

Spring 2018

# Newsletter Spring 2018: Environmental Science & Ecology

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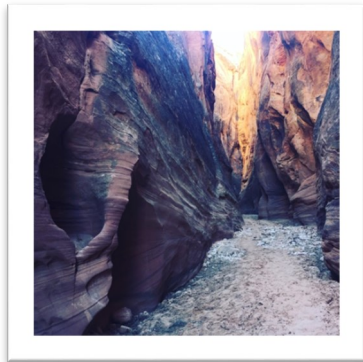
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# ENVIRONMENTAL SCIENCE & ECOLOGY

Welcome back to the newest edition of our newsletter....

**Department Faculty & Staff:**

Dr. Kathryn Amatangelo	Assistant Professor
Dr. Michael Chislock	Assistant Professor
Mr. Matthew Futia	Adjunct
Ms. Andie Graham	Inst. Support Technician
Dr. Nathan Kleist	Visiting Assistant
Ms. Tammy Jo Manz	Secretary
Dr. Courtney McDaniel	Assistant Professor
Dr. Christopher Norment	Professor & Chair
Ms. Norma Polizzi, Esq.	Adjunct Lecturer
Dr. Jacques Rinchar	Associate Professor & Interim Chair
Dr. Douglas Wilcox	Professor of Wetland Science

This past semester once again saw the faculty and staff from the Department of Environmental Science and Ecology heavily engaged in teaching and research. Our terrific students are, of course, our biggest asset, and our faculty and staff continue to provide them with an exciting, stimulating, challenging, and rigorous educational experience. In these pages, you will read about the outstanding work of our people, as well as the accomplishments of our alumni. However,

before you do, I would like to report two important events that took place this last fall.

First, during the College's second annual Winter Gala, the New York State Department of Environmental Conservation (NYSDEC) was honored with a Community Partner Award. During the past 40 years, faculty and staff members from our department have had a wonderful synergy with our NYSDEC colleagues, which

has enriched the lives of our undergraduate and graduate students through applied learning opportunities and professional contacts. I would like again to take this opportunity to thank them for their collaboration!



*Photographed from left: Jose Maliekal (Dean of The School of Arts and Sciences), Chris Legard (NYSDEC Cape Vincent Fisheries Station), Don Zelazny (NYSDEC Great Lakes Program), Doug Carlson (NYSDEC Region 6), Heidi Kennedy (NYSDEC Iroquois Wildlife Refuge), Jenny Landry (NYSDEC Region 8), Heidi Macpherson (President of SUNY Brockport). Photo by Matt Yeoman*

Second, we conducted a successful search for a wetland scientist and were fortunate to receive a number of outstanding applications. The candidate selected to fill that position is Dr. Rachel Schultz. She will be joining our de-

partment in August 2018 and, will take over Dr. Wilcox position, who is entering a two-year phased retirement. Again, thank you to the Chair of Search Committee, Dr. Amatangelo, the Committee members, as well as Tammy Jo, who did a fantastic job

with the logistics.

Stay in touch and share things at work and in life with us!

Interim Chair,

*Dr. Jacques Rinchar*

## Invasive Species Rapid Response and Control Grant

**Andie Graham** received the Invasive Species Rapid Response and Control Grant in the amount of \$81,764 from the NY State Department of Environmental Conservation for restoration work in Bergen Swamp. Andie and **Dr. Kathryn Amatangelo**, who is a co-investigator on the project, will work with the Bergen Swamp Preservation Society and the Genesee County Soil and Water Conservation District to control the highly invasive slender false-brome (*Brachypodium sylvaticum*) in Bergen Swamp and to restore natural vegeta-



Megan Aubertine (left) and Nicole Juda (right)

tion to impacted areas.

This three-year-long project will fund several students to assist with data collection, invasive species removal, and data analyses. Undergraduate students **Megan Aubertine** and **Nicole Juda** have been working on this project since 2017. The duo will present preliminary results at the NY State Wetlands Forum Annual Conference in Watkins Glen, NY in April. Undergraduate student **Rachel Ezzzew** and graduate student **Claire Hardt** will join the crew this summer.



