

Suzanne M. Gray, Ph.D.

Curriculum Vitae

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Citizenship: Canadian; US Permanent Resident

PROFESSIONAL SYNOPSIS

Appointments

2019-current Associate Professor, School of Environment and Natural Resources, OSU
2013-2019 Assistant Professor, School of Environment and Natural Resources, OSU
2015-current Associate Editor, Canadian Journal of Fisheries and Aquatic Sciences

Academic Positions

2012-2013	Research Associate	McGill University	Dr. Lauren Chapman
2010-2012	Visiting Fellow	Fisheries and Oceans Canada McGill University	Dr. Nicholas Mandrak & Dr. Lauren Chapman
2009-2010	NSERC Postdoc	McGill University	Dr. Lauren Chapman
2007-2008	Postdoc	Queen's University	Dr. Craig Hawryshyn

Education

2007 - Ph.D.	Behavioural Ecology	Simon Fraser University	Dr. Lawrence Dill & Dr. Jeffrey McKinnon
2002 - M.Sc.	Zoology	University of Guelph	Dr. Beren Robinson
1999 - B.Sc.	Honours Zoology	University of Guelph	

Dissemination of Knowledge: 32 peer-reviewed articles, >30 international and national conference presentations, hosted international workshop, supervised 28 undergraduate research projects, trained >30 lab and field research assistants.

PEER-REVIEWED PUBLICATIONS

(*denotes students supervised/mentored)

32. Nieman*, C.L., **Gray, S.M.** 2019. Elevated algal and sedimentary turbidity alter prey consumption by emerald shiner (*Notropis atherinoides*). **Ecology of Freshwater Fish** 00: 1– 9.

31. Carlson, A.K., Taylor, W.W., Kinnison, M.T., Sullivan, S.M.P., Weber, M.J., Melstrom, R.T., Venturelli, P.A., Wuellner, M.R., Newman, R.M., Hartman, K.J., Zydlewski, G.B., DeVries, D.D., **Gray, S.M.**, Infante, D.M., Pegg, M.A., Harrell, R.M., and A.E. Todgham. 2019. Fisheries administrator perspectives on current and future threats to freshwater fisheries in the United States of America. **Fisheries** 44: 276-287.

30. Nieman*, C.L., **Gray, S.M.** 2019. Visual performance impaired by elevated sedimentary and algal turbidity in walleye *Sander vitreus* and emerald shiner *Notropis atherinoides*. **Journal of Fish Biology**. 95: 186-199.
29. Zapata, M.J., Sullivan, S.M.P, and **S.M. Gray**. 2019. Artificial lighting at night in estuaries – ecological implications from individuals to ecosystems. **Estuaries and Coasts** 42: 309-330. doi: 10.1007/s12237-018-0479-3. *Selected as Editor's Choice*
28. Nieman*, C., C. McElwain*, A.L. Oppliger*, **S.M. Gray**. 2018. Visual abilities of a Lake Erie predator and prey both differ under algal and sedimentary turbidity. **Conservation Physiology** 6(1): coy044; doi:10.1093/conphys/coy044.
27. Oldham*, R.C., L.M. Pintor, **S.M. Gray**. 2018. Behavioral differences within and among populations of an African cichlid found in divergent and extreme environments. **Current Zoology** 1-10. doi: 10.1093/cz/zoy027.
26. Sabol, A.C., J.K. Hellmann, **S.M. Gray**, I.M. Hamilton. 2017. The role of ultraviolet colouration in intrasexual interactions and individual recognition in a colonial fish. **Animal Behavior** 131: 99-106.
25. **Gray, S.M.**, L.H. McDonnell*, N.E. Mandrak, L.J. Chapman. 2016. Species-specific effects of turbidity on the physiology of imperiled blackline shiners (*Notropis* spp.) in the Laurentian Great Lakes. **Endangered Species Research** 31: 271–277.
24. McNeil*, G.V., C.N. Friesen*, **S.M. Gray**, A. Aldredge*, L.J. Chapman. 2016. Male colour variation in a eurytopic African cichlid: the role of diet and hypoxia. **Biological Journal of the Linnean Society** 118: 551-568.
23. Nyboer*, E.A., **S.M. Gray**, L.J. Chapman. 2014. A colourful youth: ontogenetic colour change is habitat specific in the invasive Nile perch. **Hydrobiologia** 738: 221-234.
22. **Gray, S.M.**, F. M. E. Bieber*, L.H. McDonnell*, L.J. Chapman, and N.E. Mandrak. 2014. Experimental evidence for species-specific response to turbidity in imperilled fishes. **Aquatic Conservation: Marine and Freshwater Ecosystems** 24: 546-560.
21. Pfaender, J., **S.M. Gray**, I.P. Rick, S. Chapuis, R.K. Hadiaty and F. Herder. 2014. Spectral data reveal unexpected cryptic colour polymorphism in female sailfin silverside fish from ancient Lake Matano. **Hydrobiologia** 739: 155-161.
20. Sabbah, S., N.F. Troje, **S.M. Gray**, and C.W. Hawryshyn. 2013. High complexity of aquatic irradiance may have driven the evolution of four-dimensional colour vision in shallow-water fish. **Journal of Experimental Biology** 216:1670-1682.

