

Rae E. McNeish

Pronounced "McNish" with a silent "e"

Curriculum Vitae

Department of Biology
California State University Bakersfield
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GREY TEXT INDICATES ACTIVITIES WHILE AT CSUB

EDUCATION:

- Ph.D.** Biology, University of Dayton, OH 2011 – 2016
Dissertation: Ecosystem connections: Riparian forest community dynamics alter cross-system subsidies and drive aquatic community assemblages and ecosystem processes
- M.Sc.** Biology, University of Dayton, OH 2009 – 2011
Thesis: Ecosystem linkages between terrestrial and aquatic communities: The impact of Amur Honeysuckle on stream structure and function
Certificate in Geographic Information Systems, University of Dayton, OH
- B.Sc.** Biology, Millersville University, PA 2004 – 2009

RESEARCH FOCUS:

My scientific interests focus on interactions between terrestrial and aquatic ecosystems across variable environmental conditions, and anthropogenic stressors. I conduct observational and manipulative experiments to capture *in situ* dynamics, and to isolate individual mechanisms that drive environmental change. My ambition is for the science conducted by the McNeish Aquatic Ecology Lab to benefit both the environment and human well-being while also contributing to our understanding of underlying ecological processes.

EMPLOYMENT:

- 2018 – Present Assistant Professor of Biology, California State University Bakersfield, CA
- 2018 Post-Doctoral Research Fellow, University of Dayton, OH
- 2017 – 2018 Biology Laboratory Instructor, Loyola University Chicago, IL
- 2016 – 2018 Post-Doctoral Research Fellow, Loyola University Chicago, IL
- 2014 – 2016 Ph.D. Research Assistant, University of Dayton, OH
- 2011 – 2014 Ph.D. Teaching Assistant, University of Dayton, OH
- 2009 – 2011 M.S. Teaching Assistant, University of Dayton, OH
- 2008 – 2009 Laboratory Technician, Millersville University, PA
- 2008 Field Technician, Pennsylvania Environmental Protection Agency, Department of Agriculture: Bureau of Plant Industry, Entomology Department, Harrisburg, PA
- 2007 – 2009 Field Technician, Millersville University, PA
- 2007 Entomology Laboratory Technician, Stroud Water Research Center, PA

SCHOLARLY PUBLICATIONS (" undergraduate or ^s graduate student co-author):

1. Thorton Hampton, L, H De Frond, K. Gesulga, ... **RE M^cNeish**, *et al.* (2023) The influence of complex matrices on method performance in extracting and monitoring microplastics. *Chemosphere* *Invited special issue <https://doi.org/10.1016/j.chemosphere.2023.138875>
2. Munno, K, AL Lusher, E Minor, A Gray, Kho, J Jankett, CT Lee, S Primpke, **RE M^cNeish**, CS Wong (2023) Patterns of microparticles in blank samples: A study to inform best practices for microplastic analysis. *Chemosphere* *Invited special issue <https://doi.org/10.1016/j.chemosphere.2023.138883>
3. Kotar S^s, **RE M^cNeish**, C Murphy-Hagan, V Renick, *et al.* (2022) Quantitative assessment of visual microscopy as a tool for microplastic research: Recommendations for improving methods and reporting. *Chemosphere* 308:136449 *Invited special issue <https://pubmed.ncbi.nlm.nih.gov/36115477/>
4. Hou L^s, **RE M^cNeish**, TJ Hoellein (2022) Egestion rates of microplastic fibres in fish scaled to *in situ* concentration and fish density. *Freshwater Biology*. <https://doi.org/10.1111/fwb.14007>
5. Hou L^s, CD McMahan, **RE M^cNeish**, K Munno, CM Rochman, TJ Hoellein (2021) A fish tale: A Century of museum specimens reveal increasing microplastic concentrations in freshwater fish. *Ecological Applications*. <https://doi.org/10.1002/eap.2320>
6. Panno, SV, WR Kelly, J Scott, W Zheng, **RE M^cNeish**, N Holm, TJ Hoellein, EL Baranski (2019) Microplastic contamination in karst groundwater systems. *Groundwater*. <https://doi.org/10.1111/gwat.12862>
7. **M^cNeish RE**, LH Kim^s, H Barrett, SA Mason, JJ Kelly, TJ Hoellein (2018) Microplastic in riverine fish is connected to species traits. *Scientific Reports* 8:11639 [DOI: 10.1038/s41598-018-29980-9](https://doi.org/10.1038/s41598-018-29980-9)
8. **M^cNeish RE**, ME Benbow, RW McEwan (2018) Riparian invasion of *Lonicera maackii* influences throughfall chemistry and rainwater availability. *Ecological Research* [DOI: 10.1007/s11284-018-1620-2](https://doi.org/10.1007/s11284-018-1620-2)
9. **M^cNeish RE**, ME Benbow, RW McEwan (2017) Removal of the invasive shrub *Lonicera maackii* (Amur honeysuckle) from a headwater stream riparian zone shifts taxonomic and functional composition of the aquatic biota. *Invasive Plant Science and Management* [DOI: 10.1017/inp.2017.22](https://doi.org/10.1017/inp.2017.22) *Featured article
10. **M^cNeish RE**, RW McEwan (2016). A review on the invasion ecology of Amur honeysuckle, a case study of ecological impacts at multiple scales. *The Journal of the Torrey Botanical Society*. 143: 367-385 [DOI: 10.3159/TORREY-D-15-00049.1](https://doi.org/10.3159/TORREY-D-15-00049.1)
11. **M^cNeish RE**, EM Moore^u, ME Benbow, RW McEwan (2015) Removal of the invasive shrub *Lonicera maackii* from riparian forests influences headwater stream biota and ecosystem function. *River Research and Applications*. 31: 1131–1139 [DOI: 10.1002/rra.2808](https://doi.org/10.1002/rra.2808)
12. **M^cNeish RE**, ME Benbow, RW McEwan (2012) Riparian forest invasion by the terrestrial shrub Amur Honeysuckle (*Lonicera maackii*) impacts aquatic biota and organic matter processing in headwater streams. *Biological Invasions*. 14: 1881-1893 [DOI: 10.1007/s10530-012-0199-8](https://doi.org/10.1007/s10530-012-0199-8)

