – University of Illinois, Urbana-Champaign. | 3:40 PM | S09-17 Assessment of Phylogeographic Structure in Eastern Massasauga Rattlesnakes Using Model-Based Analyses of Genomic-Scale Data. Michael G. Sovic, Anthony C. Fries, H. Lisle Gibbs –The Ohio State University. |
| | | 4:00 PM | S09-18 The Natural History, Ecology, and Epidemiology of <i>Ophidiomyces ophiodiicola</i> and its Potential Impact on Free-Ranging Snake Populations. Daniel Raudabaugh*, Department of Plant Biology, University of Illinois, Illinois Natural History Survey; Matthew C. Allender, Department of Comparative Biosciences, University of Illinois; Frank H. Gleason, School of Biological Sciences, University of Sydney; Andrew N. Miller, Illinois Natural History. |

S09 SYMPOSIUM *continued*: Updates in Eastern Massasauga Ecology, Management, and Conservation Status

Location: Imperial

Organized by: Eric Hileman, Northern Illinois University

Moderators: Jennifer Moore, Grand Valley State University (1:20 – 3:00pm) and Sasha Tetzlaff, Indiana-Purdue University Fort Wayne (3:20 – 4:40 pm)

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| 1:20 PM | S09-11 Using Demographically-Informed Species Distribution Models to Identify Management Options for Threatened Species in the Face of Climate Change. Ilona Naujokaitis-Lewis, Benjamin Zuckerberg* – University of Wisconsin-Madison. |
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| 4:20 PM | S09-19 PANEL DISCUSSION: Eastern Massasauga Ecology, Management, and Conservation Status. |
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Tuesday, January 26 ♦ 1:20 PM – 3:00 PM & 3:20 PM - 5:00 PM

S10 SYMPOSIUM *continued*: Landscape Conservation Science and Management

Location: Ambassador W

Organized by: Brad Potter, U.S. Fish and Wildlife Service

Moderator: Gwen White, U.S. Fish and Wildlife Service

1:20 PM **S10-7 Connecting Hydrology, Ecology, Climate, and Land Use to Inform Wetland Conservation and Policy in the Prairie Pothole Region.** Michael J. Anteau, Mark T. Wiltermuth – U.S. Geological Survey; Lisa A. McCauley, South Dakota State University and U.S. Geological Survey; Max Post van der Burg*, U.S. Geological Survey.

1:40 PM **S10-8 Conserving the Plains and Prairie Pothole Ecoregions: A Land Relations Scale.** Lily A. Sweikert*, Department of Natural Resource Management, South Dakota State University; Larry M. Gigliotti, U.S. Geological Survey, South Dakota Cooperative Fish and Wildlife Research Unit.

2:00 PM **S10-9 Artificial Subsurface Drainage in Wetland Catchments—Overview of Long-Term Study Site and Data-Collection Methods.** Charles F. Dahl*, Raymond G. Finocchiaro, Brian A. Tangen – U.S. Geological Survey, Northern Prairie Wildlife Research Center.

2:20 PM **S10-10 Efficacy of Drainage Setbacks for Limiting Effects to Wetlands in the Prairie Pothole Region.** Brian A. Tangen*, Raymond G. Finocchiaro, Charles F. Dahl – U.S. Geological Survey, Northern Prairie Wildlife Research Center.

2:40 PM **S10-11 Restoring Wetland Hydrology – A Novel Method for Closing Drainage Tile.** Ray Finocchiaro*, U.S. Geological Survey, Northern Prairie Wildlife Research Center; Dave Azure, U.S. Fish and Wildlife Service; Brian A. Tangen, Charles F. Dahl – U.S. Geological Survey, Northern Prairie Wildlife Research Center.

3:00 PM BREAK

3:20 PM **S10-12 Benefits and Limitations of Using Decision Analytic Tools To Assess Uncertainty and Prioritize Landscape Conservation Cooperative Information Needs.** Max Post van der Burg*, Catherine Cullinan Thomas – U.S. Geological Survey; Richard D. Nelson, Plains and Prairie Potholes Landscape Conservation Cooperative.

3:40 PM **S10-13 Landscape-level Endangered Species Act Compliance for Bats.** Paola Bernazzani*, Shawna Barry – ICF International.

4:00 PM **S10-14 Priority Refuge Resources of Concern as a Bottom-Up Approach to Surrogate Species Selection.** Dan Salas*, Cardno; Patricia Heglund, Kathy Carlyle – U.S. Fish and Wildlife Service.

4:20 PM **S10-15 Potential Indirect Effects of Invasive Emerald Ash Borer On Wetland Fauna in Black Ash Forests.** Melissa B. Youngquist*, University of Minnesota; Anthony W. D'Amato, University of Vermont; Brian J. Palik, Sue L. Eggert – Northern Research Station, U.S. Forest Service; Robert A. Slesak, University of Minnesota.

4:40 PM **S10-16 Northwest Indiana- High Quality Habitat Restoration through Mitigation.** Greg Quartucci, Cardno.

S11 SYMPOSIUM *continued*: Legends and Legacies: Michigan's Fishery Research and Management

Location: Pearl

Organized by: Robin DeBruyne, Edward Roseman – U.S. Geological Survey

Moderators: Stacey Ireland, U.S. Geological Survey (1:20 – 3:00 pm) and Robin DeBruyne (3:30 – 5:00 pm)

1:20 PM **S11-7 Visionary Michigan Fisheries Biologists: Carl Latta, Herb Lenon, and 60+ Years of Smallmouth Bass Research in Northern Lake Michigan.** David Clapp*, Michigan Department of Natural Resources; Tracy Galarowicz, Central Michigan University, Department of Biology; John Clevenger, Michigan Department of Natural Resources; Emily Martin, Lake Superior State University, School of Natural and Biological Sciences; Mark Kaemingk, Victoria University Coastal Ecology Laboratory; Kevin Wehrly, Michigan Department of Natural Resources.

1:40 PM **S11-8 Long-term Fish Community Surveys in the Michigan Waters of Lake Huron and their Contribution to Fishery Management: Half a Century of Continuous Survey Assessment.** David G. Fielder*, Ji X. He, Michael V. Thomas – Michigan Department of Natural Resources.

2:00 PM **S11-9 The Institute for Fisheries Research: An 85-year History of Fisheries Research in Michigan.** Kevin Wehrly*, Michigan Department of Natural Resources, Institute for Fisheries Research; Jim Breck, University of Michigan, Institute for Fisheries Research; Zhenming Su, Michigan Department of Natural Resources, Institute for Fisheries Research; David Clapp, Michigan Department of Natural Resources, Charlevoix Fisheries Research Station; Todd Wills, Michigan Department of Natural Resources, Lake St Clair Fisheries Research Station; Troy Zorn, Michigan Department of Natural Resources, Marquette Fisheries Research Station; Gary Whelan Michigan Department of Natural Resources.

Tuesday, January 26 ♦ 1:20 PM – 3:00 PM & 3:20 PM - 5:00 PM

- 2:20 PM **S11-10 Spatial and Temporal Dynamics of Nearshore Fish Communities in the Michigan Waters of the Great Lakes.** William Fetzner*, Brian Roth – Michigan State University; Dave Clapp, Randy Claramunt, Dave Fielder – Michigan Department of Natural Resources; Dana Infante, Michigan State University; Tammy Newcomb, Troy Zorn – Michigan Department of Natural Resources.
- 2:40 PM **S11-11 Forging a Multi-Cultural Legacy in Michigan.** Marty Holtgren, Michigan Department of Natural Resources; Nancy Auer, Michigan Technological University.
- 3:00 PM BREAK
- 3:20 PM **S11-12 Contributions to Fishery Science from those at Michigan Technological University.** Nancy A. Auer*, Michigan Technological University.
- 3:40 PM **S11-13 History of Rearing and Stocking Atlantic Salmon in the Upper Great Lakes, with an Emphasis on the St. Marys River.** Roger Greil*, Ashley Moerke Kevin Kapuscinski – Lake Superior State University; David Borgeson, Michigan Department of Natural Resources.
- 4:00 PM **S11-14 Fisheries Research at CMU: It's Central to the Great Lakes.** Scott McNaught*, Kevin Pangle, Tracy Galarowicz – Central Michigan University.
- 4:20 PM **S11-15 Lessons to be Learned from the Growth and Trajectory of MSU Department of Fisheries and Wildlife.** Daniel Hayes, Michigan State University.
- 4:40 PM **S11-16 More Than a Century of Fisheries Research at the University of Michigan.** James S. Diana, University of Michigan.

S12 SYMPOSIUM *continued*: Fish Age and Growth

Location: Emerald A

Organized by: Timothy O'Brien, Edward Roseman, David Warner – U.S. Geological Survey

Moderator: Timothy O'Brien

- 1:20 PM **S12-6 Large-scale Spatial and Temporal Variability in Lake Huron Bloater Growth and Population Structure, 1976-2014.** Carson G. Prichard*, Edward F. Roseman, Timothy P. O'Brien – U.S. Geological Survey Great Lakes Science Center; Kevin Keeler, U.S. Geological Survey Great Lakes Science Center and Michigan State University.
- 1:40 PM **S12-7 Prey Fish Age Estimation To Inform Sport Fishery Management: An Application To Lake Michigan Alewife.** David Warner, U.S. Geological Survey Great Lakes Science Center; Randall Claramunt, Michigan Department of Natural Resources Charlevoix Fisheries Research Station; Timothy O'Brien, Charles Madenjian, Bo Bunnell – U.S. Geological Survey Great Lakes Science Center.
- 2:00 PM **S12-8 The Use of Maxillae To Estimate Ages of Lake Trout.** William Wellenkamp*, Ji He – Michigan

Department of Natural Resources; Darren Vercnocke, U.S. Fish and Wildlife Service.

- 2:20 PM **S12-9 Validation of a Relationship Between Statolith Size and Age of Larval Great Lakes Sea Lamprey *Petromyzon marinus*.** Danielle Potts*, Heather Dawson – University of Michigan-Flint; Michael Jones, Michigan State University.

- 2:40 PM **S12-10 Age and Growth of Grass Carp in the Great Lakes Region.** Joseph E. Deters*, U.S. Geological Survey Columbia Environmental Research Center; William Edwards, Patrick. M. Kočovský – U.S. Geological Survey Great Lakes Science Center; Duane C. Chapman, U.S. Geological Survey Columbia Environmental Research Center; and Seth J. Herbst, Michigan Department of Natural Resources.

S13 SYMPOSIUM *continued*: Sturgeon and Paddlefish

Location: Emerald B

Organized by: Jason Fischer, Edward Roseman - U.S. Geological Survey

Moderator: Nathan Williams, U.S. Geological Survey

- 1:20 PM **S13-7 A Habitat Suitability Model for Possible Lake Sturgeon *Acipenser fulvescens* Reintroduction in the Maumee River.** Jessica Sherman*, Jonathan Bossenbroek, Todd Crail, Christine Mayer – University of Toledo; James Boase, Justin Chiotti – U.S. Fish and Wildlife Service; Christopher Vandergoot, Ohio Department of Natural Resources.
- 1:40 PM **S13-8 Lessons Learned Across Twenty Years of Lake Sturgeon Assessment.** Michael Thomas*, Todd Wills – Michigan Department of Natural Resources.
- 2:00 PM **S13-9 Habitat Suitability Modeling and Management Implications for Young-of-Year and Juvenile Lake Sturgeon *Acipenser fulvescens* in Large River Systems: A Case Study in the St. Clair River, MI.** Joseph R. Krieger*, James S. Diana – University of Michigan, School of Natural Resources.
- 2:20 PM **S13-10 Monitoring of Two Artificial Spawning Reefs for Lake Sturgeon *Acipenser fulvescens* Reproduction in the St. Clair-Detroit River System.** Robert D. Hunter*, Edward F. Roseman – U.S. Geological Survey, Great Lakes Science Center; Robin L. DeBruyne, Jason L. Fischer – Cooperative Ecosystems Studies Unit, Michigan State University and Department of Environmental Sciences, University of Toledo; Paige Wigren, Department of Forestry and Natural Resources, Purdue University; Zach Fyke, Jake Magier – U.S. Geological Survey, Great Lakes Science Center.
- 2:40 PM **S13-11 Understanding the Roles of Physical Processes in Lake Sturgeon Habitat Restoration.** Jason L. Fischer*, U.S. Geological Survey Great Lakes Science Center; Edward Roseman, Greg Kennedy, Jaquie Craig, Bruce Manny, David Bennion – U.S. Geological Survey.

S14 SYMPOSIUM *continued*: Climate Science

Location: Vandenberg A

Organized by: Jeffrey Morissette, Robin O'Malley, Mary Ratnaswamy – U.S. Geological Survey; Chris Hoving, Michigan Department of Natural Resources;

Moderator: Chris Hoving

- 1:20 PM **S14-7 Three Tiers of Inertia: Moving the Ball on Climate Change.** Olivia E. LeDee, Minnesota Department of Natural Resources.
- 1:40 PM **S14-8 Integrating Climate Change into the State Wildlife Action Plans.** Toni Lyn Morelli, Michelle Staudinger, Alex Bryan – U.S. Geological Survey, Northeast Climate Science Center.
- 2:00 PM **S14-9 Assisting Tribes With Climate Change Adaptation as a Federal Agency.** Alexander Bryan*, U.S. Geological Survey; Kyle Powys Whyte, Michigan State University; Jon Mauchmer, Little Traverse Bay Bands of Odawa Indians; Chris Caldwell, Marie Schaefer – College of Menominee Nation.
- 2:20 PM **S14-10 Planning for the Climate Change Resilience of Terrestrial Ecosystems by “Conserving Nature’s Stage”.** Kimberly Hall, The Nature Conservancy.
- 2:40 PM **S14-11 Overview of Upper Midwest and Great Lakes LCC Climate Science: Past Projects and Future Direction.** Bradly Potter, John Rogner – Upper Midwest and Great Lakes Landscape Conservation Cooperative.

