

The Invaders

Volume 4 Issue 3 Fall 2015



GRASS CARP IN THE GREAT LAKES





About TWS Invasive Species Working Group

The Wildlife Society – Invasive Species Working Group is a collection of scientists that work to facilitate communication between researchers interested in invasive species management. The TWS – ISWG strives to enhance the knowledge and technical capabilities of wildlife professionals in the area of invasive species management and to increase public awareness and understanding of invasive species issues.

Invasive Species Working Group Board

Chair

Erin Myers
erin.myers@fltwis.org

Chair Elect

Caleb Hickman
calebhickman@gmail.com

Secretary/Treasurer

Jennifer Bowers-Chapman
jmbowers1@yahoo.com

Board Members

Andrea Litt
andrea.litt@montana.edu

Cheryl Millett
cmillett@tnc.org

Reese Brand Phillips
reese_phillips@fws.gov

Jamie Sasser
jamie.sasser@ncparks.gov

Gary Witmer
gary.w.witmer@aphis.usda.gov

Nicole Wood
wood1nj@cmich.edu

Connect With TWS ISWG

Website

<http://drupal.wildlife.org/invasive/>

E-mail

twsiswg@yahoo.com

Facebook

TWS Invasive Species Working Group

Twitter

@Invasive_TWS



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The Invaders Article Submission

Want to share your invasive species work, training, conferences, or other contribution with our TWS ISWG members? Contact the newsletter editor, Nicole Wood, to submit articles, short write-ups to announce conferences and training, or get your voice heard about your experiences with invasive species. We are also looking for informational articles related to invasive species. The ISWG appreciates your input and wants to make this working group a useful tool for everyone dealing with invasive species.

Send articles to twsiswg@yahoo.com

Thank you for helping us to grow!



Grass Carp

in the

Great Lakes



Our cover photo is of Mia McReynolds and Melissa Cross, from the University of Notre Dame, holding a grass carp they caught this summer while electroshocking in the Great Lakes coastal wetlands around Burns Harbor, Indiana, as part of a collaboration between the University of Notre Dame, University of Wisconsin – Green Bay, Central Michigan University, and Loyola University Chicago. The grass carp is invasive species to the Great Lakes and jumped to the forefront of Great Lakes invasive species news when two males were discovered earlier this summer in a pond bordering Lake Ontario near downtown Toronto. Three more grass carp were discovered by officers from the Toronto and Region Conservation Authority (TRCA) in the harbor surrounding Toronto during the first days of September. The TRCA have been monitoring the area since the July sighting as part of what has been called the largest response from Fisheries and Oceans Canada against invasive species in Canada. The most recent finding included a female, which leads to the speculation of a breeding population. Researchers are waiting for further lab results

before announcing the breeding potential of the fish. In Illinois, Indiana, and Ohio grass carp are allowed if they are sterilized and it is possible for the fish found around Toronto to be from sterilized populations. Sterilized grass carp are used for submerged aquatic vegetation (SAV) control, as the fish are notorious consumers of SAV. Other states have various regulations. In Wisconsin they can be used for only research purposes, while Michigan and Minnesota ban the grass carp. The grass carp discovered this summer are not the first time the species has been found in the Great Lakes, 45 grass

carp have been caught in the Great Lakes basin from 2007 to 2012, with each new discovery leads to new fears that the population is exploding and will more difficult to control. The consumption of SAV by grass carp can have far reaching impacts on wetlands and the species dependent on the habitat. Small fish and invertebrates (SFI) use the SAV as both food and habitat structure. Without SAV, SFI are subject to starvation, predation, and greater exposure to physical forces (ex sunlight, wave action, etc.). SAV also helps to

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Toronto waterfront grass carp capture locations (Graphic provided by TRCA).

New Invasions

The Michigan Department of Environmental Quality (MDEQ) confirmed two new invasive species in Michigan. The freshwater algae didymo, also known by its more informal name of rock snot, was discovered in the St. Mary's River near Sault Ste. Marie. The St. Mary's River

connects Lake Superior to Lake Huron and is a major commercial boating route through the Great Lakes.

The New Zealand mud snail was located in the Pere Marquette River by Ludington, Michigan. The Pere Marquette River flows directly into Lake Michigan. The



MDEQ reminds boaters to Clean, Drain, Dry their equipment to prevent the spread of these invasive species.