## Grant from the U.S. Fish and Wildlife Service

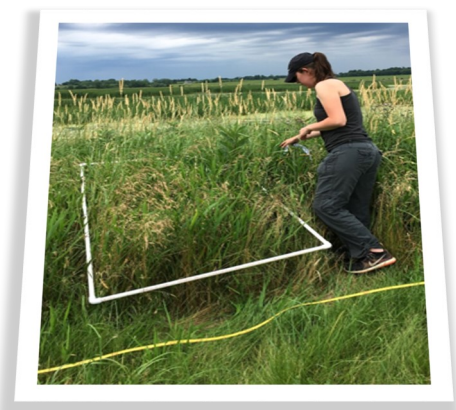
Dr. Jacques Rinchar, Associate Professor in the Department of Environmental Science and Ecology, received a research grant for \$5,076 from the U.S. Fish and Wildlife Service (Vermont) for thiamine concentration determination.

The U.S. Fish and Wildlife (Vermont) funds received by Dr. Rinchar will be used to determine thiamine concentration in egg and muscle of Atlantic salmon collected in Lake Champlain in Fall 2017. Graduate and undergraduate students working in Dr. Rinchar's lab will be directly involved in this project. The award will be administered by The Research Foundation for SUNY.

## Funding from the Friends of the Montezuma Wetlands Complex

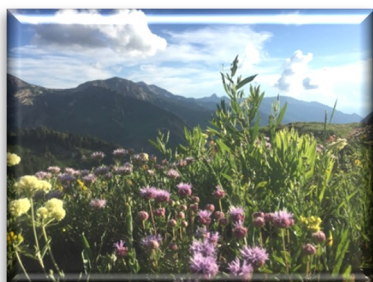
**Tiffany Clay** (graduate student) received funding from the Friends of the Montezuma Wetlands Complex for her 2018 field work pertaining to her thesis project: *Managing refuge dikes to enhance monarch butterfly (Danaus plexippus) habitat*. The grant totals \$6,000 to be used to fund her work, as well as a field assistant. Tiffany will be looking for undergraduate students to volunteer to participate in the monarch study at both Montezuma and Iroquois NWR.

Interested students can contact Tiffany at [tclay1@brockport.edu](mailto:tclay1@brockport.edu)



## Student Travel Grants

I'm proud, but it's a team award. We work together. I'm just one player on a team. Of course it's an honor to have it, but it takes a team to do what we're doing.



**Kira Broz, Claire Hartl, Kevin Berend** (graduate students), and **Wyatt Jackson** (undergraduate student) - (\$300) to present their research at the Northeast Natural History Conference in Burlington, VT, April 13-15.

**Matt Futia** and **Cassie Wolfanger** (graduate students) - (\$300) to present his research at the 61st Annual Conference on Great Lakes Research (IAGLR) in Toronto June 18-22.

**Tom Bianchi** (graduate student) and **Chris Maier** (undergraduate student) - (\$300 each) to present their research work at 2018 Annual Meeting of the New York Chapter of the American Fisheries Society, Cooperstown, N.Y.

**Zac Falconer** (undergraduate student) - (\$300) to present his research at the 2018 N.Y.S. Chapter of the Wildlife Society Annual Meeting in Kingston, N.Y., March 22-23.

**Nate Jones, RJ Sciarrone, Megan Aubertine, Nicole Juda, and Josh Marchner** (undergraduate students) - (\$300 each) to present their research at the 2018 N.Y.S. Wetlands Forum Annual Conference and Meeting in Watkins Glen, N.Y., April 9-11.

## Summer Undergraduate Research Program (SURP) 2018 Award Winners

Several students in the Department of Environmental Science and Ecology were awarded the 2018 Summer Undergraduate Research Program (SURP) fellowship for summer research. If you see the following students, be sure to congratulate them!