S15 SYMPOSIUM *continued*: Mussel Distribution

Location: Vandenberg B

Organized by: Kristen Bouska, Amanda Rosenberger – University of Missouri

Moderator: Amanda Rosenberger

- 1:20 PM **S15-7 Maxent Modeling for Missouri Ozark Unionids with Macroscale Hydro-geomorphic Variables.** Garth Lindner, Kristen Bouska, Kayla Key – Missouri Cooperative Fish and Wildlife Research Unit, The University of Missouri; Amanda Rosenberger, U.S. Geological Survey, Missouri Cooperative Fish and Wildlife Research Unit, The University of Missouri.
- 1:40 PM **S15-8 Habitat of Native Freshwater Mussels in a Large Floodplain River: Hydrophysical Models to Guide Restoration.** Teresa Newton*, Steve Zigler – U.S. Geological Survey, Upper Midwest Environmental Sciences Center.
- 2:00 PM **S15-9 Freshwater Mussel Habitat Construction/Creation in the Mississippi River.** Heidi Dunn*, Ecological Specialists, Inc.; Brian Johnson, Teresa Allen – St. Louis District Army Corps of Engineers.
- 2:20 PM **S15-10 Mussel Madness in Michigan: Understanding a Rare Species Distribution and Ecological Preferences by Prioritizing Research Goals.** Daelyn Woolnough*, Mandi Caldwell –

Department of Biology and Institute for Great Lakes Research, Central Michigan University.

S16 SPECIAL SYMPOSIUM: Reservoir Fisheries

Location: Atrium

Organized by: Joseph Conroy, Ohio Department of Natural Resources; Rebecca Krogman, Iowa Department of Natural Resources

Moderators: Rebecca Krogman (1:20 – 3:00 pm) and Joseph Conroy (3:20 – 4:40 pm)

- 1:20 PM **S16-1 Changes in Largemouth Bass Habitat Use, Home Range Size, and Movement In Response to a Large-Scale Habitat Enhancement.** Chance Kirkeeng*, Jason Breeggemann*, Brian Graeb, Katie Bertrand, Troy Grovenburg – South Dakota State University, Department of Natural Resource Management; Bob Lusk, Pond Boss Magazine.
- 1:40 PM **S16-2 Zooplankton Density and Community Composition Shape Success of Fry-Stocked Sander Spp.** Joseph D. Conroy, Richard D. Zweifel – Ohio Department of Natural Resources.
- 2:00 PM **S16-3 Paddlefish Reproductive Ecology in Harry S. Truman Reservoir, Missouri.** Christopher Schwinghamer*, Southeast Missouri State University; Sara Tripp, Missouri Department of Conservation; Quinton Phelps; Missouri Department of Conservation and Southeast Missouri State University.
- 2:20 PM **S16-4 Comparing Forage Fish Abundance and Productivity Relationships in Ohio Reservoirs.** Chris G. French, Joseph D. Conroy, Richard D. Zweifel – Ohio Department of Natural Resources.
- 2:40 PM **S16-5 Using Acoustic Telemetry to Compare Walleye and Saugeye Availability to Anglers in an Above-Ground Reservoir.** Bryan Kinter*, Ohio Department of Natural Resources.
- 3:00 PM BREAK
- 3:20 PM **S16-6 Seasonal Patterns of Blue Catfish Habitat Selection in a Hypoxic Ohio Reservoir.** Geoffrey B. Steinhart*, Joseph D. Conroy – Ohio Department of Natural Resources; Stuart A. Ludsin, Ohio State University, Aquatic Ecology Laboratory; Richard D. Zweifel, Ohio Department of Natural Resources.
- 3:40 PM **S16-7 Measuring Habitat in Reservoirs: Current Methods and Potential for a New Approach.** Rebecca M. Krogman*, Iowa Department of Natural Resources.
- 4:00 PM **S16-8 Development of Indiana’s Reservoir Enhancement Program Through the Creation of a Habitat Enhancement Zone.** Sandra Clark-Kolaks*, Indiana Department of Natural Resources.
- 4:20 PM **S16-9 Development of a Water Quality Index for Lakes and Reservoirs in Iowa.** Rebecca M. Krogman*, Michelle Balmer – Iowa Department of Natural Resources.

CO 9 GENERAL FISHERIES: Aquatic Restoration/ Enhancement

Location: Gerald Ford

Moderators: Robin DeBruyne, U.S. Geological Survey (1:20 – 3:00 pm) and Todd Wills, Michigan Department of Natural Resources (3:20 – 4:40 pm)

- 1:20 PM **CO 9-7 Movements and Home Ranges of Smallmouth Bass in a Recently Restored Urban Stream.** James Lukey, Jeffrey Stein – Illinois History Survey.
- 1:40 PM **CO 9-8 A Long-Term Evaluation of the Effects of Sediment Traps On Seven Michigan River Channels.** Todd Wills, Troy Zorn – Michigan Department of Natural Resources.
- 2:00 PM **CO 9-9 A Reconnaissance Survey of the Effects of Sediment Traps On Michigan Streams.** Troy Zorn, Todd Wills – Michigan Department of Natural Resources Fisheries Division.
- 2:20 PM **CO 9-10 Monitoring a Re-Connected Chute on the Lower Platte River, Nebraska.** Caleb Uerling, Martin Hammel, Mark Pegg – University of Nebraska-Lincoln.
- 2:40 PM **CO 9-11 An Ecological Evaluation of a Restored Urban Stream in West Chicago, Illinois.** Austin Rundus*, University of Illinois; Jeffrey A Stein, James Lukey – Illinois Natural History Survey.
- 3:00 PM BREAK
- 3:20 PM **CO 9-12 Factors Driving Fish Assemblages in a Restored Stream.** Carl A. Favata*, Robert E. Colombo – Eastern Illinois University; Donald P. Roseboom, Timothy D. Straub – U.S. Geological Survey; Anabela Maia, Eastern Illinois University.
- 3:40 PM **CO 9-13 Effects of Artificial Habitat Structures on Fluvial Geomorphology and Trout Distribution.** Elle Gulotty*, Daniel B. Hayes – Michigan State University Department of Fisheries and Wildlife.
- 4:00 PM **CO 9-14 Habitat and Fish Guild Variation and Lack of Genetic Differentiation in the Presence of Two Low-Head Dams.** Shannon C.F. Smith*, Ryan Hastings – Eastern Illinois University; Trent Thomas, Illinois Department of Natural Resources; Scott Meiners, Eastern Illinois University; Devon Keeney, Le Moyne College; Rob Colombo, Eastern Illinois University.
- 4:20 PM **CO 9-15 Status of Hatchery Restoration and Research on Native Cisco *Coregonus artedii* at the Little Traverse Bay Bands of Odawa Indians Fisheries Enhancement Facility.** Doug Larson*, Kevin Donner, Jason Smith – Little Traverse Bay Bands of Odawa Indians; Greg Fischer, University of Wisconsin Steven's Point - Northern Aquaculture Demonstration Facility.

CO 11 GENERAL WILDLIFE: Grassland Bird Conservation

Location: Governors

Moderator: Chad Parent, Michigan State University

- 1:20 PM **CO 11-1 Effects of Tree Encroachment on Lesser Prairie-Chickens.** Joseph Lautenbach*, Sault Ste Marie Tribe of Chippewa Indians-Inland Fish and Wildlife; Reid Plumb, Kansas State University; David Haukos, Kansas Cooperative Fish and Wildlife Research Unit; Jim Pitman, Western Association of Fish and Wildlife Agencies; Christian Hagen, Oregon State University.
- 1:40 PM **CO 11-2 Lesser Prairie-Chicken Habitat and Movement Response To Patch-Burn Grazing.** Jonathan Lautenbach*, Kansas Cooperative Fish and Wildlife Research Unit, Division of Biology, Kansas State University; Joseph Lautenbach, Sault Ste. Marie Tribe of Chippewa Indians; David Haukos, U.S. Geological Survey, Kansas Cooperative Fish and Wildlife Research Unit, Division of Biology, Kansas State University.
- 2:00 PM **CO 11-3 Influence of Sound on Nesting Ecology and Home Range Characteristics of the Lesser Prairie-Chicken.** T. Lipp*, Bowling Green State University; D. Haukos, U.S. Geological Survey, Kansas Cooperative Fish and Wildlife Research Unit, Kansas State University.
- 2:20 PM **CO 11-4 Zooming in on Landscape Simplification: Fine-Scale Changes to Vegetation Configuration Influences Suitability of Agricultural Landscapes for Northern Bobwhite *Colinus virginianus*.** Randall T. Knapik*, Michigan State University; Mark J. Wiley, Ohio Department of Natural Resources; Coree A. Brooks, U.S. Forest Service; Robert J. Gates, The Ohio State University.
- 2:40 PM **CO 11-5 Effects of Pasture Based Dairy Farming on Grassland Bird Species.** Lindsay E.F. Hunt, Department of Fisheries and Wildlife, Michigan State University; Brian A. Maurer, Department of Fisheries and Wildlife and Center for Statistical Training and Consulting, Michigan State University; Gary Roloff, Department of Fisheries and Wildlife, Michigan State University.

TUESDAY, JANUARY 26 ♦ 3:20 PM – 5:00 PM

CO 12 GENERAL WILDLIFE: Techniques and Tools

Location: Emerald A

Moderator: Talesha Dokes, Michigan State University

- 3:20 PM **CO 12-1 Improving the Accuracy of Self-Reported Waterfowl Harvest Estimates.** Jerry J. Vaske, Jay Beaman – Colorado State University; Craig Miller, Illinois Natural History Survey.
- 3:40 PM **CO 12-2 Errors in the Interpretation of Wildlife Sign at Survey Bait Stations.** Sarah L. Mayhew*, Dwayne R. Etter – Michigan Department of Natural Resources.
- 4:00 PM **CO 12-3 Recreation Management for Wildlife and Humans: An Interdisciplinary Simulation Modeling Approach.** Alexander J. Cohen*, Cardno / Purdue University; Shadi Atallah, University of New Hampshire / Purdue University; Patrick A. Zollner, Zhao Ma, Silvestre Garcia de Jalon, Linda Prokopy – Purdue University.
- 4:20 PM **CO 12-4 The Land Ethic Reclaimed: Perceptive Hunting, Aldo Leopold and Conservation: A MOOC.** Timothy R. Van Deelen*, Department of Forest and Wildlife Ecology, University of Wisconsin-Madison; Janet Silbernagel, Paul Robbins – The Nelson Institute for Environmental Studies, University of Wisconsin – Madison.
- 4:40 PM **CO 12-5 Bigfoot Teaches Spatial Statistics in Northwest Ohio.** Emma Spence*, Andrew J. Gregory* – Bowling Green State University.

CO 13 GENERAL WILDLIFE: Beyond the Midwest

Location: Emerald B

Moderator: Rebecca Cain, Michigan State University

- 3:20 PM **CO 13-1 Control Damage Caused By Wild Boar Using Amur Tiger Cues.** Liu Bing, Wan Zhang Ming-Tian – College of Wildlife Resources, Northeast Forestry University, China; Liu Dan, Siberian Tiger Park, China.
- 3:40 PM **CO 13-2 Reinforcement of Cheetah *Acinonyx jubatus* Populations: Rewilding in North - Central Namibia.** Matt Lindenberg*, Paul Keenlance, Joseph Jacquot, Alexandra Locher – Grand Valley State University; Laurie Marker, Cheetah Conservation Fund.
- 4:00 PM **CO 13-3 Assessing the Status of Forest Health Across Different Forest Management Policies and Levels of Human Use: A Case Study of Kakamega Tropical Rainforest, Kenya.** Christopher Amutabi Kefa*, Andrew J. Gregory – Bowling Green State University.

CO 14 GENERAL WILDLIFE: Forest Bird Conservation

Location: Vandenberg A

Moderator: Eric Ellis, Ruffed Grouse Society

- 3:20 PM **CO 14-1 Wintering Grounds and Migratory Routes of Golden-Winged Warblers Discovered Using Light-Level Geolocators: Implications For Full Life-Cycle Management.** Gunnar R. Kramer*, Minnesota Cooperative Fish and Wildlife Research Unit, University of Minnesota; Henry M. Streby, Department of Environmental Sciences, University of Toledo; Sean M. Peterson, Minnesota Cooperative Fish and Wildlife Research Unit, University of Minnesota; Justin A. Lehman, David A. Buehler – Department of Forestry, Wildlife, and Fisheries, University of Tennessee; Petra B. Wood, U.S. Geological Survey, West Virginia Cooperative Fish and Wildlife Research Unit, West Virginia University; Darin J. McNeil, Jeffery L. Larkin – Biology Department, Indiana University of Pennsylvania; David E. Andersen, U.S. Geological Survey, Minnesota Cooperative Fish and Wildlife Research Unit, University of Minnesota.
- 3:40 PM **CO 14-2 Designing A Survey for Spruce Grouse in Minnesota: A Pilot Study (2014–2015).** Charlotte Roy*, John Giudice – Minnesota Department of Natural Resources; Chris Scharenbroich, Minnesota Information Technology Services, Minnesota Department of Natural Resources.
- 4:00 PM **CO 14-3 Habitat Use of Fledglings and Site Fidelity of Cerulean Warblers in Southern Indiana.** Clayton D. Delancey*, Claire E. Nemes, Kamal Islam – Department of Biology, Ball State University.
- 4:20 PM **CO 14-4 Nest Site and Territory Selection by Cerulean Warblers *Setophaga cerulea* in Southern Indiana.** Claire E. Nemes*, Clayton D. Delancey, Kamal Islam – Department of Biology, Ball State University.
- 4:40 PM **CO 14-5 Geolocators Provide Valuable Information on the Kirtland's Warbler's Wintering Ground Distribution And Migration Pathway.** Nathan W. Cooper, Migratory Bird Center, Smithsonian Conservation Biology Institute; Chris Mensing*, U.S. Fish and Wildlife Service East Lansing Field Office; Daniel Elbert, U.S. Fish and Wildlife Service, Newport Field Office; Sarah Rockwell, Klamath Bird Observatory; Nora Diggs, Migratory Bird Center, Smithsonian Conservation Biology Institute; Peter P. Marra, Migratory Bird Center, Smithsonian Conservation Biology Institute.

