

79TH MIDWEST FISH AND WILDLIFE CONFERENCE

JANUARY 27-30, 2019

CLEVELAND, OHIO



COMMUNICATING SCIENCE TO FAN THE FLAMES OF CONSERVATION

FINAL PROGRAM

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**Join the
Conversation!**

 facebook.com/midwestfw

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

Welcome to Ohio!

The Ohio Department of Natural Resources-Division of Wildlife, the Ohio Chapter of The American Fisheries Society, and the Ohio Chapter of The Wildlife Society thank you for attending the 79th Midwest Fish and Wildlife Conference. We are very pleased that you have chosen to be a part of this meeting. The program consists of almost 400 presentations and posters (including more than 100 by students), a diverse schedule of plenary speakers, and networking opportunities to facilitate the interaction between professionals and students.

Meeting in Cleveland this year is fortuitous, as this city has historical significance for environmental conservation. Fifty years ago, the infamous Cuyahoga River Fire captured the attention of the region and the nation. That fire is recognized by many as a tipping point that increased awareness of the significant environmental issues that were pervasive at that time and the need for increased environmental conservation at the regional, state/provincial, and national levels. As a result of the environmental legislation that was enacted in the years following the fire, the integrity of the Cuyahoga River, like so many other aquatic and terrestrial systems throughout the country, has largely been restored and now supports diverse natural communities. The theme for this year's Midwest Fish and Wildlife Conference, *Communicating Science to Fan the Flames of Conservation*, is a reminder of how far wildlife and fisheries conservation has come over the last 50 years.

Have a great meeting and welcome to Cleveland!

Executive Planning Committee:

Kate Parsons
Program Administrator
Wildlife
Ohio DNR, Division of Wildlife

Kendra Wecker
Executive Administrator
Information & Education
Ohio DNR, Division of Wildlife

Richard D. Zweifel
Program Administrator
Inland Fisheries
Ohio DNR, Division of Wildlife

Committee Co-Chairs:

Laura Kearns
Program Committee
Ohio DNR, Division of Wildlife

Jeremy Pritt
Program Committee
Ohio DNR, Division of Wildlife

Joseph D. Conroy
Plenary Committee
Ohio DNR, Division of Wildlife



With Appreciation

Many thanks to the efforts of the Ohio host team. This conference would not be possible without all those who dedicated their time and efforts toward the planning and execution. Special recognition is also due to our exhibitors and sponsors for their generous support! Thank you!

EXECUTIVE COMMITTEE	
Kate Parsons Ohio DNR, Division of Wildlife	Kendra Wecker Ohio DNR, Division of Wildlife
Richard Zweifel Ohio DNR, Division of Wildlife	
PROGRAM COMMITTEES	
PLENARY SESSIONS Joseph Conroy , Ohio DNR, Division of Wildlife; Bob Ford , Ohio DNR, Division of Wildlife; Christopher Vandergoot , USGS; Stu Ludsins , Ohio State University	FISHERIES PROGRAM Kevin Kayle , Ohio DNR, Division of Wildlife; Jeremy Pritt , Ohio DNR, Division of Wildlife; Mark Dufour , Ohio DNR, Division of Wildlife
WILDLIFE PROGRAM Laura Kearns , Ohio DNR, Division of Wildlife; Doug McClain , Ohio DNR, Division of Wildlife; Clint McCoy , Ohio DNR, Division of Wildlife	POSTER SESSION Steve Tyszko , Ohio DNR, Division of Wildlife; Brian Schmidt , Ohio DNR, Division of Wildlife; Nathan Stricker , Ohio DNR, Division of Wildlife; Joseph Lautenbach , Ohio DNR, Division of Wildlife
WORKSHOPS & STUDENT SOCIAL Janice Kerns , OCAFS President, Ohio DNR, Division of Wildlife; Christine Mayer , University of Toledo; Katie Dennison , Ohio DNR, Division of Wildlife; Jon Cepek , Cleveland Metroparks	
LOCAL ARRANGEMENTS	
TRADE SHOW Matt Faust , Ohio DNR, Division of Wildlife; Dave Kohler , Ohio DNR, Division of Wildlife	SOCIAL EVENTS Zak Slagle , Ohio DNR, Division of Wildlife; Erin Hazelton , Ohio DNR, Division of Wildlife; Brett Beatty , Ohio DNR, Division of Wildlife
AUDIO-VISUAL Ken Pendley , Ohio DNR, Division of Wildlife; Jamie Covrett , Ohio DNR, Division of Wildlife	WILD JOBS CAFÉ Geoff Westerfield , Ohio TWS President, Ohio DNR, Division of Wildlife
THE TEAM AT DELANEY MEETING & EVENT MANAGEMENT	

General Conference Information

REGISTRATION & INFORMATION DESK

The Conference Registration Desk is located on the 3rd Level of the Hilton. Stop here first for conference materials and information. The desk will be staffed daily as follows: Sunday 8:00 AM - 6:00 PM, Monday 7:00 AM - 6:00 PM, Tuesday 7:00 AM - 6:00 PM, Wednesday 7:00 AM - 11:00 AM.

MEETING SPACE

All meetings and events affiliated with the Conference will be held at the Hilton Cleveland Downtown Hotel. Refer to the schedule at-a-glance to see where your meetings and sessions are being held, and refer to the inside cover of the program for an overall layout of the meeting space. We'll be using two main levels (3rd and 5th floors) which are connected by escalators and elevators.

WI-FI

Please note that due to budgetary considerations, we will NOT have open access to Wi-Fi for conference attendees in the meeting space. Complimentary access is available however, in the guest rooms for overnight guests. There is also a "Connectivity Station" located in the Lobby, next to the hotel Front Desk for complimentary internet access and printing services.

TRADE SHOW & PASSPORT VENTURE

Exhibits will be on display in Superior Ballroom C/D on the 5th Floor. Exhibit Hall Hours: Sunday 6:00 PM - 8:30 PM (Welcome Social), Monday 7:00 AM - 5:00 PM, Tuesday 7:00 AM - 9:00 PM (Tradeshow & Poster Social), Wednesday 7:00 AM - 10:20 AM. Visit participating Venture Booths and get your Passport Venture Card stamped. Be sure to cast your vote for the "Best of Show" Exhibitor Contest. Select your favorite booth based on the following: overall visual appearance, products, effective messaging, and staff interaction/customer service. Drop your stamped Passport Venture Card off at the conference registration desk by 3:30 PM on Tuesday. Enter to win prizes! The drawings will take place at Tuesday evening's Trade Show & Poster Social; must be present to win.

REFRESHMENTS & MEALS

Continental Breakfast and coffee breaks will be provided on Monday, Tuesday and Wednesday in the Superior Ballroom with exhibitors. Light food will also be provided at three evening events: Welcome Social on Sunday, Student/Professional Mixer/Trivia Night on Monday, and Trade Show & Poster Social on Tuesday. Drinks are on your own and a cash bar for beverages will be available at these functions. All other meals are on your own, and there are numerous options in downtown Cleveland – see partial list on page 49.

STUDENT RIBBON

In their registration packets, students will receive a "Student" 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!

ONLINE SCHEDULE

The conference schedule is hosted online using a web-based app called Sched. This allows you to search within the schedule, and filter the schedule to show sessions only occurring on a certain date or within a track. You can also build your own schedule by creating a free account with Sched. Since this is a web-based app, that means there's nothing to download! For easy access to the online schedule, bookmark the site on your phone by visiting <https://midwestfishwildlifeconferen2019.sched.com/mobile> from your mobile device. The mobile web app stores the schedule data locally on your phone for offline access too.

SPEAKER PREPARATION/PRESENTATION LOADING ROOM

LOCATION: Cleveland Now Boardroom, 3rd Level
ATTENTION PRESENTERS! 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.***UPLOADING TALKS: Please bring your presentation to the conference on: flash drive/data stick clearly labelled in the following format: lastname_session number; example Jones_S01. All sessions have been given an identifier to use when you name your file - use the appropriate session number only (all symposia start with "S" and all other tracks start with "T"). The list of session numbers is available on the conference website <http://www.midwestfw.org/html/presenter-guidelines.shtml> Please take a moment to read through these guidelines to ensure you're prepared.

WORKSHOPS

We're pleased to offer high-quality pre-conference workshops on Sunday, January 27, 2019. Thank you to the workshop organizers for their efforts to provide these additional educational opportunities with an emphasis on a specific skill, technique, or process. Pre-registration and additional fees are required for participation in all workshops. See conference website for details, or check-in at the Conference Registration Desk for availability.

LOCAL PARKING

Parking for conference attendees is available at the hotel at a 10% discounted rate. For Valet Parking the discounted price is \$34.20, and Self-Parking is \$25.20. Self-parked guests will have in and out privileges, and the garage access for those staying at the hotel will have the discounted rate programmed on your room key. For commuters, a voucher will be available to pick up at the conference registration desk to use when exiting the garage. Note: the self-parking lot is located directly across the street from the Main Entrance of the Hilton on Lakeside (next to the County Courthouse building); there's an underground tunnel that connects the parking garage to the hotel.

Featured Events

Welcome to Ohio Social (Superior Ballroom C/D, 5th Floor)

Sunday, January 27 • 6:00 PM - 8:30 PM

Included with registration. Join your colleagues to mix and mingle and enjoy some local Cleveland fare. Drinks are on your own, and a cash bar will be available.

Student/Professional Networking Mixer Trivia Night (Hope Ballroom D/E, 3rd Floor)

Monday, January 28 • 5:00 PM - 7:30 PM

The University of Toledo's Rocket Student Subunit of the American Fisheries Society will be hosting a trivia night for this year's student-professional mixer. Students and professionals will be mixed together in teams randomly assigned at the start of the event. Following a short ice-breaker, teams will be tested on their knowledge of all things fish, wildlife, the Midwest, and other miscellaneous facts. Dust off your encyclopedic minds and join us in the quest for useless knowledge. Prizes will be awarded to the winners!

Trade Show & Poster Social and Student Research-in-Progress Posters (Superior Ballroom C/D, 5th Floor)

Tuesday, January 29 • 6:00 PM - 9:00 PM

Visit with exhibitors and authors of contributed posters. Enjoy a light dinner buffet and cash bar. Check out the posters and take advantage of this time to meet with poster authors who will be available to answer your questions and discuss their work. See pages 28-31 for a complete poster listing.

Wild Jobs Café (Superior Ballroom A, 5th Floor)

Attention Students: The Wild Jobs Café will be open on Monday and Tuesday from 10:00 AM - 5:00 PM. Be sure to stop by to interact with potential employers, meet students and professionals in your area of interest, and get expert advice to help advance your career. Drop in at any time to visit the Resource Tables and Job Board to gain information about employment and graduate opportunities.



The following activities will be available:

Resume Writing Review: Want a professional opinion on what makes a strong resume? Bring your resume to one of three time periods to have a professional review your resume. Resumes will be reviewed on a first come, first serve basis.

Interview Skills: For those that signed up for a mock interview, please arrive a few minutes before your scheduled time to ensure that interviews stay on schedule.

Meet and Greet: Interested in having a one-on-one conversation with multiple organizations and agencies? Stop by the Meet and Greet to learn about the specifics for getting hired with them and to learn more about their agency/organization.

Job and Graduate Appointment Board in the Wild Job Café: Professionals or graduate advisors with open or anticipated positions can post those opportunities on the jobs and graduate appointment board. General information about job searching, desired skills, and application processes from prospective employers is also welcome. This will be a literal board and table for posting information.