- ⇒ **Marios Argitis** (Project title: *Use of fatty acids to study lake trout foraging in the Finger Lakes*, advised by Dr. Jacques Rinchar)
- ⇒ **Dan Beers** (Project title: *How aquatic invertebrate communities are influenced by water quality in agricultural vs. forested watersheds of the Genesee River*. Advised by Dr. Courtney McDaniel)
- ⇒ **Lillian Denecke** (Project title: *Sensitivity of Native Versus Invasive Zooplankton Species to Two Agrochemicals*, advised by Dr. Michael Chislock)
- ⇒ **Samantha Dube** (Project title: *Invasive swallowwort and its effects on invasive earthworms*, advised by Dr. Kathryn Amatangelo)
- ⇒ **Zachary Falconer** (Project title: *Artificial nest box preference and productivity of the Eastern Bluebird (*Sialia sialis*)*, advised by Ms. Andie Graham)
- ⇒ **Benjamin Hoy** (Project title: *Effect of using fire to control swallow-wort in oak savannas*, advised by Dr. Kathryn Amatangelo)
- ⇒ **Jenna Malagisi** (Project title: *The impact of the invasive hemlock woolly adelgid on soil stability in the Hemlock Lake watershed*, advised by Dr. Kathryn Amatangelo)
- ⇒ **Guadalupe Telles** (Project title: *The influence of vegetation on cavity nesting birds in artificial nest boxes*, advised by Ms. Andie Graham)



## Dr. Doug Wilcox, Empire Innovation Professor of Wetland Science, is taking a phased retirement



Dr. Douglas Wilcox will remain in the Department of Environmental Science & Ecology, full-time until September 2018, after which, he will be half-time for two more years (until September 2020). During the half-time phase, he will continue to teach the Graduate Research Seminar on scientific technical writing in Spring 2019 and 2020. Otherwise, his time will be spent on writing manuscripts (long list) and completing grant obligations. The phased retirement process allowed for successful recruiting of his replacement last fall. Dr. Rachel Schultz will come on board in Fall 2018 to take on the wetland science role. She has taught Wetland Ecology and Restoration Ecology at the college level and has research experience in Lake Ontario wetlands, peatlands, and wetland biogeochemistry -- a good fit.




**FACULTY  
FAREWELLS**

## Dr. Nathan Kleist, Visiting Professor, thoroughly enjoyed his time here at The College at Brockport, SUNY

Head east on I-80. Once you hit Indiana, merge onto I-90 and keep east until you see groundhogs, Italian bakeries, and Wegmans. I think those directions would have worked as well as any GPS directions my iPhone could conjure. That trip from Colorado to New York (via Wisconsin) feels like it was just yesterday, and yet I am off to the next adventure in just a few more months. My next stop is back out west to Fort Collins, Colorado, where I'll be working as postdoctoral research scientist with the Colorado State University and the Natural Sounds and Night Skies Division of the

Natural Park Service. I'll be analyzing what I've been told is a mountain of data, and I also hope to get back to my field site in the oil and gas fields of northern New Mexico to start a new research project and, generally, just kick around in the desert for a few weeks after a winter in western New York. I have learned a lot about what it takes to be a professor and made some wonderful connections with students. As I turn to the next chapter, I will keep our conversations about squirrels, pigeons, giant anteaters and diving ducks as reminders of my stay here. I have thoroughly enjoyed my

time as a part of the Environmental Science and Ecology department. You all have a wonderful community of students and staff, and should be proud to call this school your alma mater.