TUESDAY, JANUARY 26 ♦ 3:20 PM – 5:00 PM

CO 15 GENERAL WILDLIFE: Bats & Small Mammals

Location: Vandenberg B

Moderator: Henry (Rique) Campa, Michigan State University

- 3:20 PM **CO 15-1 Indiana Bat *Myotis sodalis* Maternity Colony Roost Site Habitat Selection in Bottomland Hardwood Forests.** Jacquelyn A. Dearborn*, University of Missouri Department of Fisheries and Wildlife; Elisabeth Webb, Missouri Cooperative Fisheries and Wildlife Research Unit at University of Missouri; Sybill Amelon, U.S. Forest Service at University of Missouri; Shauna Marquardt, U.S. Fish and Wildlife Service Missouri Ecological Services Field Office.
- 3:40 PM **CO 15-2 Implications of Western Range Expansions of Eastern Bat Species in the United States.** Brett Andersen*, Keith Geluso – University of Nebraska at Kearney.
- 4:00 PM **CO 15-3 Roosting Habits of the Northern Long-eared Bat *Myotis septentrionalis* in a Managed Forest.** Timothy Carter*, Jocelyn Karsk, Kristi Confortin – Ball State University; Scott Haulton, Indiana Department of Natural Resources, Division of Forestry.
- 4:20 PM **CO 15-4 Northern Long-eared Bat *Myotis septentrionalis* Stand-Scale Roost Site Selection in a Managed Forest.** Jocelyn Karsk*, Tim Carter – Ball State University; Scott Haulton, Indiana Department of Natural Resources, Division of Forestry.
- 4:40 PM **CO 15-5 Comparative Supplementation Approaches With Zoo-reared and Wild Translocated Meadow Jumping Mice.** Allison Sacerdote-Velat*, Lincoln Park Zoo.

CO 16 GENERAL WILDLIFE: Ecology of Turtle and Tortoises

Location: Governors

Moderator: Stephanie Shaffer, Michigan State University

- 3:20 PM **CO 16-1 The Effects of Nest Site Selection on Nest Success and Neonate Survival of Eastern Box Turtles *Terrapene carolina carolina* in Michigan.** Joseph Altobelli*, Patrick B. Laarman, Jennifer Moore – Grand Valley State University.
- 3:40 PM **CO 16-2 Behavioral Responses of Eastern Box Turtles *Terrapene carolina carolina* to Prescribed Fire and Implications for Management.** Tracy Swem, Michigan State University; Alicia Ihnken, Michigan Department of Natural Resources; Gary Roloff, Michigan State University.
- 4:00 PM **CO 16-3 Examining Habitat Variables of Juvenile Blanding's Turtles *Emydoidea blandingii* at Shiawassee National Wildlife Refuge, Saginaw, MI, USA.** Melissa Szymanski*, Teresa Yoder-Nowak – University of Michigan–Flint.
- 4:20 PM **CO 16-4 Brownian Bridge Movement Models Using Telemetry Data: A Case Study With Eastern Box Turtles *Terrapene carolina*.** Ethan J. Kessler*, Jason P. Ross, Christopher A. Phillips, Michael J. Dreslik – Illinois Natural History Survey.



TECHNICAL SESSIONS & SYMPOSIA: WEDNESDAY

Wednesday, January 27 ♦ 10:20 AM – 12:00 PM & 1:20 PM – 3:00 PM

S01 SYMPOSIUM *continued*: Collaboration and Challenges with Prevention, Control, and Management of Invasive Species

Location: Pantlind

Organized by: Seth Herbst, Sue Tangora – Michigan Department of Natural Resources

Moderator: Seth Herbst

- 10:20 AM **S01-30 Mute Swan Management in Michigan.** David Marks, USDA Wildlife Services.
- 10:40 AM **S01-31 Grass Carp Population Dynamics in the Mississippi River.** Michael C. Wolf*, Southeast Missouri State University; Quinton E. Phelps, Missouri Department of Conservation.
- 11:00 AM **S01-32 Grass Carp Reproduction in a Reservoir Basin: Implications for Range Expansions and Establishment of Asian Carps in Novel Habitats.** Cari-Ann Hayer*, U.S. Geological Survey, Columbia Environmental Research Center; Michael Bayless, Missouri Department of Conservation; Curt Byrd, Amy George, Nathan Thompson, Catherine Richter, Duane Chapman – U.S. Geological Survey, Columbia Environmental Research Center.
- 11:20 AM **S01-33 Evaluation of the Reproductive Status of *Ctenopharyngodon idella* in Western Lake Erie.** Jamin G. Wieringa*, Andrew R. Mahon – Central Michigan University.
- 11:40 AM **S01-34 Tributary Use and Large-Scale Movement of Grass Carp: Patterns to Inform Control Efforts in Western Lake Erie.** Cleyo Harris*, Travis Brenden – Michigan State University; Seth Herbst, Michigan Department of Natural Resources; Christopher Vandergoot, Ohio Department of Natural Resources; Charles Krueger, Michigan State University.
- 12:00PM LUNCH BREAK
- 1:20 PM **S01-35 Direct and Indirect Effects of Invasive Asian Carp on Native Communities.** Elizabeth Tristano*, James E. Garvey – Southern Illinois University.
- 1:40 PM **S01-36 Silver Carp Diet Selectivity in the Wabash River.** Mario Minder, Mark Pyron, Robert Shields – Ball State University.
- 2:00 PM **S01-37 Effect of Asian Carp Fecal Material on River Ecosystems.** Robert Shields*, Mark Pyron – Ball State University.

2:20 PM

S01-38 Using Food Web Modeling to Determine Effects of Increased Exploitation on Invasive Carps in the Middle Mississippi River. Nicholas Kramer*, Southeast Missouri State University; Quinton Phelps, Missouri Department of Conservation; Clay Pierce, U.S. Geological Survey Iowa Cooperative Fish and Wildlife Research Unit; Michael Colvin, Mississippi State University.

2:40 PM

S01-39 Removal of Asian Carp from Chicago Area Fishing Ponds and Potential Sources of Their Introduction. Tristan Widloe*, Victor J. Santucci Jr. – Illinois Department of Natural Resources; Gregory W. Whitley, Southern Illinois University.

S10 SYMPOSIUM *continued*: Landscape Conservation

Location: Governors

Organized by: Brad Potter, U.S. Fish and Wildlife Service

Moderators: Brad Potter (10:20 am – 12:00 pm) and Gwen White, U.S. Fish and Wildlife Service (1:20 – 3:30 pm)

10:20 AM

S10-17 Assessing the Effects of Climate Change on Groundwater, Surface Water, and Ecosystem Services in the Grand Kankakee River Watershed. Tamatha A. Patterson*, Department of Biological Sciences, University of Notre Dame; Alan F. Hamlet, Chun-Mei Chiu, Diogo Bolster – Department of Civil and Environmental Engineering and Earth Science, University of Notre Dame; Mark Schurr, Department of Anthropology, University of Notre Dame; Ralph Grundel, Noel Pavlovic – U.S. Geological Survey, Great Lakes Science Center; Dave Lampe, U.S. Geological Survey, Indiana Water Science Center; Jessica Hellmann, Institute on the Environment and Department of Ecology, Evolution and Behavior, University of Minnesota.

10:40 AM

S10-18 Conservation by Design: Promoting Resilient Coastal Wetlands in the Laurentian Great Lakes. Mark A. Davis*, Illinois Natural History Survey; Bradly A. Potter*, Upper Midwest and Great Lakes Landscape Conservation Cooperative; Christie Deloria, U.S. Fish and Wildlife Service; Heather Stirratt, National Oceanic and Atmospheric Administration; John Rogner, Upper Midwest and Great Lakes Landscape Conservation Cooperative.

11:00 AM

S10-19 Designing and Delivering Coastal Conservation that Optimally Benefits People and Nature in Western Lake Erie. Katie Kahl*, Doug Pearsall – The Nature Conservancy.

Wednesday, January 27 ♦ 10:20 AM – 12:00 PM & 1:20 PM – 3:00 PM

11:20 AM **S10-20 Current Conservation Status of Stream Fish Habitat in The Midwest and Northeastern United States.** Wesley M. Daniel*, Michigan State University; Nick Sievert, University of Missouri; Dana M. Infante, Michigan State University; Craig Paukert, U.S. Geological Survey, Missouri Cooperative Fish and Wildlife Research Unit; Jana Stewart, U.S. Geological Survey; Jodi Whittier, University of Missouri; Tyler Wagner, U.S. Geological Survey, Pennsylvania Cooperative Fish and Wildlife Research Unit; Kyle Herreman, Michigan State University; Yin-Phan Tsang, University of Hawaii.

11:40 AM **S10-21 Hierarchical Modeling of Larval Sea Lamprey *Petromyzon marinus* Habitat.** Alexander J. Jensen*, Michael L. Jones – Department of Fisheries and Wildlife, Michigan State University.

12:00 PM LUNCH BREAK

1:20 PM **S10-22 Grassland Bird Landscape Conservation Design in the Chicago Region.** Nathaniel Miller*, National Audubon Society; James Herkert*, Illinois Department of Natural Resources; Chad Wilsey; National Audubon Society; Caitlin Jensen, National Audubon Society.

1:40 PM **S10-23 The Conservation Atlas for Midwest Grasslands: A New Mapping Tool to Support Strategic Decisions and Cross-Sector Collaboration.** Dan Lambert*, High Branch Conservation Services; Ryan Drum, U.S. Fish and Wildlife Service; Wayne Thogmartin, U.S. Geological Survey; Chad Wilsey, National Audubon Society; Katie Koch, Tom Will – U.S. Fish and Wildlife Service; Rosalind Renfrew, Vermont Center for Ecostudies.

2:00 PM **S10-24 Change Strategies for the Future of Grassland Birds in the Midwest: A Conservation Deliberation.** Tom Will*, U.S. Fish and Wildlife Service; Kristen Nelson, University of Minnesota; Dan Lambert, Vermont Center for Ecostudies.

2:20 PM **S10-25 Milkweed Restoration Strategies: Storylines for Recovery of the Imperiled Monarch Butterfly.** Wayne E. Thogmartin*, U.S. Geological Survey, representing the Monarch Conservation Science Partnership.

2:40 PM **S10-26 A Monarch's View of the City: Developing A Multi-City Landscape Conservation Design.** Abigail Derby Lewis, Rebecca Collings* – Keller Science Action Center, The Field Museum of Natural History; Kristin Shaw*, Eastern Tallgrass Prairie and Big Rivers Landscape Conservation Cooperative.

3:00 PM **S10-27 PANEL DISCUSSION: Landscape Conservation Science and Management.**

S17 SPECIAL SYMPOSIUM: Wild and Domestic Interactions in Fish and Wildlife: A Two-Way Street

Location: Pearl

Organized by: Thomas Loch, Michigan State University

Moderator: Thomas Loch

10:20 AM **S17-1 Effects of Fishery Rehabilitation Practices on Pathogen Transmission Dynamics.** Thomas P. Loch*, Department of Pathobiology and Diagnostic Investigation, College of Veterinary Medicine, Michigan State University; Mohamed Faisal, Department of Pathobiology and Diagnostic Investigation, College of Veterinary Medicine, and Department of Fisheries and Wildlife, College of Agriculture and Natural Resources, Michigan State University.

10:40 AM **S17-2 Where on Earth Did That Fish Disease Come From: Graphic Fish Health Tales About The History and Future of Wild and Hatchery Fish Interactions.** Gary Whelan*, Michigan Department of Natural Resources, Fisheries Division.

11:00 AM **S17-3 Microbiome Studies to Inform Aquatic Animal Health Decision Making.** William Van Bonn*, Shedd Aquarium.

11:20 AM **S17-4 Impacts of Piscivorous Birds and the Parasites They Carry on Catfish Aquaculture in the Southeastern United States.** Matt Griffin*, Thad Cochran National Warmwater Aquaculture Center, Mississippi State University; Graham Rosser, Neely Alberson, Linda Pote – Mississippi State University; David Wise, Thad Cochran National Warmwater Aquaculture Center, Mississippi State University.

11:40 AM **S17-5 Can Vaccinated Hatchery Fish Be Used to Prevent Disease Spread? A Case Study of VHS Ivb.** Lori Ivan*, Travis Brenden, Mohamed Faisal, Isaac Standish – Michigan State University.

1200 PM LUNCH BREAK

1:20 PM **S17-6 A Genetic Perspective to Potential Costs and Benefits of Supplementation as a Management Tool.** Kim Scribner, Department of Fisheries and Wildlife and Department of Integrative Biology, Michigan State University.