Monday, January 28

10:00 AM – 12:00 PM / Resume Review (Fisheries, Wildlife, Graduate Students)

1:30 PM – 3:00 PM / Resume Review (Fisheries, Wildlife, Graduate Students)

3:30 PM – 5:00 PM / Meet and Greet with potential employers

Tuesday, January 29

10:00 AM – 12:00 PM / Resume Review (Fisheries, Wildlife, Graduate Students)

2:00 PM – 5:00 PM / Interview Skills/Mock Interviews







Schedule at-a-Glance

SUNDAY, JANUARY 27		
8:00 AM - 6:00 PM	Conference Registration Desk Open	<i>Lakeside Foyer (3rd Level)</i>
9:00 AM -12:00 PM	WORKSHOP: Best Management Practices for Establishing and Maintaining Pollinator Habitat	<i>Hope Ballroom A</i>
9:00 AM -12:00 PM	WORKSHOP: How To Provide a Great Peer-Review	<i>Center Street Room D</i>
9:00 AM -5:00 PM	WORKSHOP: A Primer of Multilevel (mixed) Modeling Using R	<i>Center Street Room A</i>
9:00 AM -5:00 PM	WORKSHOP: Climate Change Adaptation for Wildlife Managers: A Hands-on “Workbook” Process	<i>Center Street Room B</i>
12:00 PM - 6:00 PM	Exhibitor Set-up	<i>Superior Ballroom C/D</i>
12:00 PM - 6:00 PM	Speaker Ready Room	<i>Cleveland Now Boardroom</i>
1:00 PM - 5:00 PM	WORKSHOP: Partners in Flight: Landbird Conservation Planning Tools for the Midwest	<i>Center Street Room D</i>
1:00 PM - 5:00 PM	WORKSHOP: The Wildlife Society’s Certification Program: Strategies for a Successful Application	<i>Hope Ballroom A</i>
2:30 PM - 4:30 PM	AFS NCD Walleye, Centrarchid, and Esocid Joint Technical Committee Meeting	<i>Veterans Room C/D</i>
4:30 PM - 5:30 PM	AFS NCD Executive Meeting	<i>Veterans Room C/D</i>
6:00 PM - 8:30 PM	<p>* * Featured Event! Welcome to Ohio Social <i>Join colleagues at the welcome social for hors d'oeuvres and cash bar. Sponsored by Mossy Oak, National Shooting Sports Foundation & USDA APHIS Wildlife Services</i></p>	<i>Superior Ballroom C/D</i>
MONDAY, JANUARY 28		
7:00 AM - 8:00 AM	 Continental Breakfast with Exhibitors	<i>Superior Ballroom C/D</i>
7:00 AM - 6:00 PM	Conference Registration Desk Open	<i>Lakeside Foyer (3rd Level)</i>
7:00 AM - 6:00 PM	Speaker Ready Room	<i>Cleveland Now Boardroom</i>
7:15 AM - 8:00 AM	Moderator Training Session	<i>Center Street Room D</i>
8:00 AM - 10:00 AM	<p>Plenary Session I <i>Sponsored by Sovereign Sportsman Solutions, LLC</i> Amanda Rodewald, Cornell University <i>Moving Science to Action: Strategic Conservation in a Changing World</i> Awards Presentation (see full description on page 12)</p>	<i>Hope Ballroom D/E</i>

 = Refreshment Breaks

 = Social Event

Schedule at-a-Glance

MONDAY, JANUARY 28 CONTINUED		
10:00 AM - 10:20 AM	 Refreshment Break with Exhibitors	<i>Superior Ballroom C/D</i>
10:00 AM - 5:00 PM	Wild Jobs Café	<i>Superior Ballroom A</i>
10:20 AM - 12:00 PM	Concurrent Technical Sessions & Symposia	<i>See pages 14-15</i>
12:00 PM - 1:00 PM	Lunch Break on Own	
1:20 PM - 3:00 PM	Concurrent Technical Sessions & Symposia	<i>See pages 16-17</i>
3:00 PM - 3:20 PM	 Refreshment Break with Exhibitors	<i>Superior Ballroom C/D</i>
3:20 PM - 5:00 PM	Concurrent Technical Sessions & Symposia	<i>See pages 18-19</i>
5:00 PM - 6:30 PM	AFS NCD Business Meeting	<i>Veterans Meeting Room A/B</i>
5:00 PM - 7:30 PM	 Student / Professional Networking Mixer Trivia Night! <i>Hosted by the University of Toledo's Rocket Student Subunit of the AFS. Join us for hors d'oeuvres and cash bar.</i>	<i>Hope Ballroom D/E</i>
TUESDAY, JANUARY 29		
7:00 AM - 8:00 AM	 Continental Breakfast with Exhibitors	<i>Superior Ballroom C/D</i>
7:00 AM - 6:00 PM	Conference Registration Desk Open	<i>Lakeside Foyer (3rd Level)</i>
7:00 AM - 6:00 PM	Speaker Ready Room	<i>Cleveland Now Boardroom</i>
8:00 AM - 10:00 AM	Plenary Session II <i>Sponsored by Sovereign Sportsman Solutions, LLC</i> Don Pereira, HDR Inc. <i>Communicating the Science and Engaging the Angling Public and Policy Makers: Examples from Fisheries Management in Minnesota</i> Ignite Session (see full description on page 13)	<i>Hope Ballroom D/E</i>
10:00 AM - 10:20 AM	 Refreshment Break with Exhibitors	<i>Superior Ballroom C/D</i>
10:00 AM - 5:00 PM	Wild Jobs Café	<i>Superior Ballroom A</i>
10:20 AM - 12:00 PM	Concurrent Technical Sessions & Symposia	<i>See pages 20-21</i>
12:00 PM - 1:00 PM	AFS NCD Reservoir Technical Committee	<i>Superior Ballroom B</i>
12:00 PM - 1:00 PM	Lunch Break on Own	
1:20 PM - 3:00 PM	Concurrent Technical Sessions & Symposia	<i>See pages 22-23</i>
3:00 PM - 3:20 PM	 Refreshment Break with Exhibitors	<i>Superior Ballroom C/D</i>

Schedule at-a-Glance

TUESDAY, JANUARY 29 CONTINUED		
3:20 PM - 5:00 PM	Concurrent Technical Sessions & Symposia	<i>See pages 24-25</i>
4:00 PM - 6:00 PM	TWS North Central Section Annual Member & Executive Board Meeting	<i>Superior Ballroom B</i>
5:00 PM - 6:00 PM	North-Central Division Ictalurid Technical Committee Meeting	<i>Superior Ballroom A</i>
5:00 PM - 6:00 PM	Ohio Chapter AFS Business Meeting	<i>Veterans Meeting Room A/B</i>
5:30 PM - 7:00 PM	Michigan State University Fisheries and Wildlife Alumni and Friends Social	<i>Eliot's Lounge (2nd Floor)</i>
5:30 PM - 7:00 PM	South Dakota State University Alumni and Friends Social	<i>Superior Ballroom Foyer (5th Floor)</i>
6:00 PM - 9:00 PM	* Trade Show & Poster Social and Student Research-in-Progress Posters <i>Visit with exhibitors and poster authors. Enjoy hors d'oeuvres and cash bar.</i>	<i>Superior Ballroom C/D</i>
WEDNESDAY, JANUARY 30		
7:00 AM - 8:00 AM	 Continental Breakfast with Exhibitors	<i>Superior Ballroom C/D</i>
7:00 AM - 12:00 PM	Speaker Ready Room	<i>Cleveland Now Boardroom</i>
7:00 AM - 11:00 AM	Conference Registration Desk Open	<i>Lakeside Foyer (3rd Level)</i>
8:00 AM - 5:00 PM	AFS Governing Board Meeting	<i>Superior Ballroom A</i>
8:00 AM - 10:00 AM	Plenary Session III: On-the-Ground Management <i>Sponsored by Sovereign Sportsman Solutions, LLC</i> Mark Porath , Nebraska Game and Parks Commission <i>New Life for Aging Waters—Celebrating 20 Years of Nebraska's Aquatic Habitat Program</i> Bryan Richards , United States Geological Survey <i>Chronic Wasting Disease—The Lessons We've Learned (or Have We)?</i>	<i>Hope Ballroom D/E</i>
10:00 AM - 10:20 AM	 Refreshment Break with Exhibitors	<i>Superior Ballroom C/D</i>
10:20 AM - 12:00 PM	Concurrent Technical Sessions & Symposia	<i>See pages 26-27</i>
10:30 AM	Exhibitor Teardown	<i>Superior Ballroom C/D</i>
12:00 PM	Conference Adjourns	
12:30 PM - 2:00 PM	Time & Place Meeting (Debrief for 2019 & 2020 Committee Chairs)	<i>Hope Ballroom E</i>

Plenary Session Details

PLENARY SESSION I & AWARDS / Hope Ballroom D/E

Monday, January 28 • 8:00 AM - 10:00 AM

Sponsored by Sovereign Sportsman Solutions, LLC

8:00 AM	Welcome Remarks <i>Kendra Wecker, Executive Administrator, Information & Education, Ohio DNR, Division of Wildlife</i>
8:10 AM	Posting of Colors & Pledge of Allegiance - <i>Ohio DNR, Division of Wildlife, Law Enforcement Section Color Guard</i>
8:15 AM	Moving Science to Action: Strategic Conservation in a Changing World <i>Amanda Rodewald, Cornell University</i>
9:15 AM	Awards Presentations: <ul style="list-style-type: none"> • Janice Lee Fenske Memorial Award • The Wildlife Society Awards • North Central Division - American Fisheries Society Awards
10:00 AM	Adjourn; Coffee Break with Exhibitors

See page 12 for Awards details

Amanda Rodewald, Cornell University

Amanda Rodewald is the Garvin Professor and Senior Director of Conservation Science at the Cornell Lab of Ornithology and the Department of Natural Resources at Cornell University. Prior to joining the Cornell faculty in 2013, she spent 13 years as a professor in the School of Environment and Natural Resources at The Ohio State University. Dr. Rodewald received a B.S. in Wildlife Biology from University of Montana, an M.S. in Zoology from University of Arkansas, and a Ph.D. in Ecology from Pennsylvania State University. She is a fellow of the American Association for the Advancement of Science and American Ornithological Society, and her leadership roles have included a decade of service on the Science Advisory Board of the US Environmental Protection Agency. Dr. Rodewald leads an interdisciplinary, international research program that seeks to understand how socioecological dynamics and global change affect ecological communities and populations and, given that understanding, how we can most strategically approach conservation. Since 2000, she has generated over \$8 million in funding and published 130 scientific papers, 10 book chapters, and >60 popular articles. Dr. Rodewald works hard to tightly integrate her research and outreach efforts to inform policy and management, and she regularly interacts with government agencies, conservation organizations, private sector entities, and the public.



Plenary Session Details

PLENARY SESSION II & IGNITE SESSION / Hope Ballroom D/E

Tuesday, January 29 • 8:00 AM - 10:00 AM

Sponsored by Sovereign Sportsman Solutions, LLC

8:00 AM	Welcome Remarks <i>Mike Reynolds, Executive Administrator, Wildlife Management & Research</i>
8:10 AM	Communicating the Science and Engaging the Angling Public and Policy Makers: Examples from Fisheries Management in Minnesota <i>Don Pereira, HDR, Inc.</i>
9:10 AM	Ignite Session
10:00 AM	Adjourn; Coffee Break with Exhibitors

See page 13 for Ignite Session details

Don Pereira, HDR Inc.

Don Pereira recently retired from the Minnesota DNR, where his employment began in 1983. He spent most of his career in the fisheries research program, including serving as the Research and Policy Manager for the Section of Fisheries for over 6 years. In 2013 he became the Chief of the Section of Fisheries, where he was able to lead and collaborate on a very effective team of fisheries managers and biologists and make meaningful changes to several key management programs. Don remains very active professionally in a variety of activities. He continues his appointment as a U.S. Commissioner on the Great Lakes Fisheries Commission, where he chairs the Sea Lamprey Control Board and also sits on the Sea Lamprey Research Board. He also began part time employment this past summer in the private sector, as a Senior Fisheries Biologist with HDR. Being semi-retired however, his bucket list remains front and center as he actively pursues a diverse array of fishing, hunting and other outdoor opportunities.



Plenary Session Details

PLENARY SESSION III: ON-THE-GROUND MANAGEMENT / Hope Ballroom D/E

Wednesday, January 30 • 8:00 AM - 10:00 AM

Sponsored by Sovereign Sportsman Solutions, LLC

8:00 AM	Welcome Remarks <i>Rich Carter, Executive Administrator, Fish Management & Research</i>
8:10 AM	New Life for Aging Waters - Celebrating 20 Years of Nebraska's Aquatic Habitat Program <i>Mark Porath, Nebraska Game & Parks Commission</i>
9:05 AM	Chronic Wasting Disease—The Lessons We've Learned (or Have We?) <i>Bryan Richards, USGS</i>
10:00 AM	Adjourn; Coffee Break with Exhibitors

Mark Porath, Nebraska Game and Parks Commission

Mark Porath is the Aquatic Habitat Program Manager for the Nebraska Game and Parks Commission. Working as a fisheries biologist in Arizona and Nebraska, he became involved in numerous habitat restoration and enhancement projects with a wide range of partners from state and federal agencies, NGO's, local governments, and private landowners. As a fellow of the National Conservation Leadership Institute he now represents Nebraska within the Reservoir Habitat Partnership, and most recently joined the AFS-TWS Synthesis Team in developing science communication and policy strategies for ecosystem transformation. Nebraska's Aquatic Habitat Program is unique in that it uses a dedicated portion of a fishing license fee to leverage grant funding for projects that are a priority for anglers by addressing the foundational habitat functions of aquatic systems. The program has been very successful and highly celebrated as it has partnered with 70+ funding sources to rehabilitate or restore aquatic habitat at over 120 waters and a cost of \$73 M. Angler and partner satisfaction have been the primary metric of success over the last 21 years, and the main drivers evolving the program to expand its focus and mission.



Bryan Richards, United States Geological Survey

Bryan Richards is the Emerging Disease Coordinator at the United States Geological Survey's National Wildlife Health Center (NWHC) in Madison, Wisconsin. Trained in wildlife ecology at the University of Wisconsin and Southern Illinois University, Bryan spent over a decade involved with all facets of big game management with the Texas Parks and Wildlife Department. Following the detection of Chronic Wasting Disease (CWD) in Wisconsin, Bryan joined the NWHC to work with state, federal, tribal, academic, international and non-governmental partners on research and management of CWD.



Awards

These prestigious awards presentation will be presented during Plenary Session I on Monday, January 28 from 9:15 AM - 10:00 AM.

JANICE LEE FENSKE MEMORIAL AWARD

Presented by: Jessica Mistak, Michigan Department of Natural Resources

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. The outstanding students will be announced during this award ceremony.