## News from the Inyo Mountains...

An Inyo Mountains salamander confronts the world, and a fascinated researcher

In December of 2017, **Dr. Chris Norment** completed his first field season of sabbatical field work on the Inyo Mountains salamander, which has been petitioned for listing under the Endangered Species Act. During his fall work, Dr. Norment discovered two new salamander populations, including the first one documented in Death Valley National Park. He also survived everything from an “interesting” rock fall incident to the discovery of an illegal marijuana grow. In March, he plans to return to California for another two months of research on the salamanders, and will have the help of a mountain guide to access some difficult-to-reach localities. The Inyo Mountains are the most rugged field site Dr. Norment has ever worked in, and he hopes that (to borrow a line from the Irish poet W. B. Yeats) they will not prove to be “no country for old men.”

Anyone interested in following some of Dr. Norment’s salamander adventures can read about them at <https://christophernorment.weebly.com/blog>.



## The Wetlands team is beginning their prep work...

The Wetlands team, under the direction of **Dr. Douglas Wilcox**, is beginning their prep work for the 2018 season for multiple local and regional projects. Dr. Wilcox was awarded funding for three projects that will start in 2018, including \$30,000 from the U.S. Geological Survey to continue the Functional Assessment project that the lab has worked on for the past two years, \$300,000 from the N.Y.S. Department of Environmental Conservation to continue post-restoration monitoring at Braddock Bay for the next four years, and \$32,000 from the Army Corps of Engineers to fund water quality work in 2018 at Braddock Bay. The Wetlands team is also continuing cattail control in the Buttonwood Creek fen, post-restoration monitoring for the U.S. Fish and Wildlife service at three sites within Braddock Bay Wildlife Management Area, monitoring vegetation in restored areas at Braddock Bay for the Corps of Engineers, as well as entering their eighth year on the Great Lakes Coastal Wetland Monitoring Program. These projects provide funding for close to two dozen paid positions for Environmental Science & Ecology undergraduate and graduate students who will be working under the supervision of Dr. Wilcox and crew chief **John Bateman**.



**Andrew Leonardi** (pictured above, undergraduate student) and **Dr. Katie Amatangelo** deployed a litter decomposition experiment at Oatka Creek Park. The experiment will evaluate the relative decomposability of different plant species’ leaves and whether invasive swallowwort affects decomposition. Litter from eleven species, five exotic and six native, was collected in the Fall of 2017 and placed into sealed bags made of fiberglass window screen. The project is expected to take twelve months to complete, with multiple litter collections over the next year.





## Distinguished Professor Graduate Student Award

**Tom Bianchi** (graduate student) (left photo) received the Distinguished Professor Graduate Student Research Award (\$1,000) for his project titled *“Determination of alewife, Alosa pseudoharengus, age at first spawning in Lake Ontario.”*

**Alex Silva** (graduate student) received the Distinguished Professor Graduate Student Award (\$1,000) for his project titled *“Evaluation of methods and results in Braddock Bay wetland restoration project on Lake Ontario.”*

## Graduate Student Thesis Defenses, a job well done

“The Impact of Septic Fields on the Water Quality of Stream Reaches in Oak Orchard Watershed” March 22: **Nicole DeRose**

“Investigating the ecology of alpine snowbank communities on Mt. Washington, N.H.”  
March 8: **Kevin Berend**

“Amphibian and bird communities of Lake Ontario coastal wetlands: disturbance effects and monitoring efficiencies”  
February 26: **Jon Podoliak**



### AWARDS & AWARENESS

#### Graduate Student Awards Presented to:

Scholars Awards: **Abigail Butler**

The O'Reilly Scholarship Award: **Jacob Kearney**

Kenneth E. Damann Award: **Nick Farese**

School of Arts & Sciences Outstanding Graduate Award: **Matt Futia**

The ECOS Club is in the process of organizing several community clean-up days for the spring semester.

Time and location of events will be determined closer to dates:

- \* March 21 and 29
- \* April 4, 12, and 20

Please contact ECOS President, **Molly Carlson** at mcarl4@brockport.edu to find out more!

**“It's all  
happening in  
Environmental  
Science  
&  
Ecology”**

**Greg Lawrence** (BS '15, MS in progress) will be the Braddock Bay Raptor Research official hawkcounter for Spring 2018.