1:40 PM **S17-7 Current Knowledge on the Transmission of Bovine Tuberculosis Between Domestic Animals and Wildlife as it Pertains to the Situation in Michigan.** Scott D. Fitzgerald*, Department of Pathobiology and Diagnostic Investigation, Michigan State University; Daniel J. O'Brien, Wildlife Disease Laboratory, Michigan Department of Natural Resources; John B. Kaneene, Center for Comparative Epidemiology, Michigan State University.

Wednesday, January 27 ♦ 10:20 AM – 12:00 PM & 1:20 PM – 3:00 PM

2:00 PM **S17-8 Wildlife and Domestic Animals Both Contribute to the Ecology and Epidemiology of Lyme Disease in the Upper Midwest.** Megan Porter, Michigan State University; Graham Hickling, University of Tennessee; Jean Tsao*, Michigan State University.

2:20 PM **S17-9 Wild and Domestic Interactions from the State Veterinarian Perspective.** James Averill*, Michigan Department of Agriculture and Rural Development.

S18 SPECIAL SYMPOSIUM: Wildlife Habitat Techniques

Location: Imperial

Organized by: Michael Donovan, Michigan Department of Natural Resources

Moderator: Michael Donovan

10:20 AM **S18-1 Prescribed Fire For Ring-Necked Pheasant Habitat Management at Verona State Game Area, Huron County, MI.** Don Bonnette*, Michigan Department of Natural Resources - Wildlife Division.

10:40 AM **S18-2 Habitat Management for Northern Bobwhite on Reclaimed Surface Mines.** Jarred Brooke*, Kentucky Department of Fish and Wildlife Resources; David Peters, Quail Forever; Ashley Unger, Evan Tanner – Oklahoma State University; Craig Harper, Patrick Keyser – University of Tennessee; Joseph Clark, U.S. Geological Survey and University of Tennessee; John Morgan, Kentucky Department of Fish and Wildlife Resources.

11:00 AM **S18-3 Restoration of Wetland Vegetation in a Controlled Wetland - Bad Creek Unit Pointe Mouillee State Game Area.** Zach Cooley*, Joe Robison – Michigan Department of Natural Resources -Wildlife Division.

11:20 AM **S18-4 Working With Foresters to Achieve Wildlife Goals: Examples From Western Upper Peninsula.** John DePue, Michigan Department of Natural Resources.

11:40 AM **S18-5 Oak Savanna Restoration and Management in Southwest Michigan.** Kenneth S. Kesson*, Michigan Department of Natural Resources - Wildlife Division.

12:00 PM LUNCH BREAK

1:20 PM **S18-6 Oak Tree Planting: A Proactive Approach To Beech Bark Disease (BBD) in the Upper Peninsula (UP).** Don Brown*, Colter Lubben* – Michigan Department of Natural Resources-Wildlife Division.

1:40 PM **S18-7 Animal Community Structure Along A Midwest Grassland-Forest Gradient: Comparison Among Vertebrate and Insect Taxa.** Ralph Grundel*, Noel Pavlovic – U.S. Geological Survey.

2:00 PM **S18-8 The Effectiveness of the Hose Bridge as a Road Crossing Structure For Snakes.** Sarah Manka*, Eastern Illinois University; Stephen Mullin, Stephen F. Austin State University.

2:20 PM **S18-9 Differential Seed Preferences of *Tamias striatus* and *Neotamias minimus* and Their Implications for the Great Lakes Region.** Amy Johnson, Michael J. Cramer*, Dame; David Fligel – University of Notre Dame; Samantha Driscoll, Syracuse University.

2:40 PM **S18-10 Bee Diversity and Butterfly Relative Abundance in Organic, Conservation, and Conventional Farms; The Value of On Farm Conservation Practices.** Cassandra A. Wilcoxon, Michael P. Ward – University of Illinois-Urbana-Champaign; Jeffery W Walk, The Nature Conservancy.

S19 SPECIAL SYMPOSIUM: Food for Thought: Trial, Error, and Adaptation for Successful Hunter Recruitment, Retention, and Reactivation

Location: Vandenberg B

Organized by: Jordan Burroughs, Michigan State University; Keith Warnke, Wisconsin Department of Natural Resources

Moderators: Jordan Burroughs (10:20 am – 12:00 pm) and Keith Warnke (1:20 – 3:00 pm)

10:20 AM **Welcome & Session Overview.**

10:30 AM **Update on National Plan, Results Chain Process and Hunter Adoptions Model.**

11:00 AM **The Minnesota Experience Recruiting Millennials .**

11:20 AM **Wyoming Forever Wild Families Program.**

11:40 AM **Next Steps for Retention and Continuation.**

12:00 PM LUNCH BREAK

1:20 PM **Evaluating Wisconsin's Learn to Hunt Program Using Mark-recapture Survival Analysis.**

1:40 PM **Wisconsin's Mentor Certification Training.**

2:00 PM **Adult Learn to Hunt Mentor Panel.**

2:45 PM **Closing.**

CO 17 GENERAL WILDLIFE: Bird Conservation

Location: Emerald A

Moderator: Sean Sultaire, Michigan State University

10:20 AM **CO 17-1 Mitigating the Negative Effects of Road Noise On Songbird Abundance With Conspecific Playback.** Matthew J. Schepers*, Calvin College; Darren S. Proppe, Calvin College – Au Sable Institute.

10:40 AM **CO 17-2 Patch and Landscape Configuration Effects On Avian Species Richness in Restored Shrublands.** Bryan M. Reiley*, University of Illinois/Illinois Natural History Survey ,Thomas J. Benson, Illinois Natural History Survey.

Wednesday, January 27 ♦ 10:20 AM – 12:00 PM & 1:20 PM – 3:00 PM

11:00 AM **CO 17-3 Breeding Bird and Plant Associations With Urban Residential Land Management Practices in Columbia, Missouri.** Eric Fishel*, Charles Nilon, Robert Pierce – University of Missouri.

11:20 AM **CO 17-4 Climate Change Impacts On Birds in National Parks in The Upper Mississippi River and Great Lakes Region.** Chad Wilsey, Caitlin Jensen – National Audubon Society; Nicholas Fischelli, National Park Service; Stephen N. Mathews, The Ohio State University.

11:40 AM **CO 17-5 Effects of Brush Management on the Reproductive Output of an Endangered Songbird.** Daniel G. Kovar*, Jinelle H. Sperry – University of Illinois at Urbana-Champaign; David A. Cimprich, United States Army.

CO 18 GENERAL FISHERIES: Imperiled Species

Location: Emerald B

Moderator: Andrew Bueltmann, Indiana Department of Natural Resources

10:20 AM **CO 18-1 Water Quality Requirements and Preferences of the Topeka Shiner *Notropis topeka*.** Amanda Rosenberger, Missouri Cooperative Unit; Rory Mott*, University of Missouri.

10:40 AM **CO 18-2 Impacts of Long Box Culverts on the Movement of Topeka Shiner and Other Prairie Stream Fishes.** Britney Mosey*, University of Minnesota; Jay Hatch, James Ford Bell Museum of Natural History, University of Minnesota; Jessica Kozarek, University of Minnesota.

11:00 AM **CO 18-3 Investigation Into American Eel Chemical Cues as Potential Tools to Aid Restoration.** Andrew K. Schmucker*, Michigan State University; Nicholas S. Johnson, Heather S. Galbraith – U.S. Geological Survey; Weiming Li, Michigan State University.

11:20 AM **CO 18-4 American Eel Habitat Use and Timing of Freshwater Entrance in the Mississippi River.** Andrew T. Bueltmann*, Indiana Department of Natural Resources; Quinton E. Phelps, Missouri Department of Conservation.

CO 19 GENERAL WILDLIFE: Furbearer Conservation

Location: Vandenberg A

Moderator: Brad Silet, Michigan State University

10:20 AM **CO 19-1 Non-harvest Mortality of American Marten *Martes americana* in the Eastern Upper Peninsula, Michigan.** Talesha Dokes*, Michigan State University; Eric Clark, Inland Fish and Wildlife Department, Sault Ste. Marie Tribe of Chippewa Indians; Brad Silet, Michigan State University; Rusty Aikens, John Powell – Inland Fish and Wildlife Department, Sault Ste. Marie Tribe of Chippewa Indians; Gary J. Roloff, Michigan State University.

10:40 AM **CO 19-2 American Marten Den Site Characteristics In Michigan's Northern Lower Peninsula.** Melissa Nichols*, Paul Keenlance, Joseph Jacquot – Grand Valley State University.

11:00 AM **CO 19-3 Influence of Urbanization on the Body Condition of the Coyote *Canis latrans* in the Chicago Metropolitan Area.** Ashley Wurth*, The Ohio State University; Seth Newsome, University of New Mexico; Shane McKenzie, Max McGraw Wildlife Foundation; Stan Gehrt, The Ohio State University.

11:20 AM **CO 19-4 Capture Efficiency, Survival, and Home Range Characteristics of River Otters in Southern Illinois.** Andrew Rutter*, Clay Nielsen, Eric Schaubert – Southern Illinois University.

11:40 AM **CO 19-5 Response of Semi-Aquatic Mammal Populations to Remediation Efforts in the St. Louis River Area of Concern.** Bryn E.H. Evans*, Shawn M. Crimmins, Timothy R. Van Deelen – University of Wisconsin Madison.

12:00 PM LUNCH BREAK

1:20 PM **CO 19-6 A Descriptive Habitat Model for the Grey Wolf *Canis lupus* in Michigan.** Zachery Millbrand*, Bob Grese, Bobbi Low – University of Michigan School of Natural Resources and Environment.

1:40 PM **CO 19-7 Evaluating Alternative Wolf Monitoring Protocols in Wisconsin.** Shawn Crimmins, Timothy Van Deelen – University of Wisconsin; Liza Walleser, David MacFarland, Nathan Roberts – Wisconsin Department of Natural Resources.

CO 20 GENERAL FISHERIES: Fish Techniques

Location: Gerald Ford

Moderator: Jennifer Johnson, Michigan Department of Natural Resources (10:20 am – 12:00 pm) and Wes Daniel, Michigan State University (1:20 – 2:40 pm)

10:20 AM **CO 20-1 Precision of Estimating Ages of Yellow Perch Using Dorsal and Anal Spines.** William D. Oeming*, Jason B. Smith, Kevin C. Donner – Little Traverse Bay Bands of Odawa Indians .

10:40 AM **CO 20-2 Reducing Effects of Dispersal on the Bias of 2-Sample Mark-Recapture Abundance Estimators.** James N. McNair*, Carl R. Ruetz III, Ariana Carlson – Annis Water Resources Institute - Grand Valley State University.

11:00 AM **CO 20-3 A Comparison of Fish Assemblages Between Wing Dam and Chevron Dike Structures in the Middle Mississippi River.** John West, Missouri Department of Conservation.

11:20 AM **CO 20-4 Comparison of Larval Fish Sampling Gears in the Minnesota River.** Nathan J. Lederman*, Shannon J. Fisher – Minnesota State University, Mankato.

Wednesday, January 27 ♦ 10:20 AM – 12:00 PM & 1:20 PM – 3:00 PM

- 11:40 AM **CO 20-5 Developing a Rapid Assessment Protocol To Monitor Fish in Missouri Wetlands.** Julia Guyton*, Missouri Cooperative Research Unit, Department of Fisheries and Wildlife; Lisa Webb, Craig Paukert – U.S. Geological Service, Missouri Cooperative Research Unit, Department of Fisheries and Wildlife; Frank Nelson, Missouri Department of Conservation, Big Rivers/Wetlands Field Station.
- 12:00 PM LUNCH BREAK
- 1:20 PM **CO 20-6 Sound Management: Using Dual Frequency Identification Sonar to Better Understand the Emigration of Stocked Juvenile Steelhead.** Richard R. Budnik*, Jeffrey G. Miner – Aquatic Ecology and Fisheries Laboratory, Bowling Green State University; Chuck Murray, Pennsylvania Fish and Boat Commission.
- 1:40 PM **CO 20-7 Fire The Laser! Determining Natal Origins of Juvenile Steelhead Using Otolith Chemical Analysis.** Nicole Watson*, Steven Hummel – Central Michigan University; Jory Jonas, Michigan Department of Natural Resources; James Student, Central Michigan University; Kevin Pangle, Central Michigan University.
- 2:00 PM **CO 20-8 Application of Voice Recognition Software For Fish Biological Data Collection.** Daniel J. Traynor*, Shawn P. Sitar – Michigan Department of Natural Resources.
- 2:20 PM **CO 20-9 Internet Based Larval Fish and Egg Taxonomic Key for Freshwater Environments.** Chris Cieciek*, LimnoTech; Nancy A. Auer*, Michigan Technological University.
- 11:20 AM **CO 21-4 Development and Implementation of a New Fishery Management Paradigm for Saginaw Bay's Walleyes and Yellow Perch.** Todd Grischke*, James Baker, David Fielder – Michigan Department of Natural Resources.
- 11:40 AM **CO 21-5 Time Warp: Examination of Age-0 Walleye Diets Reveals Foodweb Changes in Western Lake Erie Between 1990s and 2014.** Dana Castle*, Carson Prichard, Ed Roseman, Robert Hunter – U.S. Geological Survey, Great Lakes Science Center; Chris Vandergoot, Ohio Department of Natural Resources; Mark Rogers, U.S. Geological Survey, Great Lakes Science Center, Lake Erie Biological Station; Kristen Hebebrand, University of Toledo Lake Erie Center; Kevin Keeler, Cooperative Ecosystem Studies Unit, Michigan State University and University of Toledo; Brian Schmidt, Christine Mayer – University of Toledo Lake Erie Center; William Taylor, Center for Systems Integration and Sustainability, Department of Fisheries and Wildlife, Michigan State University.
- 12:00 PM LUNCH BREAK
- 1:20 PM **CO 21-6 Unforeseen Barrier Limits Spawning Habitat Availability in the Maumee River.** Brian A. Schmidt*, Christine M. Mayer – University of Toledo; Edward F. Roseman, Wendylee Stott – U.S. Geological Survey Great Lakes Science Center; Jeremy J. Pritt, Ohio Department of Natural Resources: Division of Wildlife.
- 1:40 PM **CO 21-7 A Comparison of Spring and Fall Walleye Population Estimates in Brevoort Lake, Michigan.** John H. Powell*, Russell Aikens – Inland Fish and Wildlife Department, Sault Ste. Marie Tribe of Chippewa Indians; Bradford Silet, Department of Fisheries and Wildlife Michigan State University; Eric M. Clark, Inland Fish and Wildlife Department Sault Ste. Marie Tribe of Chippewa Indians.