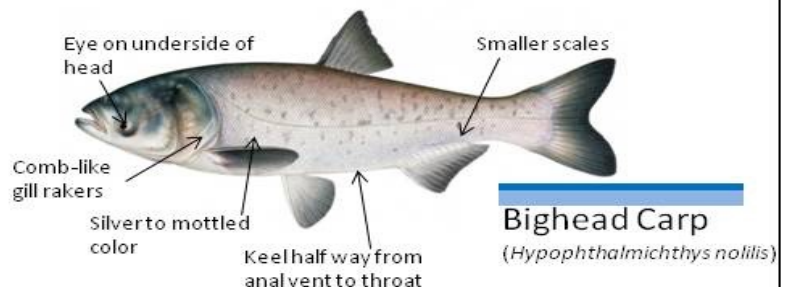
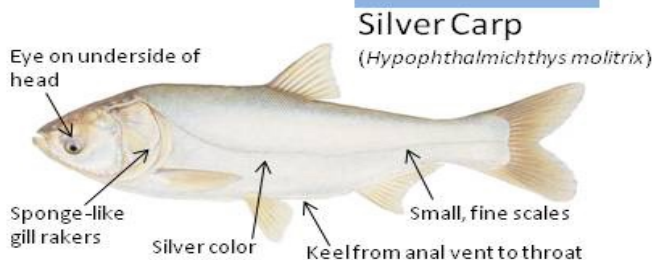
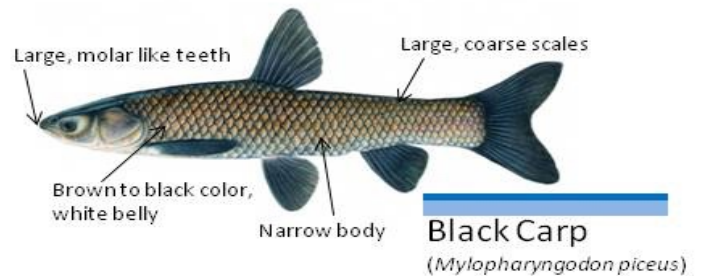
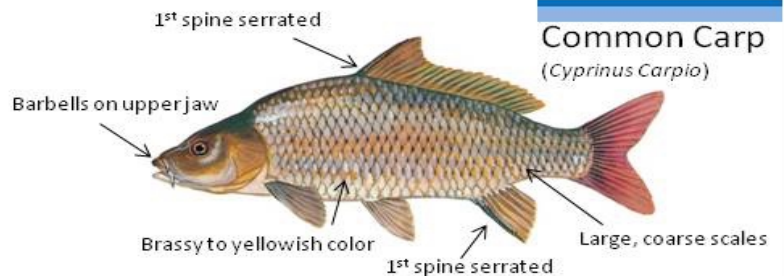
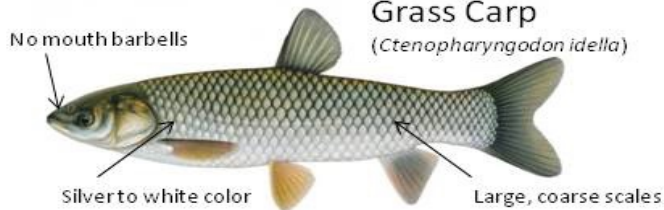
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reduce the turbidity of wetlands by decreasing the wave action, allowing for suspended sediments to settle out of the water. SAV also provides nutrient buffering by using

dissolved nitrogen and phosphorus for plant growth. The removal of these nutrients from the water column makes them unavailable for algae. Algae can become a

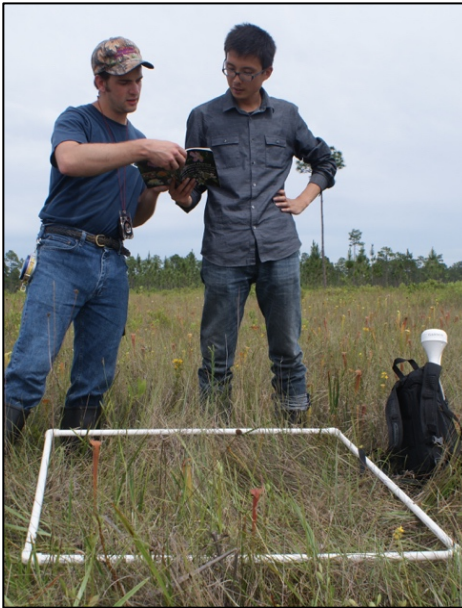
nuisance when unchecked, as residents of Toledo can attest to with their yearly battle for quality drinking water due to algal explosions in western Lake Erie.

Asian Carp Identification



Invasive Species Researchers In The Field

We invited invasive species researchers to send in photos of their fieldwork. We got responses from several different states and disciplines.