Come by the hawkwatch platform at Braddock Bay Park in Greece to observe and learn about raptor migration in the Great Lakes.

## Limnology and Aquatic Toxicology Lab at Brockport

Dr. Michael Chislock's Limnology and Aquatic Toxicology Lab is excited to welcome two new graduate students, **Tammy Bleier** and **Paige Buchholtz**.

*The lab is preparing for a variety of exciting upcoming research projects.*

Undergraduate student **Dan Beers** will be joining the lab to study linkages between stream discharge, water quality, and macroinvertebrate community composition.

The lab will be continuing post-restoration monitoring of water quality at the U.S. Army Corps of Engineers restoration project at Braddock Bay.

The lab will also be assisting with the Coastal Wetland Monitoring Program (CWMP) by assessing water quality in Lake Ontario Coastal Wetlands.

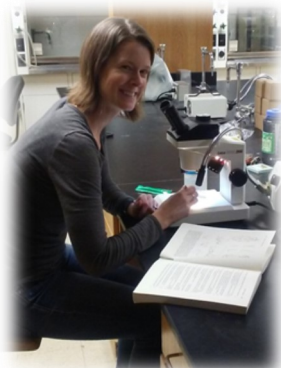
The lab will be collaborating with Purdue University on a project examining the consequences of evolution for the response of lakes to harmful algal blooms (HABs).

The lab will also be collaborating with SUNY-Geneseo to study internal phosphorus loading, storm event-mediated disruption of stratification, and vertical phytoplankton community composition in Conesus Lake.


It looks to be a fun-filled summer on the water and in the lab!

Please reach out to Michael if you are interested in pursuing limnology or water quality-related research opportunities at [mchislock@brockport.edu](mailto:mchislock@brockport.edu)

### Stream Ecology



The department has added a new class to the course offerings this semester – Stream Ecology (ENV 404). The new course complements our other aquatic-focused courses in the department and focuses solely on the ecology of flowing waters, from the forces that shape rivers to the organisms that call them home. The class has the opportunity to really “get their feet wet” during field labs. Data collected during these labs are then analyzed to help students understand patterns that occur in real-world stream ecosystems. (photo to the left, **Dr. Courtney McDaniel**)



**NEW  
LABS  
AND  
COURSES**

### Great Lakes Coastal Wetland Monitoring Project



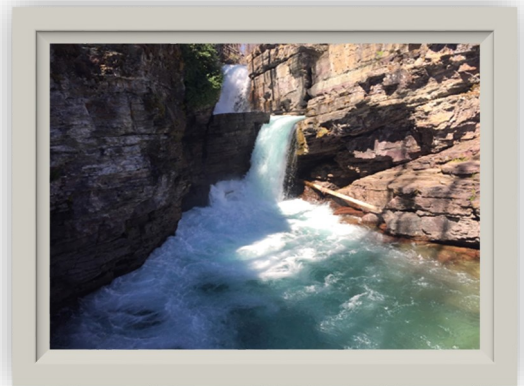
**Joe Knight** and **Josh Marchner** (undergraduate researchers) have been working their way through identifying hundreds of aquatic macroinvertebrate specimens collected from Lake Ontario coastal wetlands during the 2017 field season of the Great Lakes Coastal Wetland Monitoring Project. When they complete this round of identification, we will have seven years of macroinvertebrate community data, providing rich, long-term information about the status and trends of the Great Lakes coastal wetland habitats. The project will continue for at least another three years, resulting in a decade of data covering not only macroinvertebrate communities, but also a wide array of additional variables, from water chemistry to plant communities to bird and anuran populations in these critically important habitats.