CO 21 GENERAL FISHERIES: Percids

Location: Atrium

Moderators: Lisa Peterson, Michigan State University (10:20 am – 12:00 pm) and David Fielder, Michigan Department of Natural Resources (1:20 – 2:40 pm)

- 10:20 AM **CO 21-1 The Effects of Hypoxia on Yellow Perch *Perca flavescens* Foraging Behavior and Physiology.** L. Zoe Almeida*, Samuel C. Guffey, Marisol S. Sepúlveda, Tomas O. Höök – Purdue University.
- 10:40 AM **CO 21-2 Predator and Prey: Comparing Larval Yellow Perch Selection and Response to Varying Prey Communities Across Multiple Systems.** Darrin McCullough*, Dan Hayes – Michigan State University.
- 11:00 AM **CO 21-3 Decision Analysis via Stochastic Simulations in Support of the Development of New Management Initiatives for Saginaw Bay.** David G. Fielder*, Michigan Department of Natural Resources; Michael L. Jones, James R. Bence – Michigan State University Quantitative Fisheries Center.
- 2:00 PM **CO 21-8 Gear-and Season-specific Catch Rates of Age-0 Walleye and Age-0 White Bass in Harlan County Reservoir, Nebraska.** Brett Miller*, Casey Schoenebeck – Department of Biology, University of Nebraska at Kearney; Keith Koupal, Nebraska Game and Parks Commission.
- 2:20 PM **CO 21-9 Estimating Genetic Diversity Levels in Wisconsin's Feral Walleye Broodstock Populations.** Michael F. Vaske, Justin A VanDeHey – Fish Propagation Science Center, College of Natural Resources, University of Wisconsin-Stevens Point; Brian L. Sloss, College of Natural Resources, University of Wisconsin – Stevens Point; Keith Turnquist, Molecular Conservation Genetics Laboratory, College of Natural Resources, University of Wisconsin – Stevens Point.

Wednesday, January 27 ♦ 10:20 AM – 12:00 PM & 1:20 PM – 3:00 PM

CO 22 GENERAL FISHERIES: Freshwater Fish

Location: Thornapple

Moderators: Heather Dawson, University of Michigan-Flint (10:20 am – 12:00 pm) and James Diana, University of Michigan (1:20 – 3:00 pm)

- 10:20 AM **CO 22-1 Effects of Drought on Wetland Condition Through Reductions in Fish Abundance.** Michael D. Sundberg*, Ryan C. Baldwin, Timothy W. Stewart, Gabriel O. Demuth – Iowa State University.
- 10:40 AM **CO 22-2 Littoral Fish Assemblages in Two Lake Michigan Drowned River Mouths: Preliminary Results.** Andrya L Whitten*, Carl R. Ruetz III – Grand Valley State University-Annis Water Resource Institute.
- 11:00 AM **CO 22-3 The Relationship Between Suspended Sediment, Discharge, and Recruitment of Smallmouth Bass *Micropterus dolomieu* in the Eel River, Indiana.** Kyle Boone*, Kevin Pangle – Central Michigan University; Jerry Sweeten, Manchester University.
- 11:20 AM **CO 22-4 Insights Into The Habitat Use and Spawning Behavior of a Unique Lake Trout *Salvelinus namaycush* Population in Elk Lake, Michigan.** Kyle Broadway*, Kevin Pangle, Tracy Galarowicz – Central Michigan University; Randall Claramunt, Jory Jonas – Michigan Department of Natural Resources.
- 11:40 AM **CO 22-5 Juvenile Asian Carp Predation on the La Grange Reach, Illinois River.** Eli Lampo*, James T. Lamer – Department of Biological Sciences, Western Illinois University; James H. Larson, Brent Knights, John Vallazza – Upper Midwest Environmental Sciences Center, U.S. Geological Survey; Levi Solomon, Rich Pendleton, Andrew Casper – Illinois River Biological Station, Illinois Natural History Survey.
- 12:00 PM LUNCH BREAK
- 1:20 PM **CO 22-6 The Impact of Elevated Carbon Dioxide (CO₂) on Alarm Cue Behaviors in Fathead Minnows.** John A. Tix*, Caleb Hasler, Cody Sullivan, Jennifer D. Jeffrey, Cory D. Suski – University of Illinois Urbana-Champaign.
- 1:40 PM **CO 22-7 Rates of Endocrine Disruption in Two Commercial Fishes, Common Carp and Channel Catfish, Along a Downstream Gradient in the Illinois River.** Madeleine M. VanMiddlesworth*, Andrew F. Casper, Jason A. DeBoer, Mark W. Fritts – Illinois River Biological Station, Illinois Natural History Survey; Jeffrey M. Levensgood, Illinois Natural History Survey, Prairie Research Institute, University of Illinois-Urbana-Champaign.

2:00 PM

CO 22-8 White Grub in Centrarchidae from the Ohio River Drainage. Evan Boone*, Eastern Illinois University; Les Frankland, Illinois Department of Natural Resources; Devon Keeney, Le Moynes College; Jeffrey Laursen, Robert Colombo – Eastern Illinois University.

2:20 PM

CO 22-9 Health Status of Migrating and Resident Fishes in Three Tributaries of Whitefish Bay, Lake Superior. Lucas Bradburn, Jianzhong Gao, Jun Li – Biology Department Lake Superior State University.

2:40 PM

CO 22-10 Improving Polyculture Systems in Rural Nepal for Farmers; An Optimal Stocking Density Analysis of Two Small Indigenous Species (SIS). Bailey A. Keeler*, James S. Diana – University of Michigan; Madhav Shrestha, University of Nepal.

CO 23 GENERAL WILDLIFE: Wildlife Diseases

Location: Ruby

Moderator: Karmen Hollis-Etter, University of Michigan-Flint

10:20 AM

CO 23-1 Analysis of Parasite Community Structure Within Mallards *Anas platyrhynchos* Collected at Lake Winnibigoshish, Minnesota During Spring and Fall Migration. Holly Bloom*, Robert Sorensen – Minnesota State University, Mankato.

10:40 AM

CO 23-2 Determinants of Gut Helminth Composition in Two Species of Co-Migrating Light Geese. Evan Boone*, Scott Meiners, Jeffrey Laursen – Eastern Illinois University.

11:00 AM

CO 23-3 The Identification of the Exotic Waterfowl Trematode *Psilotrema mediopora* (Trematoda: Psilostomatidae) in United States for the First Time Using Morphological and Molecular Data. Tyler Achatz*, Department of Biological Sciences, Minnesota State University Mankato; Robert Sorensen, Department of Biological Sciences, Minnesota State University Mankato.

11:20 AM

CO 23-4 Zebra Mussels: The Artery of Contamination. Keith terHorst*, Nick Pierce – Grand Valley State University.

11:40 AM

CO 23-5 Historic and Emerging Sources of Mortality in Bald Eagles *Haliaeetus leucocephalus* in Michigan, 1987-2011. Kendall L. Simon*, University of Maryland; David A. Best; Retired U.S. Fish and Wildlife Service; James G. Sikarskie, Michigan State University; Henry T. Pittman, Florida Fish and Wildlife Conservation Commission; William W. Bowerman, University of Maryland; Thomas M. Cooley, Michigan Department of Natural Resources.

12:00 PM

LUNCH BREAK

Wednesday, January 27 ♦ 10:20 AM – 12:00 PM & 1:20 PM – 3:00 PM

1:20 PM **CO 23-6 Impacts of Urbanization on the Health and Stress of Amphibian Communities.** Mary Beth Manjerovic*, Allison Sacerdote-Velat, Rachel Santymire – Lincoln Park Zoo.

1:40 PM **CO 23-7 Evaluating Gene Expression in Chronic Wasting Disease Infected White-Tailed Deer *Odocoileus virginianus*.** Emma K. Trone*, Christopher N. Jacques, James T. Lamer, Paige Zick – Western Illinois University; Guoqing Lu, University of Nebraska-Omaha; Paul A. Shelton, Illinois Department of Natural Resources.

2:00 PM **CO 23-8 *Cytauxzoon felis* (Apicomplexa: Theileriidae) in Bobcats, Domestic Cats, and Tick Vectors in the Southern Region Of Illinois.** Elliott Zieman, Department of Zoology, Southern Illinois University Carbondale, Cooperative Wildlife Research Laboratory, Southern Illinois University. F. Agustin Jimenez, Department of Zoology, Southern Illinois University Carbondale. Clayton K. Nielsen, Cooperative Wildlife Research Laboratory, Southern Illinois University, Department of Forestry and Center for Ecology, Southern Illinois University.

2:20 PM **CO 23-9 Development of Strategies to Orally Deliver Vaccine for Bovine Tuberculosis to White-Tailed Deer of NE Lower Michigan.** David Dressel*, Henry Campa III – Michigan State University; Michael Lavelle, USDA-APHIS; Scott R. Winterstein, Michigan State University; Kurt VerCauteren, USDA-APHIS.

2:40 PM **CO 23-10 Analytical Approach For Identifying Environmental Conditions Associated With Resource Selection and Wildlife Disease Data.** Alexandria Dutcher*, Karmen M. Hollis – Department of Biology, University of Michigan-Flint; Christopher L. Anchor, James E. Chelsvig – Forest Preserve District of Cook County; Richard E. Warner, University of Illinois, Department of Natural Resources and Environmental Sciences; Robert A. Montgomery, Department of Fisheries and Wildlife, Michigan State University; J.P. Dubey, Parasite Biology and Epidemiology Laboratory, Agriculture Research Service, U.S. Department of Agriculture.

CO 24 GENERAL FISHERIES: Rivers/Streams

Location: Grand View A

Moderators: Mark Luttenton, Grand Valley State University (10:40 am – 12:00 pm) and Brandon Gerig, University of Notre Dame (1:20 – 2:00 pm)

10:20 AM **CO 24-1 The Impact of Unprecedented High Water Temperatures on the Columbia Basin Sockeye Salmon Run in 2015.** Jeffrey K Fryer, Columbia River Inter-Tribal Fish Commission.

10:40 AM **CO 24-2 Vulnerability of Stream Communities Within the National Park Services' Heartland Inventory and Monitoring Network.** Jacob Schwoerer*, Missouri Cooperative Fish and Wildlife Research Unit; Craig Paukert, U.S. Geological Survey Missouri Cooperative Fish & Wildlife Research Unit; Hope Dodd, National Park Service Heartland Inventory & Monitoring Network.

11:00 AM **CO 24-3 Projected Impacts of Climate Change on Stream Salmonids With Implications for Resilience-Based Management in Michigan.** Andrew K. Carlson*, William W. Taylor – Michigan State University, Center for Systems Integration and Sustainability, Department of Fisheries and Wildlife; Troy G. Zorn, Michigan Department of Natural Resources, Marquette Fisheries Research Station; Dana M. Infante, Center for Systems Integration and Sustainability, Department of Fisheries and Wildlife.

11:20 AM **CO 24-4 Evaluating Contemporary and Future Risks to Habitats of Michigan's Vulnerable Stream and Inland Lake Fishes.** Arthur R. Cooper*, Department of Fisheries and Wildlife, Michigan State University; Kevin E. Wehrly, Michigan Department of Natural Resources and University of Michigan; Ken Yi, Department of Fisheries and Wildlife, Michigan State University.

11:40 AM **CO 24-5 Seasonal Fish Migration Supplements the Energy Budget in a Coastal Lake Michigan Stream.** Emily Dean*, Mark Luttenton – Grand Valley State University.

12:00 PM LUNCH BREAK

1:20 PM **CO 24-6 Movement-related Life History Variation in Brook Trout *Salvelinus fontinalis* in Lake Superior Tributary Streams.** Jill Leonard, Robert Cross – Northern Michigan University.

1:40 PM **CO 24-7 Biotic Integrity and Smallmouth Bass Populations, Are They Associated in Minnesota Streams and Rivers?.** Douglas J. Dieterman*, John H. Hoxmeier – Minnesota Department of Natural Resources; Eric J. Krumm, Department of Biological Sciences, Minnesota State University-Mankato.