Auburn University master's student, Cameron Poyner, is studying how fire makes areas more susceptible to the invasion of the Chinese tallow tree (*Triadica sebiferum*). (top) Cameron (l) and Ph.D. student Shaoyang identifying plants at a study site. (below) The Chinese tallow tree invading a natural area on the Mississippi Sandhill Crane Wildlife Refuge (Photos provided by Cameron Poyner).



Mael Glon, Central Michigan University master's student, shows off his rusty crayfish catching skills in the Chippewa River outside of Mount Pleasant, Michigan. (Photo by Nicole Wood).



Indiana University Ph.D. student Carli Gurholt standing in front of giant ragweed in an Illinois prairie (Photo provided by Carli Gurholt).

Central Michigan University and the Michigan Department of Natural Resources combined forces to study the impact invasives have on Great Lakes fisheries. (left) MDNR diver Eric Calabro buries egg funnels on nearshore spawning reefs. (below) Former CMU graduate student, Krista Robinson (l) (now with the Michigan Department of Environmental Quality) prepares lake trout eggs for bait traps that MDNR diver Pat O'Neill (r) will use to capture round goby and rusty crayfish (Photos provided by Krista Robinson).

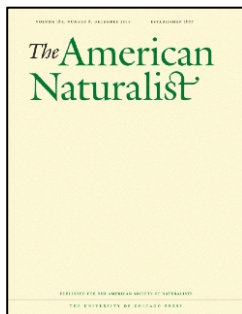


#InvadeTheSocial @wildlifesociety #TWS2015

The Invasive Species Working Group invites you to an evening of fun and networking with your fellow wildlife scientists at #InvadeTheSocial in Winnipeg at TWS 2015. The social will be held at Elephant & Castle Restaurant & Pub (street level of the Delta Hotel) from 5:30-7:00pm on Tuesday, October 20, 2015. Members of the ISWG board will be there to discuss invasive species issues and many other topics. Feel free to bring along your colleagues and/or family members accompanying you at the conference. Light appetizers will be available.



INVASIVE IN SHORT



Invasive Species Research – Hot Off The Press

A theory of island biogeography for exotic species

Burns, K.C. 2015. A theory of island biogeography for exotic species *The American Naturalist*, Ahead of Print, <http://www.jstor.org/stable/10.1086/682934>

The theory of island biogeography has played a pivotal role in the way ecologists view communities. However, it does not account for exotic species explicitly, which limits its use as a conservation tool. Here, I present the results of a long-term study of plant communities inhabiting an archipelago of small islands off the coast of New Zealand and derive a modified version of the theory of island biogeography to predict differences in the turnover and diversity of native and exotic species. Empirical results showed that, although species richness of both native and exotic plant species increased with island area, native species consistently outnumbered exotic species. Species turnover increased with species richness in both groups. However, opposite to species-area patterns, turnover increased more rapidly with species richness in exotic species. Empirical results were consistent with the modified version of the theory of island biogeography, which distinguishes exotic species from native species by decoupling extinction rates of exotic species from island area, because they are represented by only small populations at the initial stages of invasion. Overall results illustrate how the theory of island biogeography can be modified to reflect the dynamics of exotic species as they invade archipelagos, expanding its use as a conservation tool.

Invasive Species Working Group Board Elections

It is time for the ISWG board elections. We have had several members step up and throw their hats into the ring. The election will run from now until October 23, with results announced on October 26. Please review the nominees below and complete your ballot online: <https://www.surveymonkey.com/r/C2MXTQC>

Cheryl Millett
Chair Elect



Cheryl is a Biologist with the Florida Chapter of The Nature Conservancy at Tiger Creek Preserve. She leads landscape-scale partnership programs focused on land and invasive species management. She leads the Central Florida Lygodium Strategy, a partnership to apply a regional approach to stopping the northern spread of Old World climbing fern on public and private lands. She also leads the Heartland Cooperative Invasive Species Management Areas (Heartland CISMA) and coordinates Florida's

Python Patrol, which is a partnership program to provide containment and early detection of and rapid response to invasive exotic Burmese pythons and other invasive species in south and central Florida. Cheryl is on the Finance Committee of the Florida Exotic Pest Plant Council and has served on the Board of Directors of TWS ISWG since 2013.

Liz Barraco
Secretary/Treasurer



Liz has spent many years with the Florida Fish and Wildlife Conservation Commission as a wildlife biologist who was involved in active field research, data collection and public information regarding a variety of nonnative species in Florida. She also coordinated the state's Exotic Pet Amnesty Program and helped to expand its reach and impact. Liz recently completed her Masters of Science degree on the potential impact of the nonnative Argentine black and white tegu in South Florida. Liz is currently a high school educator at Somerset Academy Charter with a focus in honors biology and marine science,

and uses her working knowledge of invasive species and field biology to help students relate the information in their textbooks to the real world.