THE WILDLIFE SOCIETY AWARDS

Presented by: Jodie Provost, Minnesota Department of Natural Resources

- **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.

NORTH CENTRAL DIVISION - AMERICAN FISHERIES SOCIETY AWARDS

Presented by: Heather Hettinger, Michigan Department of Natural Resources

- **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.
- **Most Active 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.
- **Most Active 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.
- **Fisheries Excellence:** This award will be given to a North Central Division member who has made an outstanding contribution to the fisheries profession. This contribution may be a single activity or a collection of achievements over the individual's career.

TUESDAY, JANUARY 29 MIDWEST IGNITE!

Clear. Concise. Relevant.

The Midwest Fish and Wildlife Conference is pleased to present the 4th Annual Ignite Session. Started at the Grand Rapids conference in 2016, Midwest Ignite Sessions highlight current efforts in resource management, challenge and engage session attendees, and tell passionate stories about successful programs. Speakers come from diverse backgrounds with diverse perspectives, fanning the flames of contemporary conservation and management.

Please join us for another exciting round of Ignite Session as part of Plenary Session II. Speakers include:



**Johanna Dart, National Wild Turkey Federation in Partnership with Ohio DNR, Division of Wildlife—
“What the Heck is R3 (and Why Does it Matter)?”**



**Jeffrey Reutter, The Nature Conservancy in Ohio—
“Burning Rivers, Dead Zones, Fisheries, AIS and HABs: Managing Our Aquatic Resources Past, Present, and Future”**



Kent Bekker, Toledo Zoo—“Restoration of Lake Sturgeon in the Maumee River”



Alia Dietsch, The Ohio State University—“How a Shift in Wildlife Values Can Affect Wildlife Management in the U.S.”



Jen Brumfield, Cleveland Metroparks—“One Turtle, One Frog, One Snake”



Greg Lipps, The Ohio State University—“Open Your Ears and Shut Your Mouth”

5 Minutes.

20 Slides.

No Going Back.

**Fanning the
Flames of
Conservation!**

**Come join the
conversation!**

**Hilton Cleveland
Downtown
Plenary Session II
Tuesday, January
29th, 2019**

Technical Sessions & Symposia Grid at-a-Glance

Monday, January 28 / 10:20 AM - 12:00 PM

	HOPE BALLROOM A	HOPE BALLROOM B	HOPE BALLROOM C	CENTER STREET ROOM A
	S01-USING STANDARDIZED ASSESSMENTS TO EVALUATE HARVEST REGULATIONS	S02: EASTERN MASSASAUGA CONSERVATION, MANAGEMENT, AND RECOVERY	S03: APPLICATION OF ENVIRONMENTAL DNA-BASED TOOLS FOR AQUATIC INVASIVE SPECIES MONITORING AND MANAGEMENT	T01: FISHERIES: GREAT LAKES I
	Moderator: Joseph Conroy, Ohio DNR	Moderator: Greg Lipps, Ohio State University	Moderator: Catherine Richter, U.S. Geological Survey	Moderator: Janice Kerns, Ohio DNR
10:20 AM	Bonar, Scott The North American AFS Freshwater Fish Sampling Standardization Program: Update and Evaluating Harvest Regulations	Redmer, Michael Tracking Recovery Goals for the Conservation Reliant Eastern Massasauga Rattlesnake	Thomas, Austen A System for Rapid eDNA Detection of Aquatic Invasive Species	Doerr, Lydia Can Otolith Microchemistry Be Used to Delineate Natal Origin of Larval Lake Whitefish in the Lower Waters of Green Bay and Lake Michigan?
10:40 AM	Phelps, Quinton Harvest Regulations: What Do We Know, What Do We Need to Know, What Should We Do Next to Develop and Implement Standardized Assessments to Evaluate Harvest Regulations?	King, Richard Eastern Massasauga Demography and Extinction Risk Under Prescribed-Fire Scenarios	Davis, Mark Testing the Role of Stream Flow on eDNA Abundance Using the Invasive Asian Clam <i>Corbicula spp</i>	Ransom, Andrew Using Sonar to Describe Spawning Habits of Tributary Spawning Lake Whitefish in Green Bay, Lake Michigan
11:00 AM	Pritt, Jeremy Using “Standard” vs. “Standardized” Sampling Methods to Evaluate Sport Fish Regulations	Allender, Matt The Epidemiology of Snake Fungal Disease in Eastern Massasaugas over the Last 10 Years	Merkes, Chris Choosing the Right eDNA Assay: Developing Standards for Limit of Detection and Limit of Quantification	Schmitt, Joseph Quantifying Oxythermal Habitat Availability for Coldwater Species in the Central Basin of Lake Erie
11:20 AM	Shoup, Daniel Standardized and Robust Analyses for Evaluating Fishing Regulation Effectiveness	Hall, Roshelle Status and Assessment of Eastern Massasauga Rattlesnakes (<i>Sistrurus catenatus</i>) in Berrien County, Michigan	Monroe, Emy Refinement of eDNA as an Early Monitoring Tool at the Landscape-level: Study Design Considerations	Utrup, Brad Mark-Recapture Validation of Pectoral Fin Ray Age Estimation for Lake Sturgeon
11:40 AM	Shaw, Stephanie Wisconsin's Northern Highland Fishery Research Area: A Long-term Comprehensive Program for Evaluating Fisheries Regulations	Dreslik, Michael Monitoring Eastern Massasauga Populations Within the Carlyle Lake Region	Rees, Christopher Validation and Comparative Performance Testing of Markers Useful for the Detection of Northern Snakehead (<i>Channa argus</i>)	
LUNCH BREAK ON OWN 12:00 PM – 1:00 PM				

Technical Sessions & Symposia Grid at-a-Glance

Monday, January 28 / 10:20 AM - 12:00 PM

CENTER STREET ROOM B	CENTER STREET ROOM C	CENTER STREET ROOM D	VETERANS ROOM A/B	VETERANS ROOM C/D
T06: HUMAN DIMENSIONS: FISHERIES I	T03: FISHERIES: BEHAVIOR & PHYSIOLOGY	T04: WILDLIFE: WETLAND CONSERVATION	T05: LIGHTNING TALK SESSION: FISHERIES *10-MINUTE PRESENTATIONS*	T02: WILDLIFE: URBAN-WILDLIFE CONFLICT
Moderator: Nick Radabaugh, Ohio DNR	Moderator: Kevin Kayle, Ohio DNR	Moderator: Dave Sherman, Ohio DNR	Moderator: Kevin Page, Ohio DNR	Moderator: Gary Comer, Ohio DNR
Vacura, Kirsten What Makes Anglers Happy: A Sentiment Analysis of Walleye Angler Fora in the United States	Bowman, Jacob Metabolism and Movement: A Link to Partial Migration in Brook Trout	Saunders, Sarah Multi-scale Habitat Associations with Marshbird Occupancy and Abundance in the Great Lakes Region	Wagner, Curtis [10:20] Using a Long-term Tagging Study to Evaluate Escapement, Survival, and Angler Catch Sheffer, Robert [10:30] Movements and Habitat Use of Muskellunge in Green Bay, Lake Michigan	
Venturelli, Paul You Can Have Your Fire Hose and Drink from It, Too: An Expert-Approved Approach to Using Angler Apps to Generate Large Volumes of Usable Data	Grabowski, Tyler The Expression of Bluegill Behavioral Types in Chronically Heated Environments	Bradshaw, Therin Marsh Bird Use of Wetlands Managed for Waterfowl in Illinois	Galinat, Austin [10:40] Influence of Mink Predation on Brown Trout Survival and Size-structure in Rapid Creek, South Dakota Frey, Reuben [10:50] Effects of Dam Removal on the Community Structure of Micropterus Species	Hurd, Maureen Aspects of Municipalities Associated with Occupancy and Abundance of Chimney Swifts in Illinois
Fopma, Seth Assessing Opinions Toward Native Fish Management in the Black Hills Region of South Dakota	Atkinson, Tiffany Investigating the Influence of Turbidity on the Diet and Coloration of an African Cichlid Fish	Hengst, Nicole Habitat Relationships of Virginia Rails and Soras in Impounded Marshes Within the Western Lake Erie Basin of Ohio	OPEN [11:00] Minder, Mario [11:10] Dietary Comparisons of Fishes in the US and Mongolian Mountain Steppe	Blackwell, Bradley The FAA Wildlife Strike Database: An Untapped Source of Avian Movement Data
Sundmark, Aaron Framing Social Values: How Small Fisheries Can Improve Quality of Life in South Dakota	Bogue, Seth Effects of Wastewater Effluent on Fin Length and Body Condition of Fathead Minnows	McLean, Ross The Influence of Impoundment Management on Whooping and Sandhill Crane Colt Survival at Necedah NWR	Radford, Dakota [11:20] Demographics of a Healthy Population of Blue Suckers Sparks, Ryan [11:30] Fish Assemblages in an Effluent Dominated Stream in Central Illinois	Washburn, Brian Efficacy of Avian Radar Systems for Tracking Birds on the Airfield of a Large International Airport
Castle, Dana Fishing for Answers: Restoration in the St. Clair-Detroit River System Improves Angling Opportunities	Ward, Jessica Exposure to Harmful Algal Blooms Impairs Prey Recognition and Capture Success in a Larval Freshwater Fish	Kuechle, Kyle A Field Study Assessing Effects of Neonicotinoid Insecticides to Aquatic Invertebrates: Implications for Wetland-Dependent Taxa	Prada, Andres [11:40] Location, Location, Location Jansen, Andy [11:50] Assessment of a Post Fish Renovation Stocking	Askren, Ryan Effects of Harassment on Behavior and Movement of Canada Geese (<i>Branta canadensis</i>) in an Urban Park
LUNCH BREAK ON OWN 12:00 PM – 1:00 PM				

Technical Sessions & Symposia Grid at-a-Glance

Monday, January 28 / 1:20 PM - 3:00 PM

	HOPE BALLROOM A	HOPE BALLROOM B	HOPE BALLROOM C	CENTER STREET ROOM A
	S01-USING STANDARDIZED ASSESSMENTS TO EVALUATE HARVEST REGULATIONS	S02: EASTERN MASSASAUGA CONSERVATION, MANAGEMENT, AND RECOVERY	S03: APPLICATION OF ENVIRONMENTAL DNA-BASED TOOLS FOR AQUATIC INVASIVE SPECIES MONITORING AND MANAGEMENT	S04: GREAT LAKES TROPHIC STRUCTURE: INNOVATIONS AND ONGOING STUDIES OF PREDATORY FISHES
	Moderator: John Dettmers, Great Lakes Fishery Commission	Moderator: Mike Redmer, U.S. Fish and Wildlife Service	Moderator: Jon Amberg, U.S. Geological Survey	Moderator: Brian Roth, Michigan State University
1:20 PM	Fisher, Shannon Data-Driven Harvest Regulations in Minnesota: Approaches, Priorities, and Northern Pike	Dreslik, Michael Combating Threats to the Eastern Massasauga with Directed Conservation Actions in Illinois	Lance, Richard Targeting eDNA Surveys for the Invasive Black Carp, <i>Mylopharyngodon piceus</i>	Bobay, Luke Toward Examining Climate Effects on Yellow Perch Recruitment: How Do Lake Erie Larval Yellow Perch Diets Vary Within a Year?
1:40 PM	Steffen, Susan First Year Evaluation of a Regulation Change for Walleye at Cedar Bluff Reservoir, Kansas	Lipps, Gregory Conservation and Recovery of the Eastern Massasauga in Ohio	Richter, Catherine Environmental DNA Monitoring of Effectiveness of Bigheaded Carp Removal from Creve Coeur Lake, Missouri	Fielder, David Lake Huron Prey Fish Community Affects Saginaw Bay Predator/Prey Dynamics and Management Implications
2:00 PM	Mounce, Michael Using Standardized Assessments to Evaluate Harvest Regulations in Illinois: Let's Start the Discussion	Shaffer, Stephanie Validating a Habitat Suitability Index Model for the Eastern Massasauga Rattlesnake in Southern Michigan	Johnson, Nicholas Determine What Fishes Adult Sea Lamprey Parasitized by Barcoding DNA in Their Feces	Isermann, Daniel Food Web Interactions Among Walleyes, Lake Whitefish, and Yellow Perch in Green Bay
2:20 PM	Kinter, Bryan Maintaining Quality Fisheries in Small Public Lakes Using Restrictive Harvest Regulations	Reinert, Howard An Experimental Assessment of Habitat Restoration Efforts for Eastern Massasaugas in PA	Maloy, Aaron DNA-based Dietary Analysis of Invasive Flathead Catfish: A Case Study from the Edisto River, SC	Kierczynski, Katie Spatial Patterns and Temporal Trends of Predator Diets in Lake Huron
2:40 PM	Clapp, David Evaluating a Statewide Yellow Perch Regulation for Michigan	Kingsbury, Bruce Translocating Eastern Massasaugas: Approaches and Limitations		Tucker, Taaja Reevaluation of Wild Juvenile Lake Trout Spatial Distribution and Diets in Lake Huron (2008 - 2017)
REFRESHMENT BREAK WITH EXHIBITORS 3:00 PM - 3:20 PM				

Full abstracts and author listings are located on the conference website. Check the conference registration desk onsite for last minute cancellations and changes to the technical schedule or visit www.midwestfw.org.
REMINDER: The conference schedule is available on sched.org which allows you to search within the schedule.