## Meghan Albers, Class of 2013

**Meghan Albers** is 5 years into her career as an Environmental Scientist at Ecology and Environment, Inc. (E&E), an environmental and engineering consulting firm headquartered in Buffalo, NY. E&E has offices all across the nations, and several international offices. With E&E, she has been fortunate to be given opportunities to work with a variety of clients, from solar and wind developers; to local NYS communities; to oil and gas companies; and the Department of Defense. Meghan works to secure the environmental permits needed for development and works with her planner colleagues to prepare clients for global climate change and all of its effects. With E&E, she has lived in San Diego, CA and, most recently in Salt Lake City, UT (from Buffalo, to the sunny beaches of San Diego; and now the best skiing in the country here in Utah!).



“I would not have been where I am today without my experience at SUNY Brockport, the professors who mentored me, and the internships I secured while studying at SUNY Brockport.”



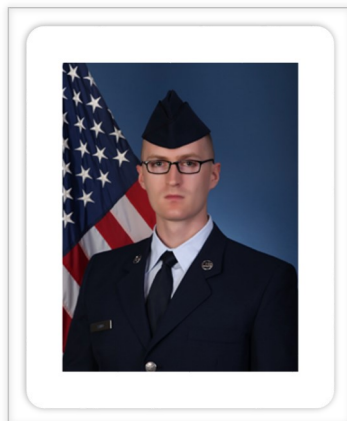
**ACTIVE  
ALUMNI**

## Emily McCall, Class of 2014 New Department T-Shirt Design

The Environmental Science & Ecology (ES&E) Department reached out to many students in the ES & E program with a departmental T-Shirt Design Contest in the beginning of the Fall semester. We are please to congratulate alumni student **Emily McCall**, Class of 2014, for participating in the T-Shirt Contest and winning \$100.

We appreciate her showing all aspects of the Environmental Science & Ecology concentrations that our program offers for students in this design.

We look forward to having these T-Shirts ready for sale by Fall 2018 Semester.



## Tyler Sabo, Class of 2016

**Tyler Sabo**, Class of 2016 reached out to us to share that not only is he still actively employed at Johnson Controls as their Systems Technician in their Building Efficiency Division but he has most recently joined the United States Air Force Reserves.

After completing his basic training he is involved in Water and Fuel Systems Maintenance.

## Presentation Highlights

### Research Publications:

Happel, A., Jonas, J.L., McKenna, P., **Rinchar, J.**, He, J.X. and Czesny, S., 2018. Spatial variability of lake trout diets in lakes Huron and Michigan revealed by stomach content and fatty acid profiles. *Canadian Journal of Fisheries and Aquatic Sciences* 75: 85-105.

### Journal Publications:

Meeker, J.E., **D.A. Wilcox**, and A.G. Harris. 2018. Changes in wetland vegetation in regulated lakes in northern Minnesota, USA ten years after a new regulation plan was implemented. *Wetlands* 38: (in press).

**Wilcox, D.A., K. Buckler**, and **A. Czayka**. 2018. Controlling cattail invasion in sedge/grass meadows. *Wetlands* 38: (in press).

**Wilcox, D.A.** 2017. History and role of the journal *Wetlands* in developing the field of wetland science. *Wetland Science and Practice* 34:72-75.

### Oral Presentations:

**Futia, M.**, Weidel, B., Conner, M., and **Rinchar, J.**, 2018. Long-term assessment of lipid content and fatty acid signatures of Lake Ontario prey fishes. *2018 Annual Meeting of the New York Chapter of the American Fisheries Society*, Cooperstown (New York, USA), February 7-9, 2018.

**Rinchar, J., Futia, M.**, Tillitt, D., and Kraft, C., 2018. Thiamine deficiency complex in salmonines from New York State. *2018 Annual Meeting of the New York Chapter of the American Fisheries Society*, Cooperstown (New York, USA), February 7-9, 2018.

Leonhardt, B., Bootsma, H.A., Turschak, B.A., Czesny, S., Happel, A., Kornis, M.S., Bronte, C.R., **Rinchar, J.**, and Hook, T.O., 2018. Diet complexity and specialization of Lake Michigan salmonids: contrasting trophic indicators. *78<sup>th</sup> Midwest Fish and Wildlife Conference*, Milwaukee (Wisconsin, USA), January 28-31, 2018.