19. Herder, F., U.K. Schliewen, M.F. Geiger, R.K. Hadiaty, **S.M. Gray**, J.S. McKinnon, R. Walter, and J. Pfaender. 2012. Alien invasion in Wallace's Dreamponds: records of the hybridogenic "flowerhorn" cichlid in Lake Matano, with an annotated checklist of fish species introduced to the Malili Lakes system in Sulawesi. **Aquatic Invasions** 7: 521-535.
18. **Gray, S.M.**, L.J. Chapman, and N.E. Mandrak. 2012. Turbidity reduces hatching success in Threatened Spotted Gar (*Lepisosteus oculatus*). **Environmental Biology of Fishes** 94: 689-694.
17. **Gray, S.M.**, L.H. McDonnell*, F.G. Cinquemani*, and L.J. Chapman. 2012. As clear as mud: turbidity induces behavioral changes in the African cichlid *Pseudocrenilabrus multicolor*. **Current Zoology** 58: 146-157.
16. Sabbah, S., **S.M. Gray**, and C.W. Hawryshyn. 2012. Radiance fluctuations induced by surface waves can enhance the appearance of underwater objects. **Limnology and Oceanography** 57: 1025-1041.
15. **Gray, S.M.**, S. Sabbah, and C.W. Hawryshyn. 2011. Experimentally increased turbidity causes behavioural shifts in Lake Malawi cichlids. **Ecology of Freshwater Fish** 20: 529-536.
14. Crispo, E., J.-S. Moore, J.A. Lee-Yaw, **S.M. Gray**, and B.C. Haller. 2011. Broken barriers: Human-induced changes to gene flow and introgression in animals. **BioEssays** 33: 508-518.
13. **Gray, S.M.**, F.L. Hart*, M.E.M. Tremblay*, T.J. Lisney, and C.W. Hawryshyn. 2011. The effects of handling time, ambient light and anaesthetic method on the standardized measurement of fish colouration. **Canadian Journal of Fisheries and Aquatic Sciences** 68: 330-342.
12. Sabbah, S., **S.M. Gray**, E.S. Boss, J.M. Fraser, R. Zatha, and C.W. Hawryshyn. 2011. The underwater photic environment of Cape Maclear, Lake Malawi: Comparison between rock- and sand-bottom habitats and implications for cichlid fish vision. **Journal of Experimental Biology** 214: 487-500.
11. Watson, C.T., **S.M. Gray**, M. Hoffmann, K.P. Lubieniecki, J.B. Joy, B.S. Sandkam, D. Weigel, E.R. Loew, C. Dreyer, W.S. Davidson, and F. Breden. 2011. Gene duplication and divergence of long wavelength-sensitive opsin genes in the guppy, *Poecilia reticulata*. **Journal of Molecular Evolution** 72: 240-252.
10. van der Sluijs, I. § **S.M. Gray** §, M.C.P. Amorim, I. Barber, U. Candolin, A. Hendry, R. Krahe, M.E. Maan, A.C. Utne-Palm, H.J. Wagner, and B.B.M. Wong. 2011. Communication in troubled waters: responses of fish communication systems to changing environments. **Evolutionary Ecology** 25: 623-640 (§*equal contributors*).
9. Sabbah, S., R.L. Laria, **S.M. Gray**, and C.W. Hawryshyn. 2010. Functional diversity in the color vision of cichlid fishes. **BMC Biology** 8: 133.

8. Gray, S.M., L.M. Dill, F.Y. Tantu, E.R. Loew, F. Herder, and J.S. McKinnon. 2008. Environment contingent sexual selection in a colour polymorphic fish. **Proceedings of the Royal Society of London B** 275: 1785-1791.
7. Gray, S.M., J.S. McKinnon, F.Y. Tantu, and L.M. Dill. 2008. Sneaky egg-eating in *Telmatherina sarasinorum*, an endemic fish from Sulawesi. **Journal of Fish Biology** 73:728-731.
- Media coverage: *Research Highlights (Nature 454, 806-807, 14 August 2008)*
6. Gray, S.M. and J.S. McKinnon. 2007. Linking color polymorphism maintenance and speciation. **Trends in Ecology and Evolution** 22:71-79.
- "Highly cited paper" (As of March/April 2015, this [highly cited paper](#) received enough citations to place it in the top 1% of its academic field based on a highly cited threshold for the field and publication year); ~390 citations
5. Gray, S.M., L.M. Dill and J.S. McKinnon. 2007. Cuckoldry incites cannibalism: Male fish turn to cannibalism when perceived certainty of paternity decreases. **The American Naturalist** 169: 258-263.
- Media Coverage: interviewed on *Quirks and Quarks (CBC Radio)*; featured in the book, "Nasty, Brutish & Short: The Quirks & Quarks Guide to Animal Sex and Other Weird Behaviour"; *ScienceDaily (AAAS)*; *Nature.com*.
4. Gray, S.M. and J.S. McKinnon. 2006. A comparative description of mating behaviour in the endemic telmatherinid fishes of Sulawesi's Malili Lakes. **Environmental Biology of Fishes** 75: 471-482.
3. Gray, S.M., B.W. Robinson, and K.J. Parsons. 2005. Testing alternative explanations of character shifts against ecological character displacement in brook sticklebacks (*Culaea inconstans*) that coexist with ninespine sticklebacks (*Pungitius pungitius*). **Oecologia** 146: 25-35.
2. Gray, S.M. and B.W. Robinson. 2002. Experimental evidence that competition between stickleback species favours adaptive character divergence. **Ecology Letters** 5: 264-272.
1. Stewart, J.E., L.J. Marks, L. C.R. Wood, S.M. Risser, and S.M. Gray. 1997. Symbiotic relations between bacteria and the domoic acid producing diatom *Pseudo-nitzschia multiseriis*, and the capacity of these bacteria for gluconic acid/gluconolactone formation. **Aquatic Microbial Ecology** 12: 211-221.

BOOK CHAPTERS

- Gray, S.M. The evolutionary ecology of cichlid vision. **Invited chapter** in M.E. Abate & D.L. Noakes (Eds.). *The Behavior, Ecology and Evolution of Cichlid Fishes: A Contemporary Modern Synthesis*. *Estimated publication date June 2020*
- Gray, S.M. 2016. Muddy Waters: The Influence of Soil and Sediment on Aquatic Life. **Invited submission** In Lal, R. (Ed.) **Encyclopedia of Soil Science**. Taylor & Francis. DOI: 10.1081/E-ESS3-120052911.

MANUSCRIPTS SUBMITTED FOR REVIEW

Ames*, E.M., M.R. Gade*, C.M. Marroquin*, C.L. Nieman*, A. Tutterow*, J. Wright*, C. Tonra, **S.M. Gray**. Striving for population-level conservation: integrating physiology across the biological hierarchy. *In revision* **Conservation Physiology**.

Nieman, C.L.*, J.T. Bruskotter, E.C. Braig IV, S.M. Gray. You can't just use gold: Elevated turbidity alters successful lure color for recreational Walleye fishing. *In revision* **Journal of Great Lakes Research**.

MANUSCRIPTS IN PREPARATION

Atkinson*, T.L., **S.M. Gray**. Turbidity as an environmental driver of within-population variation in diet and nuptial coloration of an African cichlid fish. *In prep for* **Evolutionary Applications**.

Atkinson*, T.L., M.L. Martinez and **S.M. Gray**. The relationship between turbidity, carotenoid-based coloration and sperm quality of centrarchid fishes in urban streams. *In prep* **Journal of Fish Biology**.

Gray, S.M., L. Grigoryeva*, H.J. Tiarks*, and L.J. Chapman. Brain and eye size variation across populations experiencing extremes of turbidity. *In prep* **Brains, Behavior and Sociobiology**.

Gray, S.M., C.L. Nieman*, and L.J. Chapman. Colour variation in *Barbus neumayeri*, an African cyprinid found across dissolved oxygen and turbidity extremes. *In prep* **Journal of Fish Biology**.

Nieman*, C.L., **S.M. Gray**. Visual morphological structures of emerald shiner (*Notropis atherinoides*) correlate with relative turbidity levels over the last century in the western basin of Lake Erie. *In prep* **Canadian Journal of Fisheries and Aquatic Sciences**.

Oldham*, R.C., **S.M. Gray**. Population-level divergence in visual performance and morphology associated with water clarity. *In prep* **American Naturalist**.