Technical Sessions & Symposia Grid at-a-Glance

Monday, January 28 / 1:20 PM - 3:00 PM

CENTER STREET ROOM B	CENTER STREET ROOM C	CENTER STREET ROOM D	VETERANS ROOM A/B	VETERANS ROOM C/D
T09: HUMAN DIMENSIONS: WILDLIFE	T07: FISHERIES: RIVERS & STREAMS	T08: WILDLIFE: WATERFOWL	S06 CONSIDERING NEW PARADIGMS IN THE MANAGEMENT OF BEAVER, TROUT, AND RIPARIAN HABITATS	S05: MIGRATORY WILDLIFE COLLISIONS WITH MANMADE STRUCTURES
Moderator: Mike Tonkovich, Ohio DNR	Moderator: Justin Walters, Ohio DNR	Moderator: Doug McClain, Ohio DNR	Moderator: Steven Beyer, Michigan DNR	Moderator: Matthew Shumar, Ohio Bird Conservation Initiative
Black, Kristen Use of Surveys to Enhance R3 Programs	Nau, Cynthia Fine-scale Spatial Distribution of Resident Fish Species in Lower-order Tributaries of the Great Lakes	Loken, Zachary Habitat Heterogeneity and Wetland-dependent Bird Use in Wisconsin's Glacial Habitat Restoration Area	Whelan, Gary Do Beaver and Trout Really Get Along? Some Perspectives on a Long-Term Conflict Concerning Landscape Scale Riparian Mgt.	Shumar, Matthew It Takes a Village: A Collaborative Approach to Bird Conservation
Landon, Adam Psychological Involvement and Constraints to Hunting Participation: Implications for R3 Research	Schneider, Sam Seasonal Use of Riffles, Lateral Pools, and Non-Wadeable Deep Pools by Fishes in the Neosho River, Kansas	Williams, Benjamin Stopover Duration and Habitat Use of Spring Migrating Dabbling Ducks in the Wabash River Valley	Fitzpatrick, Kerry Beaver as a Provider of Ecological Services for Fish and Wildlife	Lao, Sirena The Effect of Weather on Bird-building Collisions in Downtown Minneapolis
Stephens, Dan Guiding Hunter Recruitment, Retention, and Reactivation: A Market-Driven Approach	Robbins, Jeffrey Comparison of Geomorphological Characteristics of the Wabash and Ohio Rivers and Their Impacts on Fish Assemblages	Rush, Kaitlyn Wood Duck Breeding Season Survival and Habitat Use	Rudolph, Brent Early Successional Habitats in Riparian Zones	Rice, Jonathan Using Citizen Scientist Data to Elucidate Drivers of Urban Bird-window Collisions
Netherton, Haley University Students and Bears: Understanding Attitudes Among Future Stakeholders	Rohr, Jessica Recovery of Riverine Fish Assemblages After Anthropogenic Disturbances	Klimas, Samuel Spring Food Habits of Green-winged Teal in Illinois	Burroughs, Bryan Trout Stream Enhancement and Beaver Management Challenges	Jones, Andrew Lights out Cleveland: Methodology and Collision Patterns
Walberg, Eric Tolerance of Restored Wildlife: Landowner Attitudes Toward Elk in Northwest Minnesota	Holloway, Drew The Temporal Effects of Heavy Metal Contamination on the Fish Community of the West Fork White River, Muncie, IN	Palumbo, Matthew Stepping down a Regional Waterfowl and Wetlands Conservation Decision Support Tool	Carlson, Andrew Science to Action: Decision-Support to Advance Stream Trout Management in a Changing Climate	DeGroot, Lucas Opening the Black Box of Post Bird-window Collision Survival and Behavior with New Technology, Citizen Scientists, and Diverse Collaborations
REFRESHMENT BREAK WITH EXHIBITORS 3:00 PM - 3:20 PM				

Technical Sessions & Symposia Grid at-a-Glance

Monday, January 28 / 3:20 PM - 5:00 PM

	HOPE BALLROOM A	HOPE BALLROOM B	HOPE BALLROOM C	CENTER STREET ROOM A
<p>3:20 PM</p> <p>3:40 PM</p> <p>4:00 PM</p> <p>4:20 PM</p> <p>4:40 PM</p>	<p>S01-USING STANDARDIZED ASSESSMENTS TO EVALUATE HARVEST REGULATIONS</p>	<p>S02: EASTERN MASSASAUGA CONSERVATION, MANAGEMENT, AND RECOVERY</p>	<p>T10: FISHERIES: INVASIVE SPECIES I</p>	<p>S04: GREAT LAKES TROPHIC STRUCTURE: INNOVATIONS AND ONGOING STUDIES OF PREDATORY FISHES</p>
	Moderator: Jeremy Pritt, Ohio DNR	Moderator: Mike Redmer, U.S. Fish and Wildlife Service	Moderator: Bryan Kinter, Ohio DNR	Moderator: Tomas Hook, Purdue University
	<p>Fincl, Mark Criteria for Removing a Protected Slot Limit on Smallmouth Bass Using Standardized Fisheries Survey Data</p>	<p>Proctor, Christine Case Study: Using a Drone Mounted Thermal Camera to Detect Eastern Massasaugas at Jennings Environmental Education Center, Slippery Rock, PA</p>	<p>Schwinghamer, Christopher Community Shifts in the Middle Mississippi River Relative to the Introduction of Two Hypophthalmichthys Carps</p>	<p>Leonhardt, Benjamin Diet Complexity of Lake Michigan Salmonids</p>
	<p>Slagle, Zak Opening Lake Erie's Spring Bass Season: Standard Assessments Inform Increased Opportunities for Anglers</p>	<p>Robertson, Crystal Overview of a New Initiative That Engages Private Landowners in Eastern Massasauga Conservation in Ontario</p>	<p>Jolley, Jeffrey Intensive Harvest of Bigheaded Carps Using the Unified Method in a Floodplain Lake in Missouri, USA</p>	<p>Turschak, Ben Diet and Niche Overlap of Lake Michigan Piscivorous Fishes as Revealed by Stable Isotopes</p>
	<p>Fielder, David Use of Multiple Surveys and Stock Assessment Models to Evaluate Effects of Liberalized Walleye Harvest Regulations in Saginaw Bay, Lake Huron and Gauge Progress on Mgt. Objectives</p>	<p>Martin, Scott Inferring Landscape-scale Connectivity Between Local Populations of the Eastern Massasauga Using Genome-scale Markers</p>	<p>Sadowsky, Maurice History and Issues in Controlling the Bighead and Silver Carps in the Mississippi Basin</p>	<p>Traynor, Dan Lake Trout: Not a Picky Eater. Dietary Flexibility and Perseverance</p>
	<p>Conroy, Joseph Crappies in Ohio: Building a General Approach to Determining Regulation Success Based on Standard Fish Population Assessments and Angler Feedback</p>	<p>Kudla, Nathan Using Landscape Genetics to Understand Connectivity of an Island Population of Eastern Massasauga Rattlesnakes (<i>Sistrurus catenatus</i>)</p>	<p>Collins, Scott Examination of a Modular Electrical Barrier for Deterring Fish Movements</p>	<p>Scofield, Anne Energy Pathways to Prey Fishes Across a Productivity Gradient: A Case-study in the Laurentian Great Lakes</p>
<p>Mather, Martha A Portfolio Approach to Integrated Assessment and Research Can Provide a Larger Context for the Successful Evaluation of Fisheries Harvest Regulations</p>	<p>McCluskey, Eric Does Habitat Area Influence Genetic Diversity? A Case Study with the Eastern Massasauga (<i>Sistrurus catenatus</i>)</p>	<p>Sadowsky, Maurice Selective, Safe and Low Cost Piscicide</p>	<p>Tackman, Tristan Density and Biomass of Drifting Macroinvertebrates in the Upper St. Marys River: A Comparison of the Power Canal and Main Rapids CANCELLED</p>	

Technical Sessions & Symposia Grid at-a-Glance

Monday, January 28 / 3:20 PM - 5:00 PM

CENTER STREET ROOM B	CENTER STREET ROOM C	CENTER STREET ROOM D	VETERANS ROOM A/B	VETERANS ROOM C/D
T13: FISHERIES: HABITAT	T11: FISHERIES: FISH CONSERVATION	T12: WILDLIFE: CERVIDS	S06 CONSIDERING NEW PARADIGMS IN THE MANAGEMENT OF BEAVER, TROUT, AND RIPARIAN HABITATS	S05: MIGRATORY WILDLIFE COLLISIONS WITH MANMADE STRUCTURES
Moderator: Curt Wagner, Ohio DNR	Moderator: Mike Porto, Ohio DNR	Moderator: Clint McCoy, Ohio DNR	Moderator: Steven Beyer, Michigan DNR	Moderator: Matthew Shumar, Ohio Bird Conservation Initiative
Dillon, Rebecca Hypoxia Alters Spatial Overlap of Primary and Secondary Consumers in the Pelagic Food Web of Reservoirs	Fopma, Seth Distributions Across an Island: Using SDMs to Conserve an Imperiled Sucker	Carstensen, Michelle Causes of Mortality in Minnesota's Declining Moose Population	Kopaska, Jeff River Restoration in Iowa ... Is There Anything Fishy Going on Here?	Winger, Benjamin Forty Years of Bird-building Collisions Shed Light on the Evolutionary Dynamics of Bird Migration in a Rapidly Changing World
Budnik, Richard Projected Temperature Increases Decrease Sport Fish Habitat Quality in Ohio Reservoirs	Preville, Nicholas The Cart Before the Redhorse: Examining Summer Habitat Use of the Threatened River Redhorse (<i>Moxostoma carinatum</i>) to Guide Future Management	Olson, Lucas Proximity to Established Populations Explains Moose (<i>Alces alces</i>) Occupancy in Northern Wisconsin	Zorn, Troy How Do Beavers Affect Trout Populations? Well, it Depends...	Butryn, Ryan "Big Data" Approach to Understanding Wildlife Collision Risk at Wind Farms
Gates, Eric Comparing the Effects of Artificial Habitat and Coarse Woody Habitat on Macroinvertebrate Communities and Largemouth Bass Growth	Mock, Alan Evaluating Remote Site Incubators: Implications for the Reintroduction of Arctic Grayling in Michigan	Jacques, Chris Evaluation of an Ek Detection Probability Model in the Black Hills, South Dakota	Olson, Jennifer Minnesota's Stream Conservation Easements and New Perennial Vegetation Buffer Law Overlap to Improve Riparian Habitat	Seymour, Megan Is Mortality Data Proprietary? Accessing Bird and Bat Collision Data from Wind Projects
Baebler, Elisa The Influence of Season and Streamflow on Habitat Selection of Spotted Bass and Shorthead Redhorse Downstream of a Hydropeaking Dam in Central MO	Zimmerman, Brian Successful Translocation of Bluebreast Darters: A Case Study from the Upper Licking River, Ohio	Williamson, Chad Elk Habitat Suitability and Potential of Public and Private Lands in Michigan	Hafs, Andrew Effect of Beaver on Brook Trout Habitat in North Shore Lake Superior Streams	Bauman, Donald Regulation of Single Turbines and Small-Scale Wind Facilities in Ohio
Renik, Kathryn Assessment of the Accuracy of Spatially Interpolated Brook Trout Habitat in Northeast Minnesota Streams	Wigren, Paige Fisheries Evaluation of the Frankenmuth Rock Ramp in Frankenmuth, MI	McGraw, Amanda Understanding Relationships Between Deer Demographics, Deer Health and Forest Vegetation Through Partnerships with Wisconsin Hunters		DISCUSSION