POSTERS

- ☉ The posters will be set up in the West Concourse and Crown Foyer, grouped according by Topic as identified in the listings on the following pages. See diagram on page 55.
- ☉ The presenting author is the first name listed, or if otherwise indicated with an asterisk. *

P01 HUMAN DIMENSIONS, OUTREACH, PUBLIC ENGAGEMENT	
P01-1	Climate Change Implications on Rural Land Management and the Associated Vegetation and Bird Communities Wesley Buchheit*, Charles Nilon, Robert Pierce – University of Missouri-Columbia
P01-2	Michigan Hunter Education Instructors' Attitudes, Beliefs, and Knowledge Toward Environmental and Ecological Systems Michael W. Everett*, Matt R. Raven – Michigan State University
P01-3	The Use of Propidium Monoazide and qPCR to Differentiate Live and Dead <i>E. coli</i> Cells on Beaches Benjamin Giffin, Charlyn Partridge – Grand Valley State University
P01-4	Citizen Science and Swift Foxes: Engaging Students and Landowners in Rare Species Conservation Michelle L. Lute*, Lucia Corral – Nebraska Cooperative Fish and Wildlife Research Unit; Jenny M. Dauer, University of Nebraska-Lincoln; Joseph J. Fontaine, Nebraska Cooperative Fish and Wildlife Research Unit
P01-5	Citizen Reporting of Wildlife Disease Outbreaks Caitlin N. Ott-Conn*, Michigan Department of Natural Resources; Tyler R. Petroelje, Mississippi State University; Thomas M. Cooley, Julie R. Melotti – Michigan Department of Natural Resources
P01-6	An Information Exchange for Wildlife in Fire-Dependent Ecosystems of the Northern Lake States Shelby A. Weiss*, The Ohio State University; R. Gregory Corace, III, Seney National Wildlife Refuge; Lindsey M. Shartell, Minnesota Department of Natural Resources; Dawn S. Marsh, Seney National Wildlife Refuge; Eric L. Toman, The Ohio State University
P02 WILDLIFE	
P02-1	Cancelled
P02-2	Wildlife Conservation Strategies in Aser Region Southwestern Saudi Arabia Abdulaziz R Al-Qahtani, University of Bisha
P02-3	Updating The National Wetland Inventory For Minnesota Kristin Bahleda*, Robb Macleod – Ducks Unlimited
P02-4	Restoring The Calumet Region's Wetlands For Marsh Birds Nathaniel Miller, Caleb Putnam, Thomas Barnes – Audubon Chicago Region; Gary Sullivan, The Wetlands Initiative; Byron Tsang, Chicago Park District
P02-5	Work Smarter, Not Harder: Comparison of Visual and Supplemental Survey Methods for the Eastern Massasauga Rattlesnake Jeffrey F. Bartman*, Nathan Kudla, Danielle Bradke, Jennifer A. Moore – Grand Valley State University
P02-6	Vertical Distribution of Arthropods At Two Heights in a Hardwood Forest Canopy Nathan Bowman, University of Rio Grande
P02-7	Evaluating Patterns in Carnivore Richness and Detectability Using Remote Camera Surveys in Wisconsin John Clare, Phil Townsend, Ben Zuckerberg – University of Wisconsin; Jen Stenglein, Wisconsin Department of Natural Resources; Tim Van Deelen, University of Wisconsin
P02-8	Comparisons of Dispersal and Excursion Events Between Localized Populations of Urban and Rural White-Tailed Deer <i>Odocoileus virginianus</i> Garrett B. Clevinger, Jonathan K. Trudeau, Timothy C. Carter – Ball State University
P02-9	Immobilization of Free Ranging Populations Urban and Rural White-Tailed Deer <i>Odocoileus virginianus</i> Using Butorphanol-Azapaperone-Medetomidine (Bam) Garrett B. Clevinger*, Jonathan K. Trudeau* – Ball State University; Caleb Haymes, Joseph McDermott; John J. Cox – University of Kentucky; Timothy C. Carter, Ball State University
P02-10	Roosting Habits of the Eastern Small-Footed Bat in the Shawnee National Forest in Southern Illinois Kristi A. Confortin, Timothy Carter – Ball State University
P02-11	Measuring The Impact of Contour Buffer Strips On Grassland Birds. Julia Dale*, Matt Stephenson, Lisa Schulte-Moore – Natural Resource Ecology and Management, Iowa State University; Robert Klaver, U.S. Geological Survey, Iowa Cooperative Fish and Wildlife Unit

P02-12	Plant Establishment and Attractiveness of Four Prairie Seed Mixes to Honey Bees and Native Pollinators During Early Stand Development. Nathan W. Dalman*, Zach M. Smith – University of Minnesota-Morris; Matthew D. Thom, USDA Agricultural Research Service; Margaret A. Kuchenreuther, University of Minnesota-Morris
P02-13	Home Range and Survival of Rehabilitated Red-Tailed Hawks <i>Buteo jamaicensis</i> Jacqueline Edmunds, Nelson Institute for Environmental Studies, University of Wisconsin; Mark Berres, Department of Animal Sciences, University of Wisconsin
P02-14	Variation in Bee and Plant Communities Across Reconstructed Habitats in an Urban Park in St. Louis, Missouri Michael Farber*; Charles Nilon – University of Missouri, Peter VanLinn; Forest Park Forever
P02-15	Sex Differentiation in the Growth of Spotted Turtles <i>Clemmys guttata</i> Michael J. Dreslik; Christina Y. Feng* – Illinois Natural History Survey
P02-16	Bird-Window Collisions on a University Campus: Comparison of Migration Phenology and Collision Rates Sarah E. Fischer*, Kamal Islam – Ball State University
P02-17	Digging Further Into Wolf-Deer Interactions: Food Web Effects On Forest Ecosystem Processes David G. Flagele*, University of Notre Dame Environmental Research Center; Gary E. Belovsky, University of Notre Dame
P02-18	Survey of Invertebrates Near Piping Plover Nesting Sites Tom Flanagan*, Jason Garvon – School of Biological Sciences, Lake Superior State University
P02-19	Wild Toledo Green Corridor Wildlife Monitoring. Justin Grubb, Wild Toledo at the Toledo Zoo
P02-20	Effect of Group Size on Fear Response in Captive Fallow Deer <i>Dama dama</i> Paige Hall*, John Roese – Lake Superior State University
P02-21	A Collective Comparison of Methods for Estimating Ruffed Grouse <i>Bonasa umbellus</i> Abundance Using Detection Probability Bryn Webber, Chase Gadbois, James Hansen*, Michelle Murawski, Jason Riddle – University of Wisconsin-Stevens Point
P02-22	Amphibian Conservation (Centrolenidae) in Neotropical Cloud-Forest Streams Using Stable Isotopes To Measure Energy Subsidies. Anna Harris*, Grand Valley State University
P02-23	Identifying Habitat Suitability Requirements for an Afro-Montane Primate in Northern Ethiopia Julie C. Jarvey*, Bobbi S. Low – University of Michigan School of Natural Resources and Environment; Jacinta C. Beehner, University of Michigan Department of Psychology and Department of Anthropology
P02-24	Effect of Incubation Investment on Fledging Rate of Piping Plovers Michelle Kane*, Jason Garvon – School of Biological Sciences, Lake Superior State University
P02-25	Density Dependent Effects on Conspecific Cue Use for Habitat Selection and Reproductive Success in Yellow Warblers <i>Setophaga petechia</i>. Janice Kelly*, Michael Ward – University of Illinois at Urbana-Champaign, Department of Natural Resources and Environmental Sciences
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P02-27	The Influence of Habitat and Landscape Associations on Breeding Birds in Managed Grasslands of Southwest Michigan Whitney Lambert*, Darien Lozon*, Robert Keys – Cornerstone University
P02-28	Accuracy of GIS Data in Predicting Habitat Type For The Massasauga <i>Sistrurus catenatus</i> Taylor Lehman*, Jordan Marshall, Bruce Kingsbury
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P02-31	Use of Cabanas by Piping Plover Chicks After Hatching Gislaine Peters, Jason Garvon – School of Biological Sciences, Lake Superior State University
P02-32	Black Tern Conservation in the Great Lakes Region. Caleb Putnam*, Nathaniel Miller – Audubon
P02-33	Differences in Spring Food Availability For Dabbling Ducks Among Wetland Types in Nebraska's Rainwater Basin, USA Travis J Schepker* University of Missouri; Elisabeth Webb, Missouri Cooperative Research Unit; Ted LaGrange; Nebraska Game and Parks Commission.

P02-34	Behavioral Determinants of Parasite Transmission in a Wild Butterfly Host Anna Schneider*, University of Wisconsin-Stevens Point; Ania Majewska, Sonia Altizer, Richard Hall – University of Georgia
P02-35	Avian Assemblages in an Urban Matrix. Ryan Smith*, Bruce Kingsbury – Indiana-Purdue University Fort Wayne
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P02-37	Avian Nest Success Within Agricultural Buffer Strips Matt Stephenson*, Julia Dale, Lisa Schulte-Moore – Natural Resource Ecology and Management, Iowa State University; Robert Klaver, U.S. Geological Survey, Iowa Cooperative Fish and Wildlife Unit.
P02-38	Restoring a Missing Component to Northeastern Illinois Restorations: The Shrub Layer Daniel Suarez*
P02-39	Habitat Use and Pesticide Exposure in Northern Leopard Frogs in Conservation Reserve Enhancement Program Wetlands Jennifer Swanson*, Iowa State University; Clay Pierce, U.S. Geological Survey, Iowa Cooperative Fish and Wildlife Research Unit; Erin Muths, Kelly Smalling, Mark Vandever – U.S. Geological Survey
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P02-41	Overwintering Habits of Juvenile Blanding's Turtles <i>Emydoidea blandingii</i> at Shiawassee National Wildlife Refuge, Saginaw MI, USA Melissa Szymanski, Sasha Davis, Billy Gibala, Malloreay Smith, Teresa Yoder-Nowak – University of Michigan-Flint.
P02-42	Preliminary Comparison of Adult Urban and Rural White-Tailed Deer Home Range Size in Southern Indiana Jonathan K. Trudeau*, Garrett B. Clevinger, Timothy C. Carter – Ball State University
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P03-3	Evidence of Morphological Differences Between Bluegill <i>Lepomis macrochirus Rafinesque</i>, 1819 Populations Within Grand Lake St. Mary's Watershed Anthony Bell Jr.*, Stephen J. Jacquemin – Department of Biological Sciences, Wright State University
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P03-5	Land Use Heterogeneity and Its Effects on Diet Composition of Juvenile Steelhead in Lake Michigan Tributaries Kyle Brumm,* Nicole Watson, Kevin Pangle – Central Michigan University; Jory Jonas, Michigan Department of Natural Resources
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P03-10	Effects of European Frog-Bit on Water Quality and Aquatic *D.H. Daly, T. Dunn, A.H. Moerke – Lake Superior State University
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P03-12	Painting a Picture of Lake Michigan One Transect at a Time Joshua Dub*, Sergiusz Czesny – Lake Michigan Biological Station, Illinois Natural History Survey, University of Illinois
P03-13	Simulation of Asian Carp Egg Transport and Larval Dispersal in the Illinois River Below Starved Rock Lock and Dam James J. Duncker, Tatiana Garcia – U.S. Geological Survey
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P03-15	Effects of Electroshocking and Tagging on Brook Trout and Rainbow Trout in an Artificial and Natural Setting Jacob Bowman, Jill Leonard – Northern Michigan University
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P03-18	Assessment of Shoreline Restoration Sites in the St. Clair-Detroit River System Jason Fischer, Edward Roseman, Ellen O'Neil, Kevin Keeler, Dana Castle, Stacey Ireland, Stacy Provo, Carson Prichard, Ryan Young, Paige Wigren, Ethan Acromite, Nathan Williams, Jenny Sutherland, Robert Hunter, Emily Galassini, Jake Magier – U.S. Geological Survey
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P03-20	A Consistent Binational Watershed Delineation and Hydrography Dataset For The Great Lakes Basin Danielle K. Forsyth*, Michigan Department of Natural Resources; Catherine M. Riseng, University of Michigan; Kevin E. Wehrly, Michigan Department of Natural Resources; Lacey A. Mason, University of Michigan; John Gaiot, Ontario Ministry of Natural Resources and Forestry; Tom Hollenhorst, U.S. Environmental Protection Agency; Craig M. Johnston, U.S. Geological Survey; Conrad Wyrzykowski, Agriculture and Agri-Food Canada; Gust Annis, The Nature Conservancy; Chris Castiglione, U.S. Fish and Wildlife Service; Kent Todd, Mike Robertson – Ontario Ministry of Natural Resources and Forestry; Dana M. Infante, Michigan State University; Lizhu Wang, International Joint Commission; James E. McKenna, U.S. Geological Survey; Gary Whelan, Michigan Department of Natural Resources
P03-21	Developing Predictive Framework For Otolith Chemistry in the Lake Michigan Basin Chantelle Fortier*, Kevin Pangle, Anthony Chappaz – Central Michigan University; Jory Jonas, Michigan Department of Natural Resources
P03-22	Developing a New Methodology to Detect Microplastics in Aquatic Organisms Rachel Frey, Ashley Moerke – School of Biological Sciences, Lake Superior State University; Dom Chaloner, Matthew Leevy – Department of Biological Sciences, University of Notre Dame.