RESEARCH GRANTS

<u>Funded</u>		\$US
2018-21	Ohio Department of Transportation (Co-PI): Ecological Design Rules for Roadway Lighting (PI: Dr. Mazeika Sullivan).	600 000
2018-20	Ohio Sea Grant College Program (Full Proposal invited) (PI): Seeing the bait on the hook: Assessing the impact of harmful algal blooms on the recreational Walleye fishery in Lake Erie (Co-PI: Jeremy Bruskotter, Eugene Braig, Chelsey Nieman)	120 000

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2017-20	NSF-IOS (Animal Behavior) Full Proposal (PI): Key drivers and functional significance of sensory and behavioral trait divergence across multiple environmental stressors in an African cichlid (Co-PI: Dr. Lauren Pintor)	500 000
2017-18	OARDC SEEDs Grant (PI): Linking common mitigation practices with fisheries and water quality in privately owned ponds in rural Ohio (Co-PI: Eugene Braig)	50 000
2016-18	Ohio Sea Grant College Program (Full Proposal invited) (PI): Can fish see the bait on the hook? Linking effects of algal and sedimentary turbidity on fish vision to the Lake Erie recreational fishery through research and outreach.	120 000
2016-21	National Institute of Food and Agriculture Multistate Project NC1189 (Co-PI): Understanding the Ecological and Social Constraints to Achieving Sustainable Fisheries Resource Policy and Management (\$5,000/year)	25 000
2015	Ohio Sea Grant Small Grants (PI): Consequences of algal and sedimentary turbidity for the visual abilities of Lake Erie fishes.	10 000
2014	OSU Office of International Affairs Gateway Seed Grant (PI): Linking freshwater biodiversity and water quality in Uganda through research and education.	8 000
2014-16	The Nature Conservancy, Research Contract (Co-PI): Biological monitoring of macroinvertebrates at the Crane Creek, pool 1 restoration (PI: Dr. Lauren Pintor).	19 975
2014-16	The Nature Conservancy, Research Contract (Co-PI): Biological monitoring of macroinvertebrates at the Howard Farms wetland restoration (PI: Dr. Lauren Pintor).	39 325
		\$CAD
2009-12	Critical habitat of Pugnose Shiner in Canada, Species at Risk Program, Fisheries and Oceans Canada (3 yrs; project team member)	211 000
2009-12	Identifying the critical habitat, limiting factors and threats of Spotted Gar, Species at Risk Program, Fisheries and Oceans Canada (3 yrs; project team member)	207 000
 <u>Pending</u>		
2019	NSF-DEB (Co-PI): From individuals to ecosystems: integrating the effects of artificial lighting at night in urban stream systems (PI: Dr. Mazeika Sullivan).	680 000
2019	OSU Office of International Affairs Academic Research Enhancement Grant (PI): Water quality, aquatic biodiversity, and STEM education in East Africa	6 000
2019	OSU Ohio State Energy Partners (PI): Water Across the World	60 000
 <u>Non-Funded</u>		
2017	NSF-DEB (Co-PI): Full proposal invited: Integrating responses to artificial	623 000

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	lighting at night across aquatic-terrestrial boundaries in urban stream systems (PI: Dr. Mazeika Sullivan).	
2017	Ohio Sea Grant College Program: Impact of artificial lighting at night on coastal Lake Erie fish communities (PI: Dr. Mazeika Sullivan)	120 000
2017	OSU Connect and Collaborate Impact Grant (Co-PI): Enhancing Public Awareness of Current Lake Erie Issues through Interactive Learning Experiences at The Ohio State University's Stone Laboratory's Aquatic Visitor Center (PI: Emily Burbacher, Ohio Sea Grant)	70 000
2017	OSU Office of International Affairs Academic Research Enhancement Grant (PI): Linking freshwater biodiversity, fish health, and water quality in rural Uganda through research and engagement.	5 500
2016	OSU Connect and Collaborate Impact Grant (Co-PI): Inspiring university students to address complex sustainability challenges associated with contemporary society (PI: Dr. Alia Dietsch)	25 000
2016	NSF-IOS Pre-Proposal (PI): Functional significance and fitness consequences of divergent sensory traits across extremes of multiple environmental stressors (Co-PI: Dr. Lauren Pintor) – <i>invited for full proposal</i>	NA
2016	NSF-DEB Pre-Proposal (Co-PI): Coupled river-riparian food-web responses to artificial lighting at night (PI: Dr. Mažeika Sullivan).	NA
2016	Great Lakes Fisheries Commission Pre-Proposal (Co-PI): Fish food-web architecture and connectivity across temperature gradients of Lake Erie (PI: Dr. Mažeika Sullivan)	195 000
2015	OARDC SEEDs Grant (Co-PI): Quantifying the influences of artificial lighting at night on river-riparian food webs: mechanisms and consequences (PI: Dr. Mažeika Sullivan)	49 463
2015	OSU International Affairs Research Academic Enrichment Grant (PI): Linking freshwater biodiversity and water quality in Uganda through research and education.	8 000
2015	NSF-IOS Pre-Proposal (PI): Functional significance and fitness consequences of divergent sensory traits across extremes of multiple environmental stressors (Co-PI: Dr. Lauren Pintor)	NA
2015	NSF-DEB Pre-Proposal (Co-PI): Food-web responses to artificial night lighting across the aquatic-terrestrial boundary (PI: Dr. Mažeika Sullivan)	NA
2015	Great Lakes Fisheries Commission (PI): Algal and sedimentary turbidity effects on the visual ecology of Lake Erie fishes.	110 000
2015	CHS Foundation Research Grant (PI): Field to Faucet Water Quality Monitoring Project for Ohio Youth.	300 000
2014	OARDC SEEDs Grant (PI): The effects of algal and sedimentary turbidity on the visual and physiological ecology of Lake Erie bait and game fishes	50 000
2014	NSF-IOS Pre-Proposal (PI): Functional significance and fitness consequences of divergent sensory traits across extremes of multiple environmental stressors (Co-PI: Dr. Lauren Pintor)	NA

AWARDS AND FELLOWSHIPS

Awards

- 2019 Educator Award, North American Colleges and Teachers of Agriculture.
- 2019 Nominee, U.S. Department of Agriculture National Awards Program for Excellence in College and University Teaching in the Food and Agricultural Sciences.
- 2018 OSU Alumni Award for Distinguished Teaching, with induction into The Teaching Academy, The Ohio State University.