Technical Sessions & Symposia Grid at-a-Glance

Tuesday, January 29 / 10:20 AM - 12:00 PM

	HOPE BALLROOM A	HOPE BALLROOM B	HOPE BALLROOM C	CENTER STREET ROOM A
	S07: USE OF ACOUSTIC TELEMETRY TO INFORM FISHERIES MANAGEMENT ACROSS MIDWESTERN US AND CANADA	S08 SCIENCE IN SERVICE TO WETLANDS CONSERVATION AND WILDLIFE MANAGEMENT IN THE LOWER GREAT LAKES REGION	S09: CARBON DIOXIDE AS AN AQUATIC RESOURCE MANAGEMENT TOOL	T14: FISHERIES: GREAT LAKES II
	Moderator: Matthew Faust, Ohio DNR	Moderator: Brendan Shirkey, Winous Point Marsh Conservancy	Moderator: Diane Waller, U.S. Geological Survey	Moderator: Mark DuFour, Ohio DNR
10:20 AM	Goble, Cameron Using Acoustic Telemetry to Re-establish Historic Fisheries	Simpson, John Wetland Habitat and Bird Population Changes over Time: The Dynamics of Coastal Wetlands	Suski, Cory Using Carbon Dioxide to Control Aquatic Invasive Species	Zoe, Almeida L Evaluating the Influence of Past and Current Environments on Lake Erie Walleye Growth Rates
10:40 AM	Brooks, Jill Biotelemetry Informing Management: Case Studies Exploring Successful Integration of Biotelemetry Data into Fisheries and Habitat Management	Tori, Gildo Evolution of Wetland Conservation and Policy: Developing Programs and Partnerships	Cupp, Aaron Development of Carbon Dioxide as a Tool for Invasive Fish Management	Dippold, David Density-Dependent and Independent Effects on Walleye Harvest in Lake Erie
11:00 AM	Carlson, Andrew Assessing Walleye Habitat Use with Species Distribution Models	Kowalski, Kurt Synthesizing the Science to Support Management of Invasive Plants	Smith, David Movement and Survival of Bighead Carp Exposed to a Carbon Dioxide Deterrent Barrier	Nieman, Chelsey You Can't Just Use Gold: The Effects of Elevated Algal and Sedimentary Turbidity on Lure Success for Walleye (<i>Sander vitreus</i>)
11:20 AM	Vandergoot, Christopher From the Boat to the Board Room: Communicating Lake Erie Walleye Movements and Population Dynamics to Decision Makers and the Public	Kovach, Matthew Great Black Swamp Region of Northwestern Ohio	Wu, Brandon The Use of Carbon Dioxide to Remove Resident Piscivorous Striped Bass (<i>Morone saxatilis</i>) from the Tracy Fish Collection Facility in the Sacramento-San Joaquin River Delta, California	Carl, Dray Smallmouth Bass Population Characteristics in Chequamegon Bay, Lake Superior Under a Unique 22-inch Size Limit
11:40 AM	Isermann, Daniel Spawning Site Contribution and Movements of Lake Whitefish in Northwestern Lake Michigan	Finn, Jeff A Decade of Privately Owned Wetland Restorations in the Lake Erie Marsh Focus Area		Hessenauer, Jan-Michael Changes in Great Lakes Forage Species Abundance and Composition: 25 Years of Trawling on Lake St. Clair
LUNCH BREAK ON OWN 12:00 PM – 1:00 PM				

Technical Sessions & Symposia Grid at-a-Glance

Tuesday, January 29 / 10:20 AM - 12:00 PM

CENTER STREET ROOM B	CENTER STREET ROOM C	CENTER STREET ROOM D	VETERANS ROOM A/B	VETERANS ROOM C/D
T16: FISHERIES: INVERTEBRATES	T15: FISHERIES: LAKES & RESERVOIRS	T17: WILDLIFE: MAMMALS	S10: THE OHIO BIODIVERSITY CONSERVATION PARTNERSHIP	T18: HUMAN DIMENSIONS: POLICY & ENGAGEMENT
Moderator: Chris Aman, Ohio DNR	Moderator: Matt Hangsleben, Ohio DNR	Moderator: Katie Dennison, Ohio DNR	Moderator: H. Lisle Gibbs, Ohio State University	Moderator: Erin Hazelton, Ohio DNR
Artz, Caleb Characterizing Macroinvertebrate Community Changes of West Fork White River (1979-2015)	Becher, Cory Otolith Microchemistry as a Tool to Understand Contributions of Stocked Channel Catfish in Reservoir Populations	Bergeson, Scott Managed Forests Provide Roosting Opportunities for Indiana Bats in South-central Indiana	Gibbs, H. Adaptive Variation in Venom Genes in Small Isolated Populations of Eastern Massasauga Rattlesnakes	Bennett, Abigail Something Fishy or Something Wild? Comparing the Progression, Status, and Needs of Social Science Integration in Fisheries and Wildlife Sides of Conservation
Abdelrahman, Hisham Comparisons of Enzymatic Thermal Optima Among Native and Invasive Crayfish Species	Flores, Ernesto Age and Growth of Blue Catfish in Two North-Central Kansas Reservoirs	Starking, Melissa Camera Trap Efficacy for Determining Mammal Occupancy in Northern Hardwood Forests, Michigan	Parsons, Kate OBCP: An Agency Perspective	Rader, Michael What Should a Baccalaureate Program in Conservation Law Enforcement Emphasize?
Greider, Macayla Abiotic and Biotic Factors Relating to Mermithid Infection Rates in Larval Midge (<i>Chironomidae</i>) Specimens in Northwestern Wisconsin Streams	Mounce, Michael Active Bluegill Management for Improved Angling Quality: Walnut Point Lake a Case Study in Central Illinois	Adamczak, Sara Using Stable Isotope Analysis to Evaluate the Diet of the North American River Otter Throughout Ohio	Peterman, William Timber Rattlesnake Habitat Use: A Thermal Landscape Perspective	Kuchle, Christina Volunteer Stream Quality Monitoring: Fostering Community Engagement in Ohio's Scenic Rivers
Wessels, Dana Evaluating Impacts of Rainbow Trout Farming on Macroinvertebrates in Neotropical Streams in Ecuador	Neely, Ben Evaluating Growth of Angled Bluegill Relative to the Randomly Sampled Population	Davis, Edward Evaluating Survival and Cause-specific Mortality of Bobcats in West-central Illinois	Brown, Bridget Look at 7 Years of Bat Acoustic Surveys in Ohio	Mallinak, Andrew Investigating Perceptions of Wildlife and Vegetation in Urban Vacant Lots
	Haws, Erin Quantifying Fish Habitat Impairment in Iowa's Lakes and Reservoirs		Ochoa, Alex Adaptive Variation in Venom Genes in Small Isolated Populations of Eastern Massasauga Rattlesnakes	
LUNCH BREAK ON OWN 12:00 PM – 1:00 PM				

Technical Sessions & Symposia Grid at-a-Glance

Tuesday, January 29 / 1:20 PM - 3:00 PM

	HOPE BALLROOM A	HOPE BALLROOM B	HOPE BALLROOM C	CENTER STREET ROOM A
	S07: USE OF ACOUSTIC TELEMETRY TO INFORM FISHERIES MANAGEMENT ACROSS MIDWESTERN US AND CANADA	S08 SCIENCE IN SERVICE TO WETLANDS CONSERVATION AND WILDLIFE MANAGEMENT IN THE LOWER GREAT LAKES REGION	S09: CARBON DIOXIDE AS AN AQUATIC RESOURCE MANAGEMENT TOOL	S11: DREISSENIID MUSSELS: ADVANCEMENTS IN CONTROL, DETECTION, MANAGEMENT, AND BIOLOGY
	Moderator: Scott Colborne, Michigan State University	Moderator: John Simpson, Winous Point Marsh Conservancy	Moderator: Aaron Cupp, U.S. Geological Survey	Moderator: James Luoma, U.S. Geological Survey
1:20 PM	Tripp, Sara Paddlefish Migration: Evidence to Support Need for Interjurisdictional Management	Palumbo, Matthew Waterfowl Ecology and Management in the Lower Great Lakes	Tucker, Emi Effects of Sociability and Conspecifics on CO2 Avoidance in Fish	Gopalakrishnan, Kishore Effects of Cyanobacteria on Quagga Mussel (<i>Dreissena rostriformis bugensis</i>) Reproduction
1:40 PM	Colborne, Scott Acoustic Telemetry and Management of Behaviorally Diverse Lake Sturgeon in the Huron-Erie Corridor	Shirkey, Brendan Recent Advancements in Our Understanding of Secretive Marshbirds in the Lower Great Lakes	Stoeckel, Jim Evaluation of Carbon Dioxide to Stimulate Emergence of Red Swamp Crayfish from Invaded Ponds	Hammond, David Full Lake Eradication of Quagga Mussels Using Low Doses of EarthTec QZ Ionic Copper
2:00 PM	Moore, Michael Lake Sturgeon Movements in the Missouri River Basin Call Attention to the Importance of Tributaries in Large River Fish Conservation	Gates, Robert Ecology and Management of Fall and Spring Migrating Shorebirds in the Western Basin of Lake Erie	Waller, Diane Effects of Carbon Dioxide on Dreissenid Mussels and Its Use as a Management Tool	Severson, Todd Effects of Temperature and Exposure Duration on Four Potential Rapid-Response Tools for Zebra Mussel (<i>Dreissena polymorpha</i>) Eradication
2:20 PM	Larocque, Sarah Tracking the Movements and Interactions Among Salmonids in Lake Ontario	Ewert, David Great Lakes Shorelines: Influence on Landbird Distribution	Bartsch, Michelle Responses of Native Freshwater Mussels (<i>Lampsilis</i>) to Elevated Carbon Dioxide Concentrations in Acute and Chronic Exposures	Putnam, Joel A Structural Activity Relationship (SAR) Approach to Identify New Chemical Controls for Invasive Aquatic Species
2:40 PM	Kraus, Richard Do Growth Histories Determine Migration Patterns in Walleye?	Tonra, Christopher Full Annual Cycle Ecology and Conservation of Migratory Birds in the Lower Great Lakes		Donrovich, Seth Update on Zequanox® Molluscicide as Management Tool for Invasive Dreissenid Mussels
REFRESHMENT BREAK WITH EXHIBITORS 3:00 PM - 3:20 PM				

Technical Sessions & Symposia Grid at-a-Glance

Tuesday, January 29 / 1:20 PM - 3:00 PM

CENTER STREET ROOM B	CENTER STREET ROOM C	CENTER STREET ROOM D	VETERANS ROOM A/B	VETERANS ROOM C/D
T19: FISHERIES: EARLY LIFE HISTORY	S12: READING THE AQUATIC LANDSCAPE AND CONNECTING RESTORATION DESIGN	T20: WILDLIFE: UPLAND I	S10: THE OHIO BIODIVERSITY CONSERVATION PARTNERSHIP	S13: SEA GRANT ROLE IN COMMUNICATING NEEDS TO INFORM RESEARCH AND CONSERVATION
Moderator: Matt Wolfe, Ohio DNR	Moderator: Dana Ohman, The Nature Conservancy	Moderator: Joseph Lautenbach, Ohio DNR	Moderator: H. Lisle Gibbs, Ohio State University	Moderator: Chiara Zuccarino-Crowe, Michigan Sea Grant
Miltz-Miller, Eric Effects of Winter Stream Habitat Conditions on Larval Brook Trout (<i>Salvelinus fontinalis</i>) Morphology at Swim up in Northern Michigan Streams	Schenk, Devin What Makes for a Good Restoration Project	Main, Anson Impacts of Neonicotinoids on Native Pollinators: Evaluating Wild Bee Guilds in Field-margins Surrounding Imidacloprid-treated Soybean Fields	Spring, MaLisa The Ohio Dragonfly Survey: Citizen Science and INaturalist	Zuccarino-Crowe, Chiara Connecting Communities to Applied Science Across the Great Lakes Sea Grant Network
Mrnak, Joseph Effect of Temperature on Growth, Energy Reserves, Survival, and Settling Time of Endogenous Pallid Sturgeon Scaphirhynchus Albus Larvae	Schumacher, Bill The Importance of Soil Health in Ecological Restoration	Salas, Dan The Nationwide Candidate Conservation Agreement with Assurances (CCA) for Monarch Butterfly on Energy and Transportation Lands: Its Development and Scope	Halmbacher, Jacquelyn River Rearing of in Vitro Mussels	Gabriel, Tory Strengthening Ohio's Lake Erie Fisheries Through Research, Education, and Extension
Haupt, Kevin Larval Drift Sampling for Scaphirhynchus Sturgeon in the Mississippi and Missouri Rivers	Gara, Brian Keys to Successfully Establishing a Native Plant Community on Wetland and Stream Restoration Projects	Lolya, Lewis Effects of Pipeline Right-of-Way Habitat Management on Early Successional Songbirds in Eastern Ohio	Zimmerman, Brian Fishes of Ohio Inventory and Distribution Project	Rafferty, Sean Conserving and Enhancing Pennsylvania's Fisheries Through Conservation, Education, and Research
Gostiaux, Jason Phenology and Magnitude of Larval Fish Drift and Production Near the St. Marys River Rapids, MI	Micacchion, Mick Restoring Wetland Habitat for Amphibian Communities	Reiley, Bryan Effects of Conservation Practice and Site Age on Vegetation Structure and Avian Habitat Use in Fields Enrolled in the Conservation Reserve Enhancement Program	Lipps, Gregory A Partnership to Recover Ohio's Giant Salamander, the Eastern Hellbender	Lepak, Jesse New York Sea Grant and Great Lakes Fisheries: Past, Present, and Future
Fischer, Jason Maturation of Artificial Fish Spawning Reefs in the St. Clair-Detroit River System	Perlik, Matthew The Power of Partnering with State Agencies to Achieve Conservation	Stephenson, Matthew Reptile and Small Mammal Occupancy in Prairie Strips Integrated in an Agricultural Landscape	Sullivan, Mazeika Aquatic Ecosystem Conservation	Hook, Tomas Illinois-Indiana Sea Grant-Funded Research to Support the Lake Michigan Fishery
COFFEE BREAK 3:00 PM - 3:20 PM				