Bruce Anderson
At-Large Board Member



Bruce is an Assistant Wildlife Manager with the Minnesota Department of Natural Resources (MNDNR) in Cloquet Minnesota. He is currently involved wild life surveys, non-native invasive species (NNIS) management, wildlife damage management, habitat assessments, and Interdisciplinary support to timber programs. During the mid-1990's Bruce co-initiated and developed a Cooperative Weed Management Area (WMA) to manage NNIS on 500,000 acres within the Lower Salmon River Canyon. In 2000 he led consensus building to manage NNIS within the Frank Church River of No Return Wilderness where he organized, planned, and

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executed multi-day awareness trips to strengthen existing partnerships and establish new ones.

Jerry Jackson
At-Large Board Member



Jerry is Professor Emeritus from the Department of Marine and Ecological Sciences at Florida Gulf Coast University and also from the Department of Biological Sciences at Mississippi State University. He has taught undergraduate and graduate courses in Ornithology, Mammalogy, Herpetology, and Biogeography – each of which includes lectures on invasive species. His research and publications includes efforts related to a diversity of invasive species including invasive birds, iguanas, flatworms, and Brazilian pepper. He served for two three-year terms on the national Invasive Species Advisory Committee. He has also been active in informal invasive species education through a weekly segment called “Southern Outdoors” that aired for 14 years on CBS television, and for the past 15 years through a daily segment called “With the Wild Things” on public radio in southwest Florida.

Andrea Litt
At-Large Board Member



Andrea is an assistant professor in the Ecology Department at Montana State University (www.montana.edu/litt). Her primary research interests include quantifying responses of animals to human activities and disturbance and exploring the mechanisms of those responses to develop tools for restoration. Her research has focused especially on the effects of invasions by nonnative plants on animal communities and populations and strive to collect information that can be used to develop practical solutions and guide policy and management. Andrea has served as a Board Member at Large for the Invasive Species Working Group since 2013, and has been essential to ongoing Symposium planning.

Kim Poisson
At-Large Board Member



Kim is a certified wildlife rehabilitator and has been practicing wildlife rehabilitation for almost twenty years, and is currently executive director and lead program presenter for the A2 Raptor Rescue in Michigan. She has been an active board member for the International Wildlife Rehabilitation Council for two years and is the chair for their course development committee, a body responsible for developing and editing all their training materials that are used globally. Although Kim does not work directly with invasive species, she provides educational presentations each year to a wide variety of groups regarding conservation and native species, which include the impacts of invasive species. She has been a member of TWS ISWG since 2012.

Jessica Resnik
At-Large Board Member



Jessica currently serves as the first National Invasive Animal Coordinator for the U.S. National Park Service (NPS) and has been

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working on invasive animal issues for NPS since 2012. She is currently developing a servicewide strategy for implementing an NPS invasive animal program and represents the agency in several federal and Department of Interior committees and work groups related to invasive species.

Andrew Smith

At-Large Board Member



Andrew is an Extension Associate Biologist with Mississippi State University Extension Service, Center for Resolving Human-Wildlife Conflicts. He has developed several Extension publications on the impacts of invasive species to native wildlife as well as professional presentations and outreach presentations on invasive species. Andrew is also completing his Master of Science degree on Invasive Species Policy, evaluating policy legislation for controlling wild hogs in the US.

Nicole Wood

At-Large Board Member



Nicole is a graduate student at Central Michigan University (CMU). Her thesis work involves

the invasive mute swan and their impacts on the ecology of Michigan's coastal wetlands. Nicole has been a member of The Wildlife Society since 2008, when she joined as student member while earning her B.S. in Biology – Natural Resources from CMU. She has been involved with the TWS ISWG since 2012 and was elected to the ISWG Board a year later. Nicole is an active board member, serving as newsletter editor, symposium committee chair, and social media specialist.

TWS ISWG Election 2015

1. President Elect (Choose Only 1)

☐ Cheryl Millett

2. Secretary/Treasurer (Choose Only 1)

☐ Liz Barracco

3. Members At Large (Choose 6)

☐ Andrea Litt

☐ Nicole Wood

☐ Jerry Jackson

☐ Jessica Resnik

☐ Kim Poisson

☐ Bruce Anderson

☐ Andrew Smith

Board positions are two years terms with the exceptions of Chair Elect, which is five years (two as Chair Elect, two as Chair, and one as Past Chair. Board members who have served two terms or less may run for an officer position and a member may serve up to two consecutive terms in the same elective position.