SCHOLARLY MANUSCRIPTS IN REVIEW/PRESS (" undergraduate or ^s graduate student co-author):

McNeish, RE, NM Lee^u, AT Harrison^u, M Machia^u, J Jackson, JR Wallace (*In Review*) Land-use and species traits influence microplastic abundance in historical aquatic macroinvertebrate communities. *Entomology* *Invited special issue

SCHOLARLY MANUSCRIPTS IN PREP (10; " undergraduate or ^s graduate student co-author):

1. Fetters AK^s and **RE McNeish** (*In Prep*) Effect of anthropogenic structures on the distribution of anthropogenic litter abundance in an intermittent river.
Target Submission: Dec. 2023
2. **McNeish RE**, M Achettu^u, JJ Kelly, TJ Hoellein (*In Prep*) Seasonal microplastic abundance patterns in rivers is connected to riverine habitats and landscape features.
Target Submission: May 2024
3. Macaranas K^u, AK Fetters^s, **RE McNeish** (*In Prep*) Landscape features impacts atmospheric deposition of microplastics and nutrients.
Target Submission: Dec. 2024
4. **McNeish RE**, SJ Howlett^u, N Macias^u, JR Wallace (*In Prep*) Riparian invasion impacts feeding and behavior ecology of native and invasive crayfish.
5. **McNeish RE**, ME Benbow, RW McEwan (*In Prep*) Seasonal extracts of *Lonicera maackii* leaves, flowers, and berries impact stream algal growth in a headwater stream.
6. **McNeish RE**, CM Buchheim ^u, ME Benbow, RW McEwan (*In Prep*) Riparian removal of the invasive Amur honeysuckle (*Lonicera maackii*) shrub alters aquatic macroinvertebrate secondary production.
7. **McNeish RE**, CA Shade^u, ME Benbow, RW McEwan (*In Prep*) Seasonal allochthonous availability impacts aquatic macroinvertebrate functional diversity.

TECHNICAL REPORTS:

McEwan, RW, L King, D Taylor and **RE McNeish**. 2018. Monitoring water quality of urban stormwater runoff to receiving river systems in Dayton, Ohio: Wet-weather sampling, site selection, and assessment of MS4 drainage areas, City of Dayton, Environmental Management Department, Final Report, pp. 24.

NON-REFERRED PUBLICATIONS:

McNeish, RE (2018) From forests to streams: How one plant can make a difference. *The ScienceBreaker*. [Link](#)

FUNDING (Awarded \$83,355):

In Review:

McNeish, RE. (2023) Aquatic macroinvertebrate community dynamic and freshwater environmental conditions between lentic and lotic ecosystems. *California State University, Bakersfield Title Vb*. **Requested** \$5,000

Awarded:

McNeish, RE. (2023) Drought conditions impact leaf and plastic breakdown in ponds. *California State University