Technical Sessions & Symposia Grid at-a-Glance

Tuesday, January 29 / 3:20 PM - 5:00 PM

	HOPE BALLROOM A	HOPE BALLROOM B	HOPE BALLROOM C	CENTER STREET ROOM A
	S07: USE OF ACOUSTIC TELEMETRY TO INFORM FISHERIES MANAGEMENT	S08 SCIENCE IN SERVICE TO WETLANDS CONSERVATION AND WILDLIFE MANAGEMENT	T21: FISHERIES: INVASIVE SPECIES II	S11: DREISSENID MUSSELS
	Moderator: Scott Colborne, Michigan State University	Moderator: Chris Tonra, Ohio State University	Moderator: Zak Slagle, Ohio DNR	Moderator: James Luoma, U.S. Geological Survey
3:20 PM	Goodwin, Andrew Numerical Analysis Method for Converting Telemetry Patterns into Engineering Design Guidance: Lessons from 20 Years of Government and Private Sector Projects	Berg, Elizabeth The Effect of Hydrological Restoration on Nutrient Concentrations and Macroinvertebrate Communities in Lake Erie Coastal Wetlands	King, Nicole Spawning Chronology and Environmental Factors Associated with Grass Carp Reproduction in the Sandusky River	Barbour, Matthew Avoidance Behavior of Cold-, Cool-, and Warm-water Fish Species to Zequanox®, a Biopesticide for Dreissenid Mussel Control
3:40 PM	Smith, Frank A New Software Tool for Processing VEMCO Positioning System (VPS) Study Data	Soulliere, Gregory Prioritizing Regional Landscapes to Achieve Biological and Social Objectives Through Wetland Bird Habitat Conservation	Kim, Hae Early Life History of Age-0 Silver Carp in the Mississippi River Basin	Jensen, Erika Invasive Mussel Collaborative: Advancing Dreissenid Mussel Management and Control
4:00 PM	King, Sarah Incision Healing Rate of Shortnose Gars Using Novel Surgical Methods for Transmitter Implantation	DISCUSSION	Anderson, Rebekah Potential Beneficial Effects of Invasive Silver Carp on Native Fishes	Pucherelli, Sherri Bureau of Reclamation Invasive Mussel Control Research
4:20 PM	Lowe, Michael Using a Simplified Approach to Analyzing Acoustic Telemetry Data and Identifying Sea Lamprey Spawning Areas in the St. Clair Detroit River System		Hammen, Jeremy Demographics of Bigheaded Carp in the Illinois River, IL CANCELLED	Molloy, Dan A Research Path to the Control of Dreissenids Throughout Entire Water Bodies
4:40 PM	DISCUSSION			Keretz, Kevin Improving Methods to Understand the Role of Predation on Dreissenid Population Dynamics
5:00 PM				Beckham, Lewis Efficacy Testing of Mussel Stopper® for Dreissena Mussels

Technical Sessions & Symposia Grid at-a-Glance

Tuesday, January 29 / 3:20 PM - 5:00 PM

CENTER STREET ROOM B	CENTER STREET ROOM C	CENTER STREET ROOM D	VETERANS ROOM A/B	VETERANS ROOM C/D
T23: FISHERIES: BIG RIVERS	S12: READING THE AQUATIC LANDSCAPE AND CONNECTING RESTORATION DESIGN	T24: WILDLIFE: UPLAND II	T22: WILDLIFE: TURTLES	S13: SEA GRANT ROLE IN COMMUNICATING NEEDS TO INFORM RESEARCH AND CONSERVATION
Moderator: Jeremy Pritt, Ohio DNR	Moderator: Dana Ohman, The Nature Conservancy	Moderator: Mark Wiley, Ohio DNR	Moderator: Kate Parsons, Ohio DNR	Moderator: Chiara Zuccarino-Crowe, Michigan Sea Grant
Hanser, Kellie Identifying Catostomid Larvae Using Next Generation Sequencing (NGS) to Better Understand Reproduction Within Large River Systems	Wilson, Cory Working with the United States Army Corps of Engineers for Aquatic Resource Restoration and Enhancement	Vecchiet, Jay Does Land Management Have Detectable Effects on Species Richness?	Golba, Callie Use of Headstarting Data to Estimate Age-Specific Survival Rates of Juvenile Blanding's Turtles	Zischke, Mitchell Fisheries Extension in Southern Lake Michigan
Wood, Kaleb Age-0 Daily Growth Estimation of Commercially Exploited Channel Catfish in a Free-Flowing Midwestern River	Froehlich, August Identify Aquatic Restoration Priorities Using GIS and the Watershed Approach	Lyons, Tim Effects of Field and Landscape-scale Habitat on Ring-necked Pheasant Demography	Wright, Katherine Survivability of Head-Started Blanding's Turtles (<i>Emydoidea blandingii</i>) In Canada's Rouge National Urban Park	Triezenberg, Heather A Professional Development Program for Community-Engaged Research
Ham, Tyler Age, Growth, and Yield-Per-Recruit of Black Crappie (<i>Pomoxis nigromaculatus</i>) in Pools 4, 8, and 13 of the Upper Mississippi River	Ohman, Dana Reading the Riverine Landscape and Learning From Past Restoration Designs	Pollentier, Chris Eastern Wild Turkey Distribution and Patch Occupancy Across Northern Wisconsin	Smeenk, Nicholas Demographic Response of a Spotted Turtle (<i>Clemmys guttata</i>) Population to Multi-year Meso-predator Removal Efforts in a Northeast Ohio Fen	Register, Rhett Communication and Outreach Lessons from a Unique Fish Spawning Habitat Restoration Project
Devine, Thomas Paddlefish Exploitation and Movements Within the Mississippi River Basin	Singler, Amy Keys to Successful Dam Removal and River Restoration		Kessler, Ethan Can We Use Environmental DNA to Detect Alligator Snapping Turtles (<i>Macrochelys temminckii</i>) at the Edge of Their Range?	Gass, Meaghan Michigan EnviroImpact Tool: Collaboration, Cultivation, and Communication to Support Farmers in Forecasting Manure Nutrient Runoff Risk
Jansen, Craig Long-term Shovelnose Sturgeon Recapture and Population Data and Implications for Management Actions	Brennan, Amy Restoring Streams, Wetlands, & Floodplains in an Agricultural Landscape		Rayl, Jeremy Spatiotemporal Investigation of Eastern Box Turtle (<i>Terrapene carolina carolina</i>) Hematology and Pathogen Detection Through a Longitudinal Study in Central Illinois	DISCUSSION

Technical Sessions & Symposia Grid at-a-Glance

Wednesday, January 30 / 10:20 AM - 12:00 PM

	HOPE BALLROOM A	HOPE BALLROOM B	CENTER STREET ROOM A	CENTER STREET ROOM B
	S14: BRIDGING THE GAP BETWEEN FISH AND WILDLIFE	S15: COLLABORATING WITH COMMUNITY MEMBERS	T25: FISHERIES: TECHNIQUES	T26: FISHERIES: INVASIVE SPECIES III
	Moderator: Emi Tucker, University of Illinois	Moderator: Kristin Phillips, Michigan Department of Natural Resources	Moderator: Mike Wilkerson, Ohio DNR	Moderator: John Navarro, Ohio DNR
10:20 AM	Tucker, Emi Collaboration Between Fish and Wildlife Professionals: Why Does It Matter?	Briel, Sawyer It's Time to Change the Game: How Can Natural Resource Agencies Use New Communication Tools to Stay Relevant?	Tyszko, Stephen Using Measures of Precision and Catch to Estimate Sample Size Required to Meet Sampling Objectives for Standard Sport Fish Assessments	Schaick, Samuel Silver Carp Population Genetics from Tributaries of a Large Midwestern River
10:40 AM	Webb, Elisabeth Wetlands as Common Ground for Fish and Wildlife: Identifying Challenges and Opportunities	Avers, Barbara Seizing an Opportunity for Engagement with New Stakeholders: Building Wildlife Policy and Agency Relevancy	Buelmann, Andrew Use of Lake Michigan and Indiana Standard Trap Nets to Collect Crappie: A Comparison of Catch, Size Structure, and Cost Effectiveness	Niner, Megan Genomic and In Vitro Changes of VHSV-IVb Over the Past Decade in the Great Lakes
11:00 AM	Collins, Scott Beyond "Donors and Recipients": Impacts of Species Gains and Losses Reverberate Among Ecosystems Due to Changes in Resource Subsidies	Krogman, Rebecca Differential Constraints and Preferences of Anglers and Non-anglers in Urban Areas of Iowa	Kramer, Nick Evaluation of Gill Net Design to Sample Fishes in Kansas Impoundments: Year Two	O'Shaughnessey, Erin Control of Red Swamp Crayfish (<i>Procambarus clarkii</i>) in Chicago Region to Reduce Risk of Spread Across Great Lakes Basin
11:20 AM	Refsnider, Jeanine Is What's Good for the Bird Good for the Turtle? Landscape-scale Productivity Modeling of Declining Red-headed Woodpeckers, Eastern Box Turtles, and Spotted Turtles in the Oak Openings Region of Ohio and Michigan	Fults, Beth Breaking It Down: Communicating Complex Subjects to the People We Serve	Kludt, Nicholas Comparison of Hydroacoustic Survey Designs for Coldwater Forage Assessment in a Missouri River Reservoir	Ross, Jason Implementing a Monitoring Program for Invasive Benthic Macroinvertebrates in Lake Superior
11:40 AM	Sullivan, Mazeika Cross-boundary Food Webs in Stream-riparian Ecosystems: Implications for Conservation and Management	Burkett, Erin & Popovich, Amanda Learning from Michigan's Women Anglers Through Community Engagement and Photography	Berry, Sabina Growth Chronology and Population Characteristics of Channel Catfish and Freshwater Drum Across Six Illinois Rivers	Tiemann, Jeremy Rapid Expansion of Banded Killifish <i>Fundulus diaphanus</i> Across Northern Illinois: Dramatic Recovery or Invasive Species?

Technical Sessions & Symposia Grid at-a-Glance

Wednesday, January 30 / 10:20 AM - 12:00 PM

CENTER STREET ROOM C	CENTER STREET ROOM D	VETERANS ROOM A/B	VETERANS ROOM C/D
T27: WILDLIFE: AVIAN	S16: AGRICULTURE AND WILDLIFE COEXISTENCE IN THE MIDWEST UNITED STATES	T28: LIGHTNING TALK SESSION: WILDLIFE *10-MINUTE PRESENTATIONS*	T29: HUMAN DIMENSIONS: FISHERIES II
Moderator: Laura Kearns, Ohio DNR	Moderator: James DeDecker, Michigan State University Extension	Moderator: Sarah Stankavich, Ohio DNR	Moderator: Brian Schmidt, Ohio DNR
Will, Tom Partners in Flight: Landbird Conservation Planning Tools for the Midwest	Roloff, Gary Agriculture and Wildlife Coexistence in the Midwest United States	Reiley, Bryan [10:20] Trends in Arthropod Abundance Over 21 Years in Illinois	Clark-Kolaks, Sandy Review of Fishing Pressure and Harvest on Southern Indiana Waterbodies 1983-2017
		Donlon, Kate [10:30] Salamanders & Strip Mines: Effects of Extreme Habitat Disturbance on Genetic Diversity of Terrestrial Salamanders in Eastern Ohio	
Trumbo, Evalynn Post-Fledgling Habitat Selection of an Endangered Species in Texas	VerCauteren, Kurt Phase 2 Wildlife Management: Addressing the Impacts of Invasive and Overabundant Wildlife: The White-tailed Deer Continuum and Invasive Wild Pig Example	Gavenda, Kaitlin [10:40] Habitat Use of Migrating Northern Saw-whet Owls in Delaware and Henry Counties, Indiana	Molinaro, Sarah An Estimation of Harvest and Angler Habits at Bowfishing Tournaments in Illinois
		Rahlin, Anastasia [10:50] Using Environmental DNA to Determine Rail Occupancy and Track Migration	
Tyndel, Stephen Species Discrimination and Habitat Selection in Blue-winged and Golden-winged Warblers	DeVault, Travis Behavioral Approaches to Mitigating Human-Wildlife Conflict	Kane, Michelle [11:00] Migration Chronology and Wintering Locations of King Rails (<i>Rallus elegans</i>) Captured in the Upper Midwest	Keiling, Toniann Role of Environmental Context and Individual Behavioral Type on Angling Vulnerability
		Shurba, Jacob [11:10] Integrating Health, Disease, and Husbandry into Applied Wood Duck Research	
Tjepkes, Benjamin Bald Eagle Nest-site Selection Along the Upper Mississippi River, 1990-2012	Taylor, Jimmy Identifying and Managing Wildlife Damage to Forests	Lyons, Tim [11:20] Estimating Abundance and Demographic Parameters of Canada Geese from Banding and Recovery Data	Page, Kevin Successes and Limitations of a Roving-access Angler Survey Design to Increase Numbers and Frequency of Reservoirs Surveyed in Ohio
Malanchuk, Luke Estimating Shorebird Abundance and Distribution Through Aerial Surveys in the Illinois River Valley	Gese, Eric Nonlethal Tools for Managing Wolf Predation on Livestock		

Posters

Join our poster presenters at the Tradeshow & Poster Social on Tuesday, January 29 from 6:00 PM - 9:00 PM in Superior Ballroom C/D