Fellowships

		\$CAD/yr
2010-12	NSERC Visiting Fellow in a Canadian Government Lab (2 years)	46 500
2008-10	NSERC Postdoctoral Fellowship (2 years)	40 000
2006	President's Research Stipend, Simon Fraser University	6 000
2005	Linville Graduate Scholarship in Sensory Biology, Simon Fraser University	6 000
2004-06	Graduate Fellowship, Simon Fraser University (3 years)	18 000
2002-04	NSERC Post-Graduate Scholarship (doctoral) (2 years)	21 000
2002	Smithsonian Tropical Research Institute Short-Term Fellowship	5 000
2000	Norman James Aquatic Ecology Scholarship, 2000	2 000
2000-01	University of Guelph Graduate Scholarship (2 years)	4 000
1999	Ontario Graduate Scholarship in Science and Technology	15 000
1999	NSERC Summer Student Assistantship	4 000

Graduate Research and Travel Grants

2011	Linnean Society, Percy Sladen Memorial Trust Grant	800
2010	North American Native Fishes Association Conservation Research Grant	1 000
2009	Fisheries Society of the British Isles Travel Grant	1 700
2009	American Cichlid Association, Jordan Endowment Fund Research Grant	1 300
2006	American Society of Naturalists Student Travel Award	500
2006	NSERC Graduate Travel Scholarship	700
2004	Sigma Xi Grant-In-Aid-of-Research, Vision	1 400
2003	PADI AWARE Foundation Conservation Grant	1 400
2003	Sigma Xi Grant-In-Aid-of-Research	500

SELECT CONFERENCES AND INVITED SEMINARS

*students mentored; §presenter

International Conference Presentations

Gray, S. M., A.L. Oppliger*, C.C. McElwain*, C.L. Nieman*. Visual detection thresholds in Walleye and their prey are compromised in algal compared to sedimentary turbidity (*ora*). 13th International Congress on the Biology of Fish, Calgary, Alberta, Canada. (Aug. 2018).

Nieman*§, C.L., **S.M. Gray**. Visual performance impaired by elevated sedimentary and algal turbidity in walleye (*Sander vitreus*) and Emerald Shiner (*Notropis atherinoides*) (*oral*). 13th International Congress on the Biology of Fish, Calgary, Alberta, Canada. (Aug. 2018).

Atkinson*§, T.L., **S.M. Gray**. Testing the role of turbidity and diet on the reproductive traits of an African cichlid fish (*oral*). 13th International Congress on the Biology of Fish, Calgary, Alberta, Canada. (Aug. 2018).

Oldham*§, R.C., **S.M. Gray**. Divergence in visual performance and morphology in an African cichlid found in divergent environments". (*oral*). 13th International Congress on the Biology of Fish, Calgary, Alberta, Canada. (Aug. 2018).

Atkinson*§, T.L. and **S.M. Gray**. Testing the role of turbidity and diet on the reproductive traits of an African cichlid fish (*poster*). American Fisheries Society, Tampa, Florida (Aug. 2017).

Nieman*§, C.L., C. McElwain*, and **S.M. Gray**. Visual Ecology of Lake Erie Fish: Assessing the impacts of increased turbidity on vision. American Fisheries Society, Tampa, Florida (Aug. 2017).

Oldham*§, R.C. and **S.M. Gray**. Environmental differences affect the visual ecology of cichlid fish (*poster*). American Fisheries Society, Tampa, Florida (Aug. 2017).

Gray, S. M., R.C. Oldham*, and L.M. Pintor. Behavioral responses to environmental extremes in an African cichlid, Animal Behavior Society, Toronto, Ontario, Canada (June 2017).

Nieman*§, C.L., C. McElwain*, and **S.M. Gray**. Visual Ecology of Lake Erie Fish: Assessing the impacts of increased turbidity on vision. International Association of Great Lakes Research, Detroit, Michigan (May 2017).

Gray, S.M., L.H. McDonnell*, N.E. Mandrak, and L.J. Chapman. The influence of turbidity on the behavior and physiology of imperiled blackline shiners (*Notropis* spp.) in the Laurentian Great Lakes. International Association of Great Lakes Research, Guelph, ON, Canada (June 2016).

Odegard*§, J., **S.M. Gray**, and L.M. Pintor. The role of functional diversity in biotic resistance of exotic fishes and invertebrates in wetlands (*poster*). International Association of Great Lakes Research, Guelph, ON, Canada (June 2016).

Gray, S.M. Using behaviour and physiology to inform conservation of imperiled species. Canadian Society of Zoology. *Invited speaker* in the Ecology, Ethology, and Evolution symposium, "Contemporary approaches to wildlife conservation science". London, Ontario, Canada (May 2016).

Gray, S.M. and L.J. Chapman. Sexy males in muddy water: adaptive phenotypic divergence in an African cichlid. International Congress on the Biology of Fishes, Edinburgh, Scotland, UK (August 2014).

Gray, S.M. and L.J. Chapman. Sexy males in muddy water: adaptive phenotypic divergence in an African cichlid. *Evolution* 2012, Ottawa, Ontario (July 2012).

Gray, S.M. and L.J. Chapman. How does turbidity influence the maintenance of fish diversity? *International Conference on the Evolutionary Ecology of Fishes*, Berlin, Germany (Nov. 2009).

Gray, S.M., S. Sabbah, and C.W. Hawryshyn. Exploring visual microhabitat usage by three sympatric, congeneric Lake Malawi cichlids, Society for the Study of Evolution Annual Meeting, Moscow, Idaho (June 2009).

Gray, S.M., L.M. Dill, F.Y. Tantu, and J.S. McKinnon. Colour polymorphism maintenance in the telmatherinid fishes of Sulawesi's Malili Lakes. *Speciation in Ancient Lakes*, Berlin, Germany. (Sept. 2006).

Gray, S.M., L.M. Dill, and J.S. McKinnon. Cuckoldry incites cannibalism. Society for the Study of Evolution Annual Meeting, Stony Brook, New York, U.S.A. (June 2006).

National & Regional Conference Presentations

Evans*[§], J., D. Trouten*, S.M. Gray "The Effect of Aquatic Colorants Used To Control Aquatic Vegetation on the Health of Bluegill Sunfish (*Lepomis macrochirus*)" 80th Midwest Fish and Wildlife Conference, Springfield, IL. (Jan. 2020)

Nieman*, C.L., **S.M. Gray** "Seeing into The Past: An Investigation of The Relationship Between Visual Morphology and 90 Years of Anthropogenic Turbidity in Emerald Shiner" 80th Midwest Fish and Wildlife Conference, Springfield, IL. (Jan. 2020)

Gray, S.M., C. L. Nieman*, A.L. Oppliger*, J. Bruskotter, E. Braig, T. Hrabak* "Can fish see the bait on the hook?" Lake Erie – Inland Waters Annual Research Review. Columbus, OH (Dec. 2019)

Gray, S.M. "Muddy waters: Fish behavior and vision in the Anthropocene" Sensorium: Annual Symposium of Sensory Biology and Ecology, University of Illinois Urbana-Champaign, Urbana, IL (Oct. 2019)