P03-23	Intersex Condition in Male Largemouth Bass, Bluegill and Black Crappie from the Illinois River Waterway Mark W. Fritts, Jason A. DeBoer*, Andrea K. Fritts, Richard M. Pendleton, Levi E. Solomon, T.D. VanMiddlesworth, Andrew F. Casper – Illinois River Biological Station, Illinois Natural History Survey, Prairie Research Institute, University of Illinois-Urbana Champaign;
P03-24	Connections Between Predatory Cladocera of the St. Clair-Detroit River System Emily Galassini*, Edward F. Roseman, Kevin Keeler – U.S. Geological Survey Great Lakes Science Center
P03-25	Utility of The FluEgg Model For Assessing Grass Carp Spawning Grounds and Nursery Habitat Tatiana Garcia*, U.S. Geological Survey -Illinois Water Science Center; Patrick M. Kočovský, U.S. Geological Survey -Lake Erie Biological Station.
P03-26	Ontogenetic Changes in Swimming Speed of Silver Carp Larvae Amy E. George*, Columbia Environmental Research Center, U.S. Geological Survey; Tatiana Garcia, Illinois Water Science Center, U.S. Geological Survey; Duane C. Chapman, Benjamin H. Stahlschmidt – Columbia Environmental Research Center, U.S. Geological Survey
P03-27	Assessing Macroinvertebrate Assemblages: The Efficiency and Effectiveness of Qhei, and Quality Habitat Sampling Samuel J. Gradle*, Robert E. Colombo, Charles L. Pederson, Jeffrey R. Laursen – Eastern Illinois University.
P03-28	Modeling Population Genetic Response to Isolation and Drift: A Case Study Using Dams and Freshwater Mussels (<i>Bivalvia: unionida</i>) Jordan R Hoffman*, Bradley J Swanson, Kevin L Pangle – Central Michigan University; Janna R Willoughby, Purdue University; David T Zanatta, Central Michigan University.
P03-29	Effects of Wastewater Effluent and a Dam on Fish Communities in the Sangamon River Bethany Hoster*, Eastern Illinois University; David Petry, Friends of the Cheat; Sarah Huck, Clinton Morgeson – Illinois Natural History Survey; Robert E. Colombo, Eastern Illinois University
P03-30	Distribution and Population Characteristics of Unexploited Rock Bass Populations in Minnesota Rivers and Streams John H. Hoxmeier*, Douglas J. Dieterman – Minnesota Department of Natural Resources;
P03-31	Comparison of Active and Passive Sampling Gears For Estimating Walleye Egg Deposition On Open-Lake Reefs Robert D. Hunter, U.S. Geological Survey, Great Lakes Science Center; Jason Gostiaux, Sandusky Fisheries Research Unit; Cassandra J. May, Aquatic Ecology Laboratory, Department of Evolution, Ecology, and Organismal Biology, The Ohio State University; Chris Vandergoot, Sandusky Fisheries Research Unit; Edward F. Roseman, U.S. Geological Survey, Great Lakes Science Center; Mark DuFour, University of Toledo; Elizabeth A. Marschall, David Glover, Stuart A. Ludsin – Aquatic Ecology Laboratory, Department of Evolution, Ecology, and Organismal Biology, The Ohio State University
P03-32	Straying By Stocked Steelhead in Lake Erie: What Differentiates Strayers From Non-Strayers? Jamie N. Justice*, Richard R. Budnik, Christopher T. Boehler – Aquatic Ecology and Fisheries Laboratory, Department of Biological Sciences, Bowling Green State University; John R. Farver, Geology Department, School of Earth, Environment and Society Bowling Green State University; Jeffrey G. Miner, Aquatic Ecology and Fisheries Laboratory, Department of Biological Sciences, Bowling Green State University
P03-33	Comparison of Zooplankton Communities During Harmful Algal Blooms in a Great Lakes Connecting Channel Kevin Keeler*, U.S. Geological Survey Great Lakes Science Center and Department Environmental Sciences, University of Toledo; Edward Roseman, U.S. Geological Survey Great Lakes Science Center; Jenny Sutherland, U.S. Geological Survey Great Lakes Science Center and Department of Biology, Eastern Michigan University; Paige Wigren, Department of Forestry and Natural Resources, Purdue University.
P03-34	Visual Sensitivity of Walleye <i>Sander vitreus</i>: A Comparison of Freshwater Fishes Trevor Keyler*, Thomas Hrabik, Kelly Harrington, Loranzie Rogers, Allen Mensinger – University of Minnesota Duluth
P03-35	Modeling Distributions of Freshwater Mussels and Their Hosts Across The Upper Midwest To Achieve A Regional Conservation Perspective Timothy Lambert, Leon Hinz, Yong Cao – Illinois Natural History Survey
P03-36	A Comparison of Fish Communities in Contiguous Backwater and Vegetated, Impounded Areas of Pool 19, Upper Mississippi River Eli G. Lampo, James T. Lamer – Department of Biological Sciences, Western Illinois University; Brent Knights, James Larson, Jon Vallazza – Upper Midwest Environmental Science Center, U.S. Geological Survey
P03-37	The Effects of Varying Durations of Formalin Fixation On Larval Fathead Minnow's <i>Pimephales promelas</i> Genetic Cross Linking Ryan Leba* Nathaniel Lederman – Minnesota State University Mankato
P03-38	Floodplain Inundation Mapping To Support Multi-Objective Restoration and Management of Conservation Lands on the Lower Missouri River Garth Lindner, Kristen Bouska – Missouri Cooperative Fish and Wildlife Research Unit, The University of Missouri; Craig Paukert, U.S. Geological Survey, Missouri Cooperative Fish and Wildlife Research Unit, The University of Missouri; Robert B. Jacobson, U.S. Geological Survey, Columbia Environmental Research Center
P03-39	Effects of Declining Alewife Populations on Lake Trout Diet and Recruitment in Lake Michigan Miles Luo*, James Diana – University of Michigan

P03-40	Micro-Plastics, Macro-Problem? Tim Malinich*, Nathan Chou*, Jon Houser, Maria Sepúlveda, Tomas Höök – Purdue University
P03-41	Use of an Ecosystem-Based Model to Predict the Effects of Non-Native Pacific Salmon Spawning on Stream-Resident Fish in a Great Lakes Tributary Lillian McGill*, Brandon Gerig, Dominic Chaloner, Gary Lamberti – Department of Biological Sciences, University of Notre Dame
P03-42	Seasonal Fish Migration Patterns in Three Lake Superior Tributaries John Milan*, Kevin Kapuscinski – School of Biological Sciences Lake Superior State University; Paul Ripple, Biological Services Department Bay Mills Indian Community; Ashley Moerke, School of Biological Sciences Lake Superior State University
P03-43	Comparative Analysis of Aging Juvenile Steelhead: Scales vs. Otoliths Carlie Money*, Nicole Watson, Kevin Pangle, Francesca Baker – Central Michigan University; Jory Jonas, Michigan Department of Natural Resources
P03-44	GLATOS: Unraveling the Mysteries of Fish Behavior to Improve Management of Great Lakes Fisheries Now and in the Future Nancy A. Nate, Michigan State University-Center for Systems Integration and Sustainability-Hammond Bay Biological Station; Christopher M. Holbrook, U. S. Geological Survey-Hammond Bay Biological Station; Charles C. Krueger, Michigan State University-Center for Systems Integration and Sustainability
P03-45	The Evaluation of a Cost-Effective, Digital Approach to Estimate Fecundity in Freshwater Fishes Rich Pendleton*, Andrew Casper, Andrea Fritts, Mark Fritts, Jason DeBoer, Levi Solomon, T.D. VanMiddlesworth – Illinois Natural History Survey
P03-46	Feasibility of Oxytetracycline Marking Juvenile White Bass: Mortality and Mark Visibility Matthew A. Perrion*, Benjamin J. Schall, Casey W. Schoenebeck – University of Nebraska at Kearney; Keith D. Koupal, Nebraska Game and Parks Commission
P03-47	Larval Fish Assemblages Above and Below A Major Tributary Confluence Differ Spatially and Temporally on a Large River Jordan J. Pesik*, V. Alex Sotola – Eastern Illinois University; Sharon Rayford, U.S. Fish and Wildlife; Robert E. Colombo, Eastern Illinois University
P03-48	Larval Fish Distortion Among Varying Durations of Alcohol and Formalin Solutions Endora Roberts, Nathan Lederman, Shannon Fisher – Minnesota State University, Mankato
P03-49	Population Demographics and Diets of Tubenose Goby <i>Proterorhinus semilunaris</i> in the St. Clair-Detroit River System Edward F. Roseman*, Kevin Keeler, Timothy P. O'Brien, Jason E. Ross – U.S. Geological Survey Great Lakes Science Center
P03-50	Spatial and Temporal Patterns of Age-0 Fish in Western Lake Erie Aid Understanding of Individual Spawning Group Production Jason E. Ross*, U.S. Fish and Wildlife Service, Ashland Fish and Wildlife Conservation Office; Edward F. Roseman, U.S. Geological Survey Great Lakes Science Center; Jeremy Pritt, Ohio Division of Wildlife Inland Fisheries Research Unit; Robin L. DeBruyne, Jason Fischer – U.S. Geological Survey Great Lakes Science Center; Mark DuFour, University of Toledo Lake Erie Center; Richard Kraus, U.S. Geological Survey Great Lakes Science Center; Christine Mayer, University of Toledo Lake Erie Center; Jeff Tyson, Ohio Division of Wildlife, Lake Erie Fisheries Research Unit
P03-51	Larval Fish Assemblages of Three Major Tributaries of The Illinois River Daniel Roth*, Eastern Illinois University; Clinton Morgeson, David Wahl – Illinois Natural History Survey; Robert E. Colombo, Eastern Illinois University
P03-52	Effects of Alternative Food Types on Larval Lake Sturgeon Body Size and Survival Jenna Ruzich*, John Bauman, Kim Scribner – Department of Fisheries and Wildlife, Michigan State University
P03-53	The Effects of Salinity On Whiteleg Shrimp <i>Litopenaeus vannamei</i> Growth Alexis Sakas, James Diana – University of Michigan
P03-54	Swimming Performance Trends in North American Fishes Kurt Schoenherr, Stephen Jacquemin – Wright State University
P03-55	Impacts of Harmful Algal Blooms in Lake Erie on Recruitment of Young-of-Year Walleye and Their Prey Tomena Scholze*, Michigan State University; Edward Roseman, U.S. Geological Survey; William W. Taylor, Michigan State University; Nathan Williams, U.S. Geological Survey
P03-56	Sediment Storage By Large Wood in a South Central Minnesota Stream Leander Scott*, Chris Nicolet, Lauren Larson – Wartburg College; Chris Lenhart, University of Minnesota; David McCullough, Eric Merten – Wartburg College.
P03-57	Changes in the Diets of Walleye <i>Sander vitreus</i> in the Bays de Noc, Lake Michigan, USA: 1988-2014 Alex X. Steinline*, Northern Michigan University; Troy G. Zorn, Michigan Department of Natural Resources; Jill B.K. Leonard, Northern Michigan University
P03-58	Reassessment of Iowa Darter Habitat in Illinois Andrew J. Stites*, Joshua L. Sherwood*, Jeremy S. Tiemann, Michael J. Dreslik – Illinois Natural History Survey