P-01	Can Diet Affect Coloration in Tiger Salamanders? Katherine Novak
P-02	Estimating Occupancy and Detection Probabilities of the Eastern Massasauga Rattlesnake (<i>Sistrurus catenatus</i>) Arin Thacker
P-03	Home Range and Movements of Eastern Box Turtles at Two Urban Parks in Clark County, OH Richard Phillips
P-04	Impact of Bait on Trap Success for Turtles in Pool 12 in the Upper Mississippi River David Koch
P-05	Monitoring Spotted Turtles in an Ohio Fen: Do Decoys Increase Capture Rates? Richard Phillips
P-06	Timber Rattlesnake Home Range Estimates and Habitat Use on Forestry Lands in Ohio Andrew Hoffman
P-07	Agricultural Neonicotinoid Use and Common Grackle Decline in Central Illinois Noah Horsley
P-08	Analyzing the Potential Change in Behavior of Cerulean Warblers (<i>Setophaga cerulea</i>) in Response to an Avian Nest Predator Alexander Sharp
P-09	Breeding Ecology of Waterbirds in a Restored Floodplain of the Illinois River Valley Macayla Greider
P-10	Determining Acoustic Components to Drumming Log Selection in Male Ruffed Grouse (<i>Bonasa umbellus</i>) Joseph Quehl
P-11	Determining the Sizes of Cerulean Warbler (<i>Setophaga cerulea</i>) Home Range and Territory with Radio Telemetry Brandon Connare
P-12	Energetic Carrying Capacity of Submersed Aquatic Vegetation in Semi-Permanent Marshes in the Upper Midwest Chris Jacques
P-13	Estimating Abundance of Marshbirds in Wetlands Managed for Waterfowl Chris Jacques

P-14	Evaluating Sub-lethal Infections of <i>Sphaeridiotrema</i> spp. and <i>Cyathocotyle bushiensis</i> Trematodes in Captive Lesser Scaup Cheyenne Beach
P-15	Foraging Behavior of Breeding Songbirds in Urban Columbus, Ohio Lana Milbern
P-16	Grass Carp Thermal Maturation and Proximal Cues for Spawning in Ponds Jeffrey Jolley
P-17	Roundup Exposure and Warm Temperatures Reduce Activity of <i>Orconectes rusticus</i> Crayfish Amber Burgett
P-18	Role of the Lateral Line in Male-Male Territorial Competition in the Fathead Minnow, <i>Pimephales promelas</i> Hannah TerMarsch
P-19	Harmful Algal Blooms Impair Innate Predator-Evasion Behavior in a Freshwater Fish Gina Lamka
P-20	Exposure to Harmful Algal Blooms Impairs Sensorimotor Ryan Seymour
P-21	Evaluating Nest-switching Behavior and Microhabitat Partitioning of Southern Flying Squirrels in West-central Illinois Chris Jacques
P-22	Barotrauma in Lake Erie Yellow Perch: Take Pride in Your Perch! Jesse Lepak
P-23	Conserving Yukon Caribou: Use of Genetics to Inform Herd Assignment and Conservation Designations Karen Mager
P-24	Enhancing Management of Post-stocked Alligator Gar (<i>Atractosteus spatula</i>) by Investigating Gear Detection Kevin Lambert
P-25	Enhancing Management of Post-Stocked Alligator Gar by Investigating Habitat Selection James Studdard
P-26	Scent Marking in Sunda Clouded Leopards (<i>Neofelis diardi</i>): Novel Observations Close a Key Gap in Understanding Felid Communication Behaviours Maximilian Allen

Posters

P-27	Testing of a Respiration Model for Hybridized Coregonines Kevin Keeler
P-28	Monitoring Efforts and Demographic Data on a Kirtland's Snake Population in Clark County, Ohio Joshua Goble
P-29	Assessing Eastern Iowa Rodents and Ticks and Ecological Influences on the Prevalence of <i>Borrelia burgdorferi</i> David Koch
P-30	Characterizing the Effects of White Grub (<i>Pothodiplostomum minimum</i>) on the Immune and Circulatory Systems of Bluegill Sunfish (<i>Lepomis macrochirus</i>) Emi Tucker
P-31	Know Where It Should Go: Compliantly Disposing Infectious Waste Lisa Clark
P-32	Movement Patterns of Escaped Captive Cervids in Ohio Laura Graber
P-33	Prevalence of Hantavirus in Wild Populations of Mice in the Greater Muncie Area Angela Fletcher
P-34	Diagnostic Findings and Clinical Management of <i>Capillaria aerophilus</i> – Associated Bronchopneumonia and Tracheitis in Captive Black Bear Cubs (<i>Ursus americanus</i>) Jennifer Swan
P-35	Ecology of Box-nesting Waterfowl in Central WI: Biological versus Societal Benefits Marissa Kaminski
P-36	Evaluating the Fish Communities of Riffles/runs with Three Different Substrate Types in Preparation for Changes Post Lowhead Dam Removal Drew Holloway
P-37	Assessing the Impact of Mussel Bed Presence on Aquatic Macroinvertebrate Communities and Stream Function Kathryn Sheets
P-38	Validating Daily Otolith Increment Deposition in Aquarium-Reared Juvenile Walleye, <i>Sander vitreus</i> Kaitlin Ulin
P-39	An Evaluation of Angler Use of Fish Attractors in Ohio Reservoirs Kevin Page
P-40	Assessment of Thermal Discharge on Reservoir Fish Community on Turtle Creek Reservoir in Sullivan County, Indiana Cole Baird

P-41	Cheese vs. Worms: A Comparison of Minnow Trap Bait Types for Assessing Nearshore Fish Communities Scott Jackson
P-42	Comparison of Three Age-estimation Methods Using Scales and Otoliths for Bloater (<i>Coregonus hoyi</i>) in Lake Michigan Kristy Phillips
P-43	Effectiveness of Zote Soap Baited Trotlines in Assessing Channel Catfish and Aquatic Turtle Bycatch Ryen Kemp
P-44	Effects of Sedation Techniques on Stress Responses in Bluegill Sunfish (<i>Lepomis macrochirus</i>) Margaret Thomas
P-45	Influence of Physical Processes on Transport and Persistence of eDNA from the Invasive Round Goby (<i>Neogobius melanostomus</i>) Meredith Nevers
P-46	Precision of Age Estimates Obtained from Sectioned and Whole Bluegill Otoliths Jeff Koch
P-47	Pre-Restoration Fishery and Macroinvertebrate Assessment of the River Rouge Area of Concern James Beaubien
P-48	Smallmouth Bass Habitat Use in the Upper Mississippi River Colby Gainer
P-49	Three-Tier Assessment of Vegetation Communities in Dunkirk Harbor, New York and Presque Isle Bay, Pennsylvania Makayla Kelso
P-50	Fisheries and Macroinvertebrate Rebound Downstream of Passive AMD Treatment Sites Coty Prunest
P-51	A Comparative Analysis of Small Tributaries of Green Bay, Wisconsin: The Intersection of Water Quality, Habitat, and Fish Communities Amelia McReynolds
P-52	Assessing Upstream Fish Migration Patterns Using a Prototype Fish Ladder Around a Low-Head Dam in Northern Indiana Cassandra Root
P-53	Bluegill Habitat Use in the Upper Mississippi River Ethan Rutledge
P-54	Characterizing Wisconsin Angler Preferences for Inland Lake Largemouth Bass, Bluegill, and Walleye Fisheries Ralph Tingley

Posters

P-55	Distribution and Abundance of Larval Yellow Perch in Lake St. Clair and Adjoining Waters Ed Roseman
P-56	Evaluation of Sampling Gears and Population Characteristics of Catfish in the Monongahela River, WV Kristen Chestnut
P-57	Movements and Habitat Use of Muskellunge in Green Bay, Lake Michigan Robert Sheffer
P-58	White Bass Population Dynamics in a South Central Missouri Reservoir Joey Root
P-59	Preliminary Genetic Evidence of Predation on an Imperiled Minnow from an Intentionally Introduced Apex Predator in a Western Ohio Stream Kenneth Oswald
P-60	Structural Differences in Two Techniques for Snag Creation in the Huron-Manistee National Forest Madison Nadler
P-61	Butterfly Response to Barrens Management at Crex Meadows Wildlife Area, Grantsburg, WI McKenna Hammons
P-62	Effects of Prescribed Fire on Small Mammal Community of Schmeekle Reserve, Wisconsin McKenna Hammons
P-63	Water Uptake Capabilities of Sphagnum Moss Mattie Osborn
P-64	Using Citizen Science to Assess the In-stream Response of Watershed Conservation Practices Carlos Calderon
P-65	Student Organizations as Professional Development Vehicles for Applied Learning Experiences: The MWSU Student Chapter of the Wildlife Society Example Cary Chevalier
P-66	Investigating Burbot Diets in Lake Michigan Through Stomach Contents, Fatty Acids, and Stable Isotope Ratios Benjamin Leonhardt
P-67	Monitoring Invasive Goby Populations of Lake Michigan Using eDNA Metabarcoding Samantha Jurecki
P-68	Sensory Development and Navigation in Larval Grass Carp Amy George

P-69	CANCELLED: Validation of the Modeling Methodology for Projecting the Spawning Location of Grass Carp <i>Ctenopharyngodon idella</i> in the Sandusky River Patrick Kocovsky
P-70	Abundance of Invasive Rusty Crayfish by eDNA and Traditional Survey in View of Fish Assemblages and Habitat Quality Kasia Kelly
P-71	Genetic Analysis and Germination Trials of an Invasive Weed (<i>Gypsophila paniculata</i>) Found in Two Distinct Ecosystems Sarah Lamar
P-72	CANCELLED: Introducing the electrified-dozer trawl for sampling Silver Carp and fish communities in a lotic system Jeremy Hammen
P-73	Habitat Selection of Michigan Bog Grasshoppers in Huron National Forest Brittany Shelton-Dooley
P-74	Volunteer Stream Quality Monitoring: Fostering Community Engagement in Ohio's Scenic Rivers Christina Kuchle
P-75	Functional Diversity of Macroinvertebrates in Coastal Wetlands Along the St. Marys River Zachary Johnson
P-76	Toxic Effects of the Biological Pesticide, <i>Bacillus thuringiensis israelensis</i>, on North American Frog Larvae Eve Choi
P-77	Navigation Dams and Larval Fish Dynamics Greg King
P-78	Assessment of Thermal Discharge on Downstream Fish and Macroinvertebrate Communities in the Wabash River, Indiana Kevin Gaston
P-79	Assessment of Thermal Discharge on Downstream Fish Community in the White River, Indiana Kevin Gaston
P-80	Summary of a Long Term Study Leading to Population Augmentation for the Endangered Blanding's Turtle (<i>Emydoidea blandingii</i>) in an Urbanized Landscape Crystal Robertson
P-81	Paddlefish Movement and Habitat Use Using Acoustic Telemetry in the Upper Mississippi River (Pools 14-19) Dominique Turney
P-82	Recovery of Bigeye Chub (<i>Hybopsis amblops</i>) Populations in Illinois Josh Sherwood

Posters

P-83	Routine Respiration Rates of Larval and Juvenile Lake Sturgeon (<i>Acipenser fulvescens</i>) Taaja Tucker
P-84	True Metabolizable Energy of Submersed Aquatic Vegetation for Gadwall Chris Jacques
P-85	Using a Plasma Lipid Metabolite Index to Evaluate Spring Migration Stopover Habitat for Wild Canvasbacks (<i>Aythya valisineria</i>) in Illinois Andrew Bouton
P-86	Using Plasma-lipid Metabolites to Index Mass Changes in Birds: Are Triglycerides More Indicative of Energy Income Than Deposition? Chris Jacques

P-87	Influence of Spatial Alignment on Photographic Detection Rates at Remotely Triggered Camera Stations Edward Davis
P-88	Supplementing Traditional Songbird Nest Box Monitoring with Trail and FLIR Camera Technology Sayre Stejbach

STUDENT RESEARCH-IN-PROGRESS POSTERS

A student research-in-progress poster session will be held in conjunction with the poster social and will feature submissions from undergraduate, M.S., and P.h.D. students including: research that is in progress, or is a proposed research project (with a focus on study design), results from completed undergraduate research projects, or student chapter class or group research project. Attendees are strongly encouraged to visit with these students and provide feedback on their research.

P-01	Diet and Growth Rates of the Tubenose Goby (<i>Proterorhinus semilunaris</i>) Bradley Dawson
P-02	Habitat Preferences of Asian Carp on the Upper Illinois River an Acoustic Telemetry Study Jehnson Lebsock
P-03	Habitat Use of Larval Fish in Backwater Reaches of the Upper Mississippi River Tyler Thomsen
P-04	Harvest Distribution of Minnesota Produced Wood Ducks Ciara McCarty
P-05	Invasive rusty crayfish control on critical native fish spawning reefs in northern Lake Michigan Jake Kvistad
P-06	Predicting Seasonal Growth of Yellow Perch in the Western Basin of Lake Erie Peter Jenkins

P-07	Size Selectivity of Gill Nets Used to Target Silver and Bighead Carp in the Upper Mississippi Zachary Witzel
P-08	The Seasonal Migration of Round Goby in Lake Michigan Near Milwaukee, Wisconsin Erik Carlson
P-09	Using geographic data from angler apps to map aquatic connectivity from angler movement as a vector of invasive species Jessica Weir
P-10	Influence of Round Goby Invasion on Lake Erie Walleye Diets and Growth Rates Cory Bauerlien

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P: 203-426-1320
E: jcurcuruto@nssf.org
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Kirstyn McKay
705 S 8th Street
Boise, ID 83702
P: 208-275-0011
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E: rboronka@cmnh.org
www.cmnh.org/nature

The Cleveland Museum of Natural History has long been a leader in conservation in NE Ohio. It began its Natural Areas Program in 1956 with the acquisition of the Fern Lake Bog. Since then it has protected over 10,000 acres of critical habitat. Our system of preserves serves as an outstanding resource for studying and teaching about the remarkable biodiversity of the region.