Hrabak*[§], T., C.L. Nieman, **S.M. Gray** "See no evil, smell no evil: Predator avoidance in the face of harmful algal blooms" Sensorium: Annual Symposium of Sensory Biology and Ecology, University of Illinois Urbana-Champaign, Urbana, IL (Oct. 2019)

Tiarks*, H.J., **S.M. Gray** "The influence of turbidity on visual sensitivity in an African cichlid" Sensorium: Annual Symposium of Sensory Biology and Ecology, University of Illinois Urbana-Champaign, Urbana, IL (Oct. 2019)

Williams*[§], B.L., T.L. Atkinson*, R.C. Oldham*, T.K. Hrabak*, L.M. Pintor, S.M. Gray "Linking Vision, Color Signals, and Mate Choice in an African Cichlid" Sensorium: Annual Symposium of Sensory Biology and Ecology, University of Illinois Urbana-Champaign, Urbana, IL (Oct. 2019)

Atkinson*§, T.L., R.C. Oldham*, B.L. Williams*, **S.M. Gray**. "Water Across the World: A tale of two communities" ScienceTalk 2020 Conference, Seattle, Washington (March 2019)

Atkinson*§, T. and **S.M. Gray**. Testing the role of turbidity and diet on the reproductive traits of an African cichlid fish (*ora*). 79th Midwest Fish and Wildlife Conference, Cleveland, OH (Jan. 2019).

Nieman*§, C.L., J. Bruskotter, E. Braig and **S.M. Gray**. You can't just use gold: The effects of algal and sedimentary turbidity on lure success for Walleye. (*ora*) 79th Midwest Fish and Wildlife Conference, Cleveland, OH (Jan. 2019).

Oppliger*, A.L., C.L. Nieman*, **S.M. Gray**. Visual detection thresholds of Walleye under varying turbidity" (*poster*). 127th Annual Meeting of The Ohio Academy of Science, Bowling Green, Ohio. (April 2018)

Nieman*§, C.L. and **S.M. Gray**. Determining the effects of increasing turbidity on visual acuity in Lake Erie fishes (*poster*). 78th Midwest Fish and Wildlife Conference, Milwaukee, Wisconsin (Jan. 2018).

Atkinson*§, T. and **S.M. Gray**. Testing the role of turbidity and diet on the reproductive traits of an African cichlid fish (*poster*). Ohio Chapter of the American Fisheries Society, Columbus, Ohio (Jan. 2018).

Nieman*§, C.L. and **S.M. Gray**. Determining the effects of increasing turbidity on visual acuity in Lake Erie fishes (*poster*). Ohio Chapter of the American Fisheries Society, Columbus, Ohio (Jan. 2018).

Oldham*§, R.C. and **S.M. Gray**. Environmental differences affect the visual ecology of cichlid fish (*poster*). Ohio Chapter of the American Fisheries Society, Columbus, Ohio (Jan. 2018).

Gray, S.M. The visual ecology of fish in a changing world. Sensorium: Annual Symposium of Sensory Biology and Ecology, Cincinnati, Ohio (Sept. 2017).

Tiarks*§, J. and **S.M. Gray**. The influence of turbidity on the development of eye and brain morphology in an African cichlid (*poster*). Ohio Academy of Sciences (April 2017).

Gray, S.M. Color variation in fishes across turbidity extremes in East Africa. Watershed Management Association of Ohio, Annual Meeting, Columbus, OH (Nov. 2014)

Gray, S.M., L.J. Chapman, and N.E. Mandrak. As clear as mud: What have we learned about the effects of turbidity on Canadian fishes at risk? Canadian Conference for Fisheries Research, Moncton, New Brunswick (Jan. 2012).

Gray, S.M., F. M. Bieber, F. Cinquemani, L. McDonnell, N.E. Mandrak, and L.J. Chapman. Fish in muddy waters: Consequences of turbidity for fish biodiversity. Canadian Society for Ecology and Evolution, Annual Meeting, Banff, Alberta (May 2011).

Gray, S.M., F. M. Bieber, L.J. Chapman, and N.E. Mandrak. The effects of turbidity on the behaviour and physiology of Endangered Pugnose Shiner (*Notropis anogenus*) and congeners. Canadian Conference for Fisheries Research, Toronto, Ontario (Jan. 2011).

Gray, S.M., F. Cinquemani, N.E. Mandrak, and L.J. Chapman. Fish in muddy waters: The effects of turbidity on fish phenotype and persistence. Quebec Centre for Biodiversity Science Annual Conference, Montreal, Quebec (Nov. 2010).

Invited Seminars and Workshops

Gray, S.M. Can fish see the bait on the hook? The effects of algal blooms on Walleye vision. 2019 Wildlife Symposium, Zane State University, Zanesville, OH (Mar. 2019).

Gray, S.M. A blurry future? The visual ecology of fish in a changing world. Purdue University, Indiana (Nov. 2018).

Gray, S.M. A fish eye view of changing water quality. Bowling Green State University, Bowling Green, Ohio (Oct. 2018).

Gray, S.M. A fish eye view of changing water quality in Lake Erie. Science Writers Workshop, Ohio Sea Grant, Stone Laboratory, Ohio (Aug. 2018).

Nieman, C.L., **S.M. Gray**. Walleye vision and HABs: A Citizen Science Project. Lake Erie Central Basin Sport Fish Summit. Painesville, Ohio (March 2018).

Nieman, C.L., **S.M. Gray**. (2018). "Effects of Harmful Algal Blooms on Walleye vision" (*oral*). 37th Annual Ohio Charter Captains Conference. Huron, Ohio (March 2018).

Gray, S.M. Can fish see the bait on the hook? An exploration of visual ecology in the face of human-induced environmental change. University of Toledo, Toledo, Ohio (Mar. 2018).

Gray, S.M. Sexy Males in Muddy Water: How Cichlids Respond to Increased Turbidity in the Wild. Columbus Area Fish Enthusiasts, Columbus, Ohio (Feb. 2018).

Gray, S.M. Phenotypic responses to environmental extremes in an African cichlid. University of Maryland-College Park (Nov. 2017).

Gray, S.M. Can fish see the bait on the hook? An exploration of visual ecology in the face of human-induced environmental change. Science Writers Workshop, Ohio Sea Grant (Aug. 2017).

Gray, S.M. Can fish see the bait on the hook? Decisions Makers Workshop, Ohio Sea Grant (Aug. 2017).

Gray, S.M. Water Across the World. Ohio Youth Institute, Columbus, OH (April 2017). *Keynote Speaker*

Gray, S.M. Water Across the World: Linking water quality with aquatic biodiversity in rural Ugandan communities. OSU Center for African Studies and Global Water Institute: Voices from the field. (March 2017).