**Futia, M., Kraus, J.** and **Rinchar, J.**, 2017. An unexpected benefit of round goby invasion: the salmonid vitamin pill? 2017 Finger Lakes Research Conference, Geneva (New York, USA), November 17, 2017.

**Farese, N., Futia, M.** and **Rinchar, J.**, 2017. Thiamine and lipid content in Lake Ontario prey fish. *44<sup>th</sup> Annual Fall Scientific Paper Session of the Rochester Academy of Science*, Rochester (New York, USA), November 11, 2017.

**Maier, C., Barker, N., Edwards, M.**, Czesny, S. and **Rinchar, J.**, 2017. Fatty acid signatures of predatory fish from Lake Michigan. *44<sup>th</sup> Annual Fall Scientific Paper Session of the Rochester Academy of Science*, Rochester (New York, USA), November 11, 2017.

Feiner, Z., Swihart, R., Bootsma, H., Czesny, S., Janssen, J., **Rinchar, J.** and Hook, T., 2017. Species-specific spatial patterns of trophic complexity in a Lake Michigan food web. *State of Lake Michigan Conference*, Green Bay (Wisconsin, USA), Nov. 7-10, 2017.

Leonhardt, B., Czesny, S., Happel, A., Turschak, B., Bootsma, H., Kornis, M.S., Bronte, C.R., **Rinchar, J.** and Hook, T., 2017. Species- and size-specific consumption by Lake Michigan salmonids. *State of Lake Michigan Conference*, Green Bay (Wisconsin, USA), Nov. 7-10, 2017.

**Berend, K.** and **Amatangelo, K.** The ecology of alpine snowbank communities of Mt. Washington, NH. *Rochester Academy of Sciences Annual Meeting. November 11, 2017.*

**Hartl, C.** and **Amatangelo, K.** Vegetation and small mammal interactions determining tick abundance across spatial scales. *Rochester Academy of Sciences Annual Meeting. November 11, 2017.*

### Poster Presentations:

**Maier, C., Futia, M.**, Hammers, B., Zollweg-Horen, E., Speziale, M., and **Rinchar, J.**, 2018. Fatty acid signatures of lake trout (*Salvelinus namaycush*) from the Finger Lakes. *2018 Annual Meeting of the New York Chapter of the American Fisheries Society*, Cooperstown (New York, USA), February 7-9, 2018.

**Bianchi, T.**, Weidel, B., Conner, M., **Futia, M.**, and **Rinchar, J.**, 2018. Examining reproductive potential of alewife, *Alosa pseudoharengus*, in Lake Ontario. *2018 Annual Meeting of the New York Chapter of the American Fisheries Society*, Cooperstown (New York, USA), February 7-9, 2018.

**Hammond, C., Futia, M.** and **Rinchar, J.**, 2017. Shift in the fatty acid signatures of Atlantic salmon in response to Lake Ontario prey diets. *44<sup>th</sup> Annual Fall Scientific Paper Session of the Rochester Academy of Science*, Rochester (New York, USA), November 11, 2017.

**Barker, N., Maier, C., Edwards, M.**, Czesny, S. and **Rinchar, J.**, 2017. Fatty acid signatures prey fish from Lake Michigan. *44<sup>th</sup> Annual Fall Scientific Paper Session of the Rochester Academy of Science*, Rochester (New York, USA), November 11, 2017.

**Detoy, J.** and **Amatangelo, K.** Investigating the allelopathic effects of pale swallowwort on the growth success of common milkweed. *Rochester Academy of Sciences Annual Meeting. November 11, 2017.*

**Jackson, W.** and **Amatangelo, K.** The effects of pale swallowwort on native moth communities. *Rochester Academy of Sciences Annual Meeting. November 11, 2017.*



**PUBLICATIONS  
&  
PRESENTATIONS**