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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 shootinssport 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

Drew Holloway
2200 N 33rd Street
Lincoln, NE 68503
P: 765-747-4896
E: dholloway@msdeng.com
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.

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The Great Lakes Science Center (GLSC) is part of the Midwest region of the USGS. Our scientists work in the Great Lakes region and other parts of the country to meet the nation's need for scientific information used by resource managers to restore, enhance, manage, and protect the living resources and habitats in the Great Lakes basin.

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Jim Schneider
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www.wildlife.org/ncs

The North Central Section of The Wildlife Society is the Midwest regional section of the parent Wildlife Society organization, representing Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio and Wisconsin. The Wildlife Society's mission is "To inspire, empower, and enable wildlife professionals to sustain wildlife populations and habitats through science-based management and conservation." The Wildlife Society enhances our members' networking and learning opportunities, professional and career development, and provides numerous ways for them to get more involved in creating a better future for wildlife and their habitats.

OHIO CHAPTER OF THE AMERICAN FISHERIES SOCIETY

Janice Kerns
1190 High Street
Fairport Harbor, OH 44077
P: 440-352-4199
E: janice.kerns@dnr.state.oh.us
www.ohio.fisheries.org

The Ohio Chapter of the American Fisheries Society is an organization of students and professionals from all over Ohio who have an interest in fisheries management, aquatic biology, and related issues. Along with 15 other chapters throughout the midwestern U.S. and Canada, we constitute the North Central Division of the American Fisheries Society, which is the largest and oldest professional fisheries organization in the world.

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The American Fisheries Society (AFS) is the world's oldest and largest membership organization dedicated to strengthening the fisheries profession, advancing fisheries science, and conserving fisheries resources. Our membership includes 8,000+ fisheries scientists and managers from around the world. AFS provides forums for the presentation and dissemination of science and translates scientific information into actions through engagement with decision makers on issues impacting aquatic resources. Stop by our exhibit to learn how AFS can help you develop as a fisheries professional and advance the Society!

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OHIO CHAPTER OF THE WILDLIFE SOCIETY

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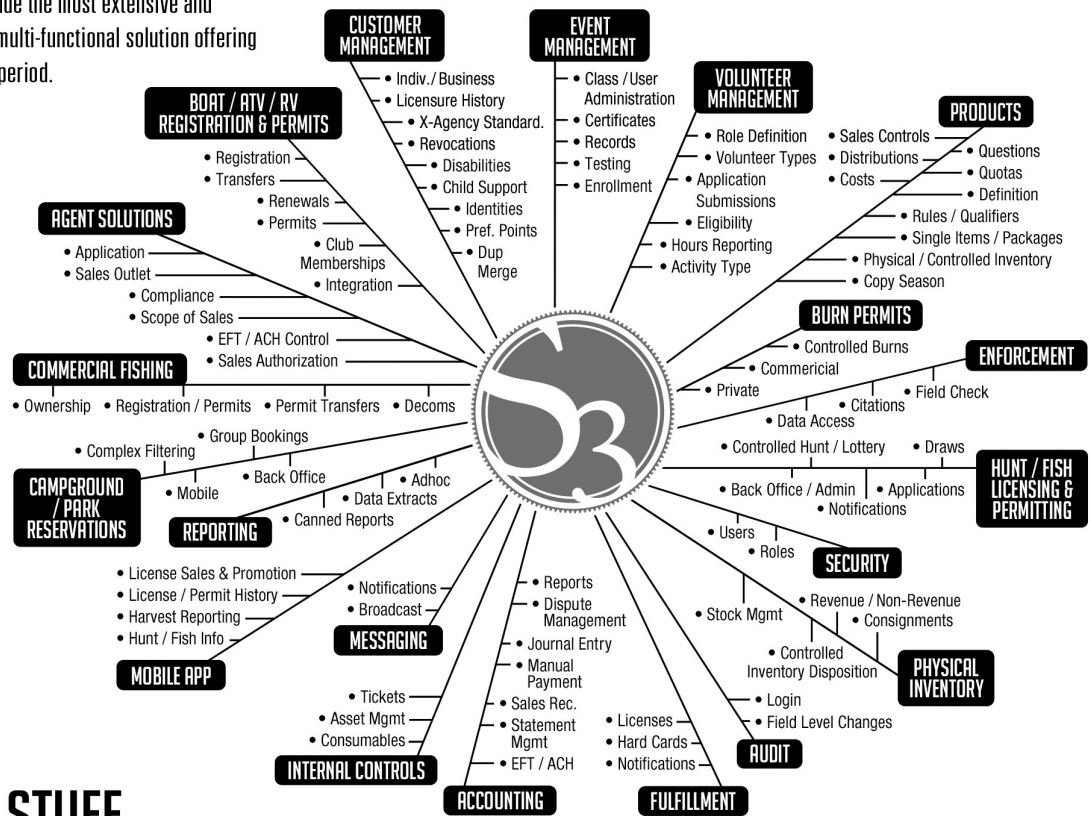
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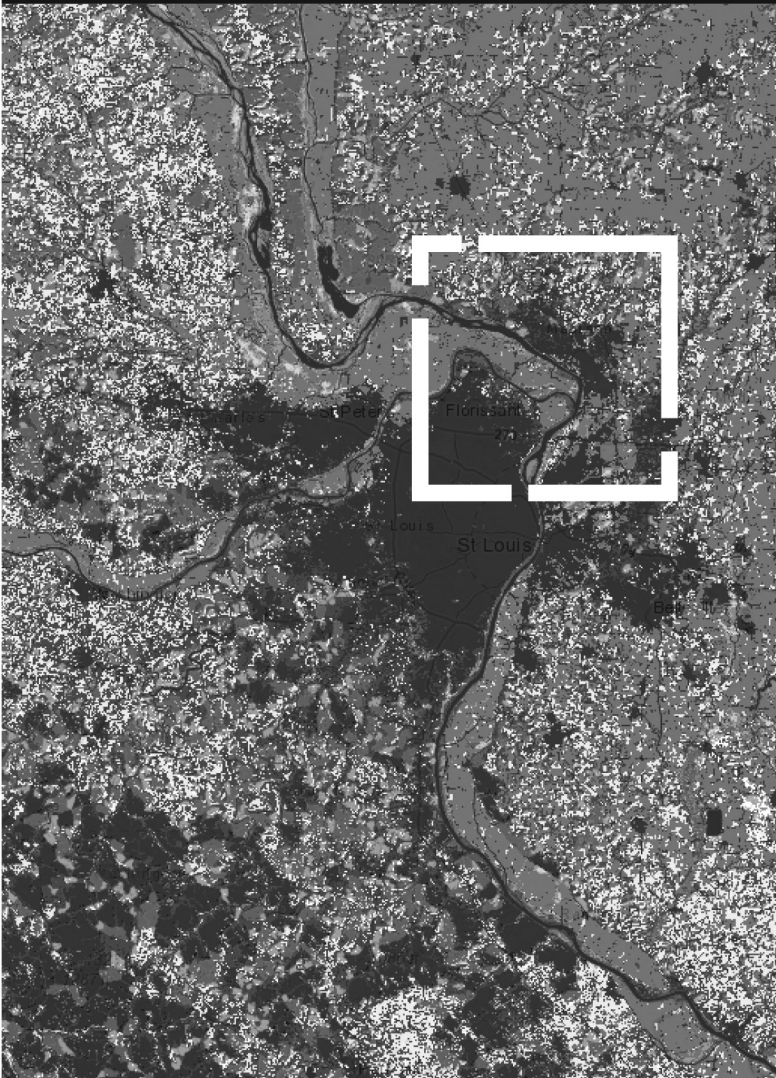
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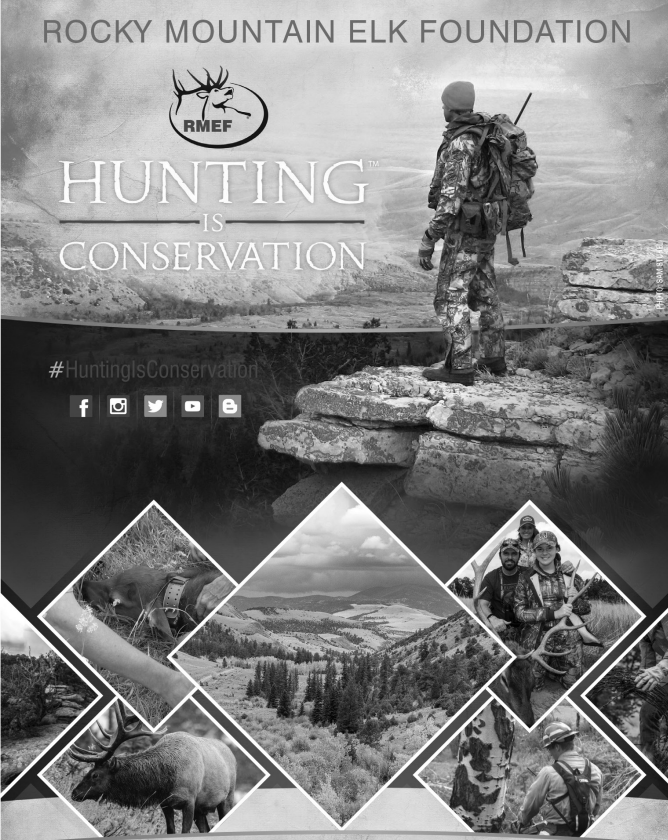


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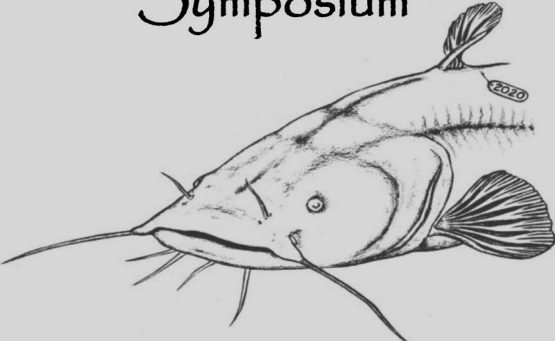
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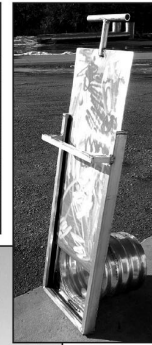
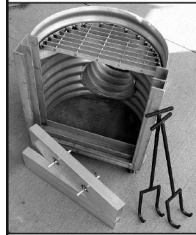
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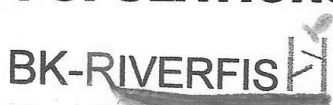


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science for a changing world

Lunch Options

The following lunch options are located in close proximity to the hotel in Cleveland's thriving downtown district.

1	THE BURNHAM RESTAURANT (In the Hotel)
2	URBAN MARKET 1325 E. 6th Street 0.2 miles from hotel
3	TICKET TO TOKYO 55 Public Square 0.2 miles from hotel
4	WINKING LIZARD 1301 9th Street 0.3 miles from hotel
5	RUTH CHRIS STEAK HOUSE 200 Public Square 0.3 miles from hotel
6	PANINI'S BAR AND GRILL 1290 6th Street 0.3 miles from hotel
7	B SPOT BURGERS 100 Public Square (Horseshoe Casino) 0.4 miles from hotel
8	THE CORNER ALLEY 402 Euclid Avenue 0.4 miles from hotel
9	PIZZA 216 401 Euclid Avenue 0.4 miles from hotel
10	HODGES 668 Euclid Avenue 0.4 miles from hotel
11	GUYS PIZZA 538 Superior Avenue E 0.3 miles from hotel
12	ABBY'S SOUP AND SALAD 200 Public Square 0.3 miles from hotel

13	BONEY FINGERS BBQ 401 Euclid Avenue 0.4 miles from hotel
14	CHIPOTLE 224 Euclid Avenue 0.3 miles from hotel
15	POTBELLY SANDWICH Euclid Avenue 0.4 miles from hotel
16	OTANI NOODLE—DOWNTOWN 234 Euclid Avenue 0.3 miles from hotel
17	SUBWAY 2013 Ontario Street 0.3 miles from hotel
18	CHARLEY'S STEAKERY 401 Euclid Avenue, Suite FC2 0.4 miles from hotel
19	PRESTO SANDWICHES 401 Euclid Avenue 0.4 miles from hotel
20	DAVE'S COSMIC SUBS 1918 E. 6th Street 0.4 miles from hotel
21	KABOB HOUSE 530 Euclid Avenue 0.4 miles from hotel
22	CLE SUBS 530 Euclid Avenue 0.4 miles from hotel
23	QUIZNOS 1220 W. 3rd Street 0.2 miles from the hotel
24	SANTA FE CAFÉ 75 Public Square 0.2 miles from hotel