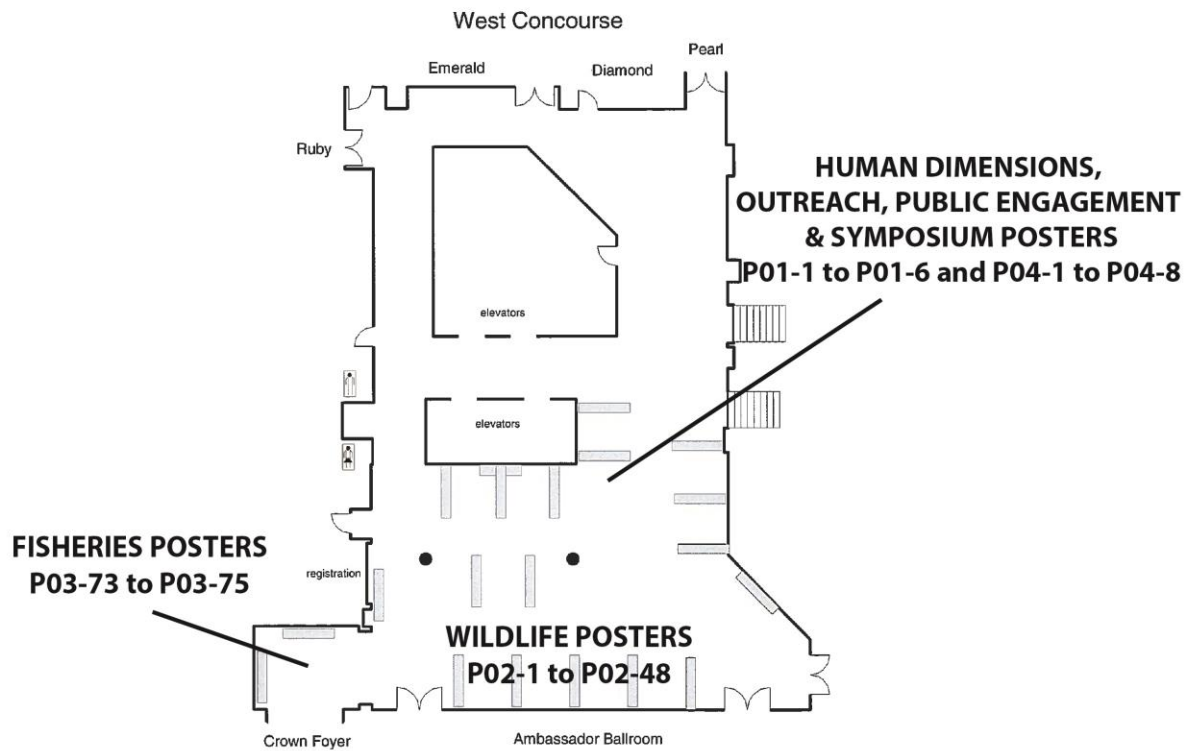
P03-59	Growth Compensation and Size-Group Interaction in Hatchery-Raised <i>Acipenser fulvescens</i> Joseph Susco, Jill Leonard – Northern Michigan University
P03-60	Assessment of a Freshwater Mussel Community and Short Distance Translocation in Northern Illinois Jeremy S. Tiemann, Sarah J. Baker, Sarah A. Douglass, Christopher A. Phillips, Michael J. Dreslik – Illinois Natural History Survey.
P03-61	Diet Analysis of Flathead Catfish in the Lower Channelized Missouri River Bordering Nebraska Dylan Turner*, Mark Pegg, Martin Hamel – University of Nebraska-Lincoln
P03-62	Effects of Alternative Foods on Body Size and Survival of Larval Lake Sturgeon Shaley A. Valentine*, John M. Bauman – Department of Fisheries and Wildlife, Michigan State University; Kim T. Scribner, Department of Fisheries and Wildlife, Michigan State University and Department of Zoology, Michigan State University
P03-63	Benthic Macroinvertebrates Affect Lake Sturgeon <i>Acipenser fulvescens</i> Eggs and Free Embryos Ryan Walquist, John Bauman – Department of Fisheries and Wildlife, Michigan State University; Kim Scribner, Department of Fisheries and Wildlife & Department of Integrative Biology, Michigan State University
P03-64	Predation of Larval Lake Sturgeon by Piscine Predators in the Black River, Michigan Justin Waraniak*, Kim Scribner, Nicholas Gezon – Michigan State University; Ed Baker, Michigan Department of Natural Resources
P03-65	Ecological Effects of Non-Native Pacific Salmon and Brown Trout on Native Brook Trout in Great Lakes Tributaries Nick Weber*, Brandon Gerig, Lillian McGill, Dominic Chaloner, Gary Lamberti – University of Notre Dame
P03-66	Brook Trout Movement, Behavioral Thermoregulation, and Habitat Use in a Disturbed Michigan Stream System Justin Wegner*, Graeme Zaporzynski, Mark Luttenton – Annis Water Resources Institute, Grand Valley State University
P03-67	Great Lakes Aquatic Habitat Explorer: A Great Lakes Decision Support Tool Ben Schoenfeldt*, Catherine Riseng – University of Michigan, School of Natural Resources and Environment; Robert Goodspeed, University of Michigan, Taubman School of Architecture and Urban Planning; Kevin Wehrly, Michigan Department of Natural Resources, Institute for Fisheries Research; Lacey Mason, University of Michigan, School of Natural Resources and Environment; Lizhu Wang, International Joint Commission; Edward Rutherford, NOAA, Great Lakes Environmental Laboratory; Mike Robertson, Ontario Ministry of Natural Resources
P03-68	Out of Breath: Hypoxia and its Effects on Fish Species Composition and Abundance in the Bottom Waters of Muskegon Lake, Michigan, With Lake-Wide Implications Anthony Weinke, Carl Ruetz III, Dirk Koopmans, Bopi Biddanda – Annis Water Resources Institute, Grand Valley State University
P03-69	Changes in Stream Biota and Habitat Following a Perched Culvert Replacement in John's Creek, MI Austin Wenke*, Lake Superior State University School of Biological Sciences; Emily Clegg, The Nature Conservancy; Ashley Moerke, Lake Superior State University School of Biological Sciences
P03-70	Ichthyoplankton Surveys of The Detroit River: A Synthesis of Recent Studies Paige Wigren, U.S. Geological Survey, Great Lakes Science Center and Department of Forestry and Natural Resources, Purdue University; Robin DeBruyne, U.S. Geological Survey and Department of Environmental Sciences, University of Toledo; Jeremy Pritt, Ohio Division of Wildlife; Mark DuFour, Department of Environmental Sciences, University of Toledo; Edward Roseman, U.S. Geological Survey Great Lakes Science Center
P03-71	Tracking Sea Lamprey Movement Through Analysis of Didson Sonar Imaging Emmaleigh Wilson*, Erin McCann – Central Michigan University; Peter Hrodey, U.S. Fish and Wildlife Service; Nicholas Johnson, Samantha Nellis – U.S. Geological Survey, Great Lakes Science Center; Kevin Pangle, Jesse Eickholt – Central Michigan University
P03-72	Blue Catfish <i>Ictalurus furcatus</i> Hatch Timing in the Middle Mississippi River Michael C. Wolf*, Southeast Missouri State University; Quinton E. Phelps, Missouri Department of Conservation
P03-73	Quantifying The Selectivity of Brook Trout Toward Available Prey Items in a Small Michigan Stream Graeme Zaporzynski, Justin Wegner, Mark Luttenton – Annis Water Resources Institute, Grand Valley State University
P03-74	Comparison of Surface and Benthic Slednets Chelsea Zblewski*, Nathan Lederman, Shannon J. Fisher –Water Resource Center, Minnesota State University, Mankato
P03-75	Rivermouth Areas As Biological Hotspots in Whitefish Bay, Lake Superior Frank Zomer*, Bay Mills Indian Community; Ashley Moerke, Lake Superior State University; Kevin Kapuscinski, Lake Superior State University; Paul Ripple, Bay Mills Indian Community

P04 SYMPOSIUM - WOOD TURTLE RESEARCH AND MANAGEMENT; HABITAT AND POPULATION RESTORATION FOR STURGEON AND PADDLEFISH; MANAGEMENT OF INVASIVE SPECIES

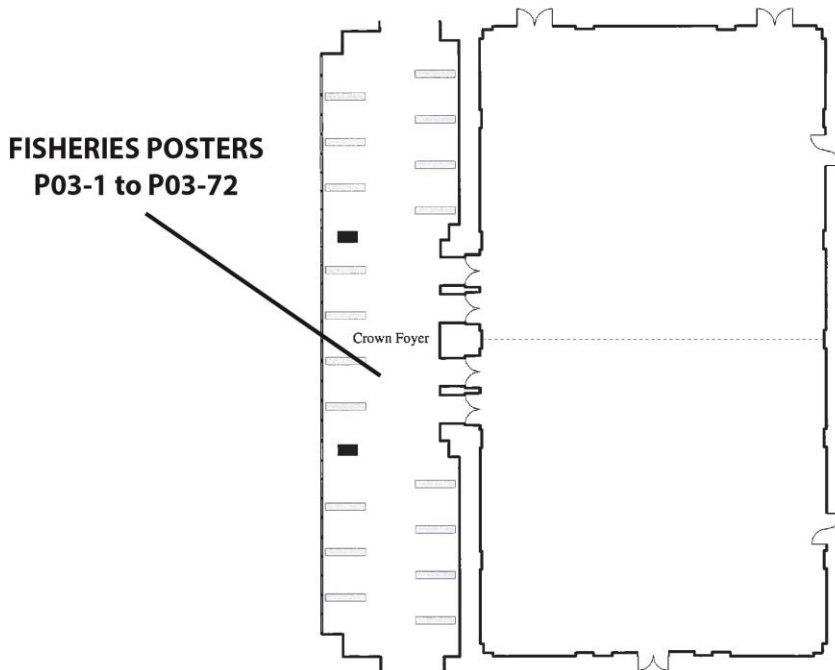
P04-1	<p>Painted Turtle <i>Chrysemys picta</i>, Wood Turtle <i>Glyptemys insculpta</i>, and Snapping Turtle <i>Chelydra serpentina</i> Nest-Site Selection in Central Michigan</p> <p>Nickolas A. Steer*, Kaylee A. Renstrom*, Kerri M. Carlson – Department of Biology, University of St. Thomas; Kimberly A. Piccolo, U.S. Forest Service; Timothy L. Lewis, Department of Biology, University of St. Thomas</p>
P04-2	<p>Behavioral Responses of Larval Lake Sturgeon to Odorant Cues</p> <p>Lydia Wassink, Kim Scribner – Michigan State University</p>
P04-3	<p>Examining The Responses of Common Carp to Potential Behavioral Barrier Stimuli</p> <p>Paul Bzonek*, University of Toronto Scarborough; Jaewoo Kim, Fisheries and Oceans Canada; Nicholas E. Mandrak, University of Toronto Scarborough</p>
P04-4	<p>Monitoring Adult Asian Carp Through Trammel Netting With Enhanced Capture Techniques</p> <p>Trevor Cyphers*, Rebecca N. Neeley, Samuel T. Finney – U.S. Fish and Wildlife Service Carterville Fish and Wildlife Conservation Office</p>
P04-5	<p>Evidence of Grass Carp Spawning in a Lake Erie Tributary</p> <p>Holly S. Embke*, University of Toledo, Lake Erie Center; Patrick Kocovsky, U.S. Geological Survey, Great Lakes Science Center; Christine M. Mayer, Song S. Qian – University of Toledo, Lake Erie Center; Catherine A. Richter, U.S. Geological Survey, Columbia Environmental Research Center</p>
P04-6	<p>Factors Associated With The Distribution and Abundance of <i>Hemimysis anomala</i> in Lake Michigan</p> <p>Heather Kane*, Mael Glon, Kevin Pangle, Scott McNaught</p>
P04-7	<p>Optimizing Trap Design For Capture of Amphipods in Western Lake Erie</p> <p>Eric Stadig*, Purdue University; Stephen R. Hensler, U.S. Fish and Wildlife Service-Alpena Fish and Wildlife Conservation Office; Robert Gillespie, William DeMott – Purdue University</p>
P04-8	<p>Clash of the Planktivores: Interactions Among Asian Carp and Paddlefish in the Mississippi River</p> <p>Michael C. Wolf*, Southeast Missouri State University; Quinton E. Phelps, Missouri Department of Conservation; Nicholas W. Kramer, Southeast Missouri State University; Sara J. Tripp, Missouri Department of Conservation</p>



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www.glft.org

The Great Lakes Fishery Trust provides funding to non-profit organizations, educational institutions, and government agencies to enhance, protect, and rehabilitate Great Lakes fishery resources. The GLFT manages its resources to compensate for the lost use and enjoyment of the Lake Michigan fishery resulting from the operation of the Ludington Pumped Storage Plant. The settlement agreement that created the GLFT in 1996 was the result of years of litigation involving the utilities that operated the plant and numerous private organizations, government entities, and Indian tribes. The GLFT is governed by a board of trustees and by a scientific advisory team. The GLFT pursues its mission and vision through investments in three broad categories: Access to the Great Lakes Fishery, Ecosystem Health and Sustainable Fish Populations, and Great Lakes Stewardship.

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A Michigan State Agency whose mission is to protect, regulate and promote animal health.

Michigan State University - College of Agriculture & Natural Resources, AgBioResearch and Extension

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The National Shooting Sports Foundation is the trade association for the firearms industry. Its mission is to promote, protect and preserve hunting and the shooting sports. Formed in 1961, NSSF has a membership of more than 10,000 manufacturers, distributors, firearms retailers, shooting ranges, sportsmen's organizations and publishers.

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The Michigan Chapter of the American Fisheries Society is a professional organization interested in maintaining high standards for the fisheries profession and ensuring conservation of Michigan's aquatic resources.

Michigan State Chapter of the National Wild Turkey Federation

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www.nwtf.org

National Rifle Association

Brian Hyder
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P: 276-579-9828 E: BHyder@nrahq.org
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The National Rifle Association of America is a non-profit organization founded in 1871 and supported by the membership fees of over 5 million members. One of the purposes of the Association is to promote hunter safety and to promote and defend hunting as a shooting sport and as a viable and necessary method of fostering the propagation, growth and conservation, and wise use of our renewable wildlife resources.

North Central Division of the American Fisheries Society

Melissa Wuellner
2093 E. Loch Ayr Road
Mount Ayr, IA 50854
P: 641-464-3108 E: melissa.wuellner@sdstate.edu
www.ncd.fisheries.org

The mission of the North Central Division of the American Fisheries Society is to advance the goals of the American Fisheries Society by coordinating and complementing Chapter activities related to information exchange, outreach, aquatic stewardship, and governance at a regional level, and to maintain a liaison role with regional resource stakeholders.

Rocky Mountain Elk Foundation

Blake Henning
5705 Grant Creek Road
Missoula, MT 59808
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www.rmef.org

The Rocky Mountain Elk Foundation is a hunter-based wildlife organization with a mission to ensure the future of elk, other wildlife, their habitat and our hunting heritage. In support of that mission, RMEF's more than 205,000 members and 11,000 volunteers have already protected or enhanced more than 6.6 million acres of vital habitat, freed up 769,000 acres for public access, helped restore elk to six states and reached thousands of youth and adults with conservation and hunting heritage outreach projects. At RMEF, "Hunting is Conservation."

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The School of Natural Resources and Environment's overarching objective is to contribute to the protection of the Earth's resources and the achievement of a sustainable society. Through research, teaching and outreach, faculty, staff and students are devoted to generating knowledge and developing policies, techniques and skills to help practitioners manage and conserve natural and environmental resources to meet the full range of human needs on a sustainable basis.

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The mission of the Great Lakes Leadership Academy is to promote positive change, economic vitality and resource conservation, and enhance the quality of life in Michigan by encouraging leadership for the common good.

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Waterfowl U.S.A., Southwestern Lake Erie Chapter

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www.waterfowlusa.org

In 2002, a group of local sportsmen and sportswomen joined together to form a chapter of Waterfowl U.S.A. Our chapter name is Southwestern Lake Erie Chapter. Waterfowl U.S.A. is a non-profit organization that is committed to local habitat issues. The majority of the proceeds (80%) raised at various functions throughout the year stays in the local area for habitat projects. Since over 75% of the mallards harvested in Michigan are locally raised and 74% of the geese we harvest are locally raised, we feel it is very important to continue conservation efforts locally. We have helped the Michigan Department of Natural Resources and the Ohio Division of Wildlife purchase more land for public enjoyment, we have helped with several wetland restorations, wood duck box installation and maintenance, installation and maintenance of over 500 mallard nesting houses, an annual youth scholarship, purchased decoys and calls for youth waterfowl events and helped with wildlife habitat enhancements. We are committed to raising "local bucks for local ducks."

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www.lakestatesfiresci.net

The Lake States Fire Science Consortium, funded by the Joint Fire Science Program, is a network of fire managers and scientists interested in the fire-dependent ecosystems of the northern Lake States region.

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