Gray, S.M. Can fish see the bait on the hook? An exploration of visual ecology in the face of human-induced environmental change. SENR Seminar Series (March 2017).

Gray, S.M. Sexy Males in Muddy Water: How Cichlids Respond to Increased Turbidity in the Wild. Ohio Cichlid Association, Cleveland, Ohio (Feb. 2017).

Gray, S.M. The consequences of a changing world for fish biodiversity. Presented at Program in Ecology, Evolution, and Conservation Biology Seminar Series, University of Illinois Urbana-Champaign. (Nov. 2016).

Gray, S.M. Linking freshwater fish biodiversity and water quality in Uganda. International Research Symposium, Office of International Affairs, OSU (Feb. 2015).

Pintor, L.M. and **S.M. Gray**^s. Wetland restoration in Crane Creek Watershed & Ottawa National Wildlife Refuge: Fish and Invertebrate Monitoring. The Nature Conservancy, Ohio Board of Trustees, Columbus, OH (Jan. 2015).

Gray, S.M. A blurry future? Consequences of turbidity for fish diversity. Invited seminar, West Virginia University, Morgantown, West Virginia (Oct. 2014).

Gray, S.M. The effects of turbidity on imperiled Great Lakes fishes. Invited seminar, Stone Laboratory, Gibraltar Island, OH (July 2014). (<https://www.youtube.com/watch?v=ry-M9mYmbAI>)

Gray, S.M. Fish biodiversity in a changing world. Invited seminar, SENR, The Ohio State University, Columbus, OH (April 2014).

Gray, S.M. Consequences of turbidity for freshwater fish diversity. Ohio Environmental Protection Agency, Columbus, OH (Dec. 2013).

NSF ADVANCE Workshop, Women Evolving Biological Sciences, Invited participant, NECENT, Duke University, Durham, NC (Oct. 2013).

Gray, S.M. Consequences of environmental change for fish diversity. Invited seminar, Department of Biology, East Carolina University, Greenville, NC (Oct. 2013).

Gray, S. M. A blurry future? Consequences of environmental change for fish diversity. Special Seminar, School of Environment and Natural Resources, The Ohio State University, Columbus, OH (Feb. 2013).

Gray, S. M. A blurry future? Consequences of environmental change for fish behaviour and diversity. Departmental Seminar, Department of Biology, University Laval, Quebec (Nov. 2012).

Gray, S. M. A blurry future? Consequences of environmental change for fish diversity. Special Seminar, Department of Biology, University of New Brunswick - Saint John, New Brunswick (Sept. 2012).

Gray, S. M. A blurry future? Consequences of turbidity for freshwater fish diversity. Special Seminar, Department of Biology, University of Toronto Mississauga, Ontario (Jan. 2012).

Gray, S.M., L.M. Dill, F.Y. Tantu, and J.S. McKinnon. The maintenance of male colour polymorphism in the telmatherinids of the Malili Lakes: implications for conservation. International Symposium on the Ecology and Limnology of the Malili Lakes, Bogor, Indonesia (March 2006). *Panellist*.

Gray, S.M. Ikan Danau Matano (The Fish of Lake Matano). YPS National Highschool and Pt. INCO Ltd. Government and Community Relations Department, Soroako, Sulawesi, Indonesia. (Nov. 2004).

Gray, S.M. An examination of spatial segregation in sister species of sea urchins, *Echinometra lucunter* and *E. viridis*. Florida International University, Tropical Ecology Field Course, Bocas Marine Station, Bocas del Toro, Panama (July 2002).

CURRENT COLLABORATIONS

- **Functional significance of behavioral syndromes in fishes:** in collaboration with Dr. Lauren Pintor, SENR, OSU.
- **Wetland restoration and ecosystem services in Lake Erie:** in collaboration with Dr. Lauren Pintor, SENR, OSU, The Nature Conservancy, and Ohio Sea Grant.
- **Effects of urban night lighting on stream communities:** in collaboration with Dr. Mazeika Sullivan, SENR, OSU.
- **The role of turbidity as a divergent selective agent in African cichlids:** in collaboration with Dr. Lauren Chapman, McGill University.
- **Male quality across environmental gradients:** in collaboration with Dr. Mery Martinez, Laurentian University and Dr. Lauren Chapman, McGill University.
- **Male colour polymorphism in telmatherinid fishes of Sulawesi:** in collaboration with Dr. Jeffrey McKinnon, East Carolina University, Greenville, North Carolina.
- **Vision and colour research:** in collaboration with Dr. Ellis R. Loew, Cornell University, Ithaca, New York.

TEACHING AND MENTORSHIP EXPERIENCE

OSU Instruction

ENR 4900.01 Environment and Natural Resources Senior Capstone Course (Spring 2015, 2016, 2017, 2018, 2019)

ENR 5350.02 Taxonomy and Behavior of Fishes (Spring 2014, Autumn 2015, 2017, 2019, Summer 2019)

ENR 5358 Applied Vertebrate Physiological Ecology (Spring 2017, 2019)

ENR 8890.01 FFW Graduate Seminar: Behavioral and Physiological Responses to a Changing World (Autumn 2014); Advanced Conservation Physiology (Spring 2018, 2020)

EEOB 5930 Ichthyology (Summer 2018)

Lecturer Positions

ENVR 301: Environmental Research Design, McGill University (Fall 2012)

BIOL 111: Organismal Biology, McGill University (Fall 2011)

Professional Development

Teaching Support Program, University Institute for Teaching and Learning, OSU (Autumn 2018).

Course Design Institute (CDI), University Center for the Advancement of Teaching, OSU (Autumn 2014).

Graduate Students

Current

- Susanna Harrison (2019-current), MS
- H. Jai Tiarks (2019-current), MS
- R. Chase Novello (2018-current), MS (Co-supervised with Dr. Mazeika Sullivan)
- Jeremy Evans (2018-current), MS
- Bethany Williams (2018-current), PhD (co-supervised with Dr. Lauren Pintor)

Completed

- Chelsey Nieman (2015-current), PhD
- Tiffany Atkinson (2016-current), MS
- Richard Oldham (2015-current), MS
- Jenna Odegard (2014-2017), MS (co-supervised with Dr. Lauren Pintor)
- Shib Pattadar (2017-2018; incomplete), PhD

Graduate Student Committees

Current

- Layne Gaynor (2019-current), PhD, EEOB, Supervisor Dr. Ian Hamilton
- Macie Smith (2019-current), PhD, EEOB, Supervisor Dr. Ian Hamilton
- Andrew Bade (2018-current), PhD, EEOB, Supervisor Dr. Stu Ludsin
- David Dippold (2017-current), PhD, EEOB, Supervisor Dr. Stu Ludsin
- John Grayson, (2015-current), PhD, SENR, Supervisor Dr. Konrad Dabrowski
- Meaghan Gade (2017-current), PhD, SENR, Supervisor Dr. Bill Peterman
- Elizabeth Ames (2018-current), PhD, SENR, Supervisor Dr. Chris Tonra

Completed

- Kelly Jackson (2018-2019), MS, Bowling Green State University, Supervisor Dr. Paul Moore
- Kristie Stein (2017-2018), MS, SENR, Supervisor Dr. Chris Tonra
- Chelsea Crosby (2015-2018), MS, SENR, Supervisor Dr. Lauren Pintor
- Elizabeth Hoskins (2013-2018), PhD, EEOB, Supervisor Dr. Ian Hamilton
- Martha Zapata, (2014-2017), MS, SENR, Supervisor Dr. Mazeika Sullivan
- Ben Ellsesser, (2013-2017), MENR, SENR, Supervisor Dr. Mazeika Sullivan
- Christopher Johnson (2013-2016), MS, SENR, Supervisor Dr. Lauren Pintor
- Bobby Davis (2014-2016), MS, SENR, Supervisor Dr. Mazeika Sullivan
- Kristen Towne (2015-2016), MS, SENR, Supervisor Dr. Konrad Dabrowski
- Alayna Dorebek (2013-2016), MS, SENR, Supervisor Dr. Mazeika Sullivan
- Reed Brodnick (2013-2015), MS, EEOB, Supervisor Dr. Stu Ludsin
- Danielle Vent (2013-2015), MS, SENR, Supervisor Dr. Mazeika Sullivan
- Kerry Perrault (2013-2015), MS, Laurentian University, Supervisor Dr. Mery Martinez
- Laura McDonnell (2013-2015), MS, McGill University, Supervisor Dr. Lauren Chapman
- John Grayson, (2013-2015), MS, SENR, Supervisor Dr. Konrad Dabrowski
- Ali Zarea (2011-2012), MS, Laurentian University, Supervisor Dr. Mery Martinez

Supervision of Undergraduate Research Projects

School	Year Started	Student	Title	Status
OSU	2019	Steffensmeier	- Effects of artificial lighting at night on visual abilities of fish (<i>Research with Distinction</i>)	In progress
		K. Oriyo	- Sensory ecology of Lake Erie fishes (<i>Honors Research</i>)	In progress
		L. Bobay	- Lure color preference of Smallmouth Bass (<i>Stone Lab REU</i>)	Completed 2019
	2018	G. Ravary	TBD	Graduated 2019
		R. MacDonald	- Reproductive behaviors in an African cichlid exposed to environmental stressors (<i>Research with Distinction</i>)	In progress
	2017	M. Boltri	TBD	Complete 2019
		A. Oppliger	- Visual ecology of Lake Erie Walleye (<i>Stone Lab REU; Research with Distinction</i>)	Complete 2019, Nieman et al. 2018 Cons. Phys.
		H. Fried	- Physiological effects of algal and sedimentary turbidity on Lake Erie Emerald Shiner (<i>Stone Lab REU; Honors</i>)	Complete 2019
		N. Episcopo	- Mating behavior in cichlids across extreme environmental conditions (<i>Research with Distinction</i>)	Complete 2018
		T. Hrabak	- Ontogenetic behavioral shifts across extreme habitats in an African cichlid (<i>Research with Distinction</i>)	Complete 2018
		B. Tracy	- TBD	Complete 2019
		B. Glover	- Gut contents of threatened Night Heron from Lake Erie	Complete 2017
	2016	E. Bertolini	- Eye size variation among Lake Erie Emerald Shiner across years with variable Harmful Algal Bloom events (<i>Research with Distinction</i>)	Complete 2017
		C. McElwain	-The optikinetic response of Lake Erie Emerald Shiner (<i>Notropis atherinoides</i>) under algal and sedimentary turbidity (<i>Stone Labe REU</i>)	Complete 2017, Nieman et al. 2018 Cons. Phys.
	2015	M. Carolin	- Brain and eye morphology of Lake Erie fishes	Complete 2016
		K. Funk	- Ontogenetic behavioral change cichlids (<i>Research with Distinction</i>)	Complete 2017
		M. McKinney	- Influence of eye parasites on cichlid vision	Complete 2017
		H. Tiarks	- Brain and eye morphology across environmental gradients in an African cichlid	Complete 2017; MS in prep
		T. Atkinson	- Centrarchid color variation across turbidity gradients Columbus (<i>Honors</i>)	Complete 2016; MS in prep
		J. Whitman	- Centrarchids reproduction and color above and below low-head dams (<i>Honors</i>)	Complete 2016
J. Robbins		- Optomotor response in Great Lakes fishes (<i>Research with Distinction</i>)	Complete 2016	
2014	R. Oldham	- Repeatability of bold behaviors in an African cichlid fish (<i>Research with Distinction</i>)	Complete 2015; Oldham et al. 2018 Curr Zool	
	C. Balsley	- Literature review of Centrarchid color and reproduction	Complete 2015	

Suzanne M. Gray - Curriculum Vitae

McGill University	2012	M. Woolner	- Colour pattern variation in guppies across an environmental gradient	Complete 2013
		J. Sunahara	- Colour divergence in <i>Barbus neumayeri</i> across forested and deforested streams	Complete 2013
		K. Smith	- Swim performance in Blacknose Shiner (<i>Notropis heterolepis</i>)	Gray et al 2014 Aquat Cons
		S. Melwani	- Ecomorphology of <i>Barbus neumayeri</i> from forested and deforested streams in Uganda	Complete
		L. Smith	- Possible sex change in <i>Pseudocrenilabrus multicolor</i>	MS in prep
	2011	M. Bieber	- Swim performance of Endangered Pugnose Shiner (<i>Notropis anogenus</i>) acclimated to low and high turbidity	Gray et al. 2014 Aquat Cons
2010	L. Grigoryeva	- Effects of turbidity on brain and visual morphology in an African cichlid	MS in prep	
	L. McDonnell	- Effects of turbidity in male-male aggression in an African cichlid fish	Gray et al. 2012. Curr Zool	
	F. Cinquemani	- Behavioural response to turbidity in a widespread African cichlid	Gray et al. 2012. Curr Zool	
Queen's University	2008	F. Hart	- Colour change in fish: Spectral reflectance characteristics in <i>Melanochromis auratus</i>	Gray et al. 2011. CJFAS
		M. Tremblay	- Patterns of spectral reflectance in <i>Metriaclima zebra</i>	Gray et al. 2011. CJFAS

Guest Lectures

OSU

- ENR 1100: Environment and Natural Resources Survey (2016, 2017, 2018, 2019)
- ENR 2000: Natural Resources Data Analysis (2015, 2016, 2017, 2019)
- ENR 4900.02: FFW Capstone, aquatic sampling (2014)
- ENR 8897: Research Proposal Symposium, panel discussion (2014, 2017)
- ESHESA 7540: Higher Educational Institutions and Core Academic Issues (2017, 2018, 2019)
- VPM 7775: Interactive Laboratory Animal Medicine Tour (2019)

McGill University

- BIOL 329: East African Field Ecology, Uganda (2011)
- BIOL 515: Advances in Aquatic Ecology (2011), two lectures
- BIOL 432/632: Limnology (2010)
- Ecology and Evolution Lunch Seminar Series (2009 and 2012)

Queen's University

- BIOL 445: Neuroethology

Simon Fraser University

- BISC 100: Introduction to Biology (2007), 3 lectures
- BISC 300: Evolution (2006), 3 lectures
- BISC 304: Animal Ecology (2003)

Teaching Awards

- **Educator Award**, North American Colleges and Teachers of Agriculture (2019).
- **Nominee**, U.S. Department of Agriculture National Awards Program for Excellence in College and University Teaching in the Food and Agricultural Sciences (2019).
- **OSU Alumni Award for Distinguished Teaching**, OSU (2018)

OTHER RESEARCH AND TEACHING EXPERIENCE

- **Field research expeditions:** 11 months Uganda (9 trips); 5 weeks Malawi; 10 months Indonesia (4 trips); 5 months Panama; 8 months Northern Ontario, Canada (3 trips); 5 weeks Australia; St. Lawrence River, Ontario (6 trips); Lake Erie (multiple trips)
- **Field assistants trained:** >30 Canadian/U.S. and International students trained in various field techniques, including behavioural observations of wild animals, underwater videography, species identification, use of seine nets, gill nets, minnow traps, underwater light measurements with a spectrometer, turbidity and other water quality measurements, and basic fish measurement techniques.
- **Research assistants trained:** >30 undergraduate students trained in aquatic facility maintenance, tropical and temperate fish care (water quality and behavioural monitoring), lab techniques including fish rearing, dissections, stomach content analysis, spectrometry, and behavioural observations.
- **Smithsonian Tropical Research Institute, Short-Term Fellow:** 2002 (Dr. Harris A. Lessios, STRI, Panama City, Panama)
- **Shark Research Technician:** 1998 (Dr. Steven E. Campana, Marine Fish Division, Bedford Institute of Oceanography, Dartmouth, Nova Scotia, Canada)

ACADEMIC SERVICE

- *School of Environment and Natural Resources:*
 - **Academic Affairs Committee**, 2013-current
 - **Research, Space and Equipment Committee**, 2015-2017
 - **Faculty Search Committees:** Hydrologist position (2015-2016); Wildlife Ecology and Management position (2014-15)
 - **Staff Search Committees:** Aquatic Instructional Aid Associate, Chair (2016, 2019)
 - **Recruitment Activities** – Freshmen trip to Stone Lab (Autumn 2017, 2018, 2019); Faculty Phoning Event (for admitted SENR students, 2014); GoGreenGoBuckeye event (Schiermeier Olentangy River Wetlands Research Park 2014, 2015); Wetlands BioBlitz (ORWRP, 2016); Kottman Hall Lab tours to high school groups, ENR staff, ENR 1100 students, etc.
- *College of Food, Agriculture and Environmental Sciences:*
 - Welcoming Dr. Debbie Lee, Director of NOAA's Great Lakes Environmental Research Lab, Ohio Sea Grant (Nov. 2019)
 - Welcoming the Ohio Department of Natural Resources to the Olentangy River Wetlands Research Park (Aug. 2019)
 - CFAES Animal Housing Planning (2019, one meeting, documents)
- *The Ohio State University*
 - General Education Implementation Bookends Sub-Committee (Autumn 2019)

- *Professional Service*
 - **Associate Editor**, Canadian Journal of Fisheries and Aquatic Sciences (2015-current; handled 45 manuscripts to date)
 - 14th International Congress on the Biology of Fish, **Symposium Organizer**: Sensing the Anthropocene: From Molecules to Populations (2019-current).
 - Ohio Chapter of the American Fisheries Society, **President, 2019-current; President-Elect, 2018-2019 (Past-President 2020-2021)**.
 - American Fisheries Society Annual Conference 2020, **Local Organizing Committee, Continuing Education and Student Activities Chair** (2019-current)
 - North American Lake Management Society, Annual Meeting 2018, **Local Organizing Committee, Program Co-Chair**, 2016-2018.
 - Ohio Lake Management Society, elected **Board Member**, 2013-2016.
 - **Journal reviews**: American Naturalist, American Midland Naturalist, Animal Behaviour, Animal Ecology, Behavioral Ecology, Behavioral Ecology and Sociobiology, Biological Journal of the Linnean Society, Biology Letters, BMC Evolutionary Biology, Canadian Journal of Fisheries and Aquatic Sciences, Conservation Biology, Conservation Physiology, Current Zoology, Ecohydrology, Ecology of Freshwater Fish, Ecology Letters, Environmental Biology of Fishes, Ethology, Evolutionary Ecology, Integrative Zoology, Journal of Fish Biology, Journal of Great Lakes Research, Oecologia, PLoS One, Science.
 - **Grant reviews**: National Geographic Society; National Science Foundation (USA); Natural Sciences and Engineering Research Council (Canada); Austrian Science Foundation (Austria); Ohio Sea Grant (USA); OSU Office of International Affairs (USA).
 - **Professional Affiliations**: American Cichlid Association, American Fisheries Society (Physiological Ecology section, and Ohio Chapter), International Association for Great Lakes Research, North American Native Fishes Association, Ohio Academy of Science.
 - Canadian Society for Ecology and Evolution, Outreach **Committee Member**, 2009-2013
 - “Communication in Troubled Waters Symposium”, held during the International Conference on Evolutionary Ecology of Fishes, Berlin, Germany, **Co-Organizer**, Nov. 2009.
 - Departmental Graduate Studies Committee, Biological Sciences, SFU, **Elected Representative**, 2005-2007.
 - Seminal Papers in Behavioural Ecology Discussion Group, **Organizer**, SFU, 2006.
 - Graduate Student Mentoring Program, **Coordinator**, 2003-2005.

OUTREACH AND CONSERVATION

- **Water Across the World**: collaboration to link rural Ohio K-12 students from Ohio with rural Ugandan K-12 students studying water quality (2014-current).
- **Kasiisi Water Project**: *Co-founder*, with Dr. Elizabeth Ross, (Director, Kasiisi School Project, Uganda) <http://www.kasiisiproject.org/> (2010-current).
- **Outreach Committee, Canadian Society for Ecology and Evolution**: *Member*, 2009-2013.
- **Third Millennium Alliance Jama-Coaque Reserve, Ecuador**: *Scientific Advisor*, 2010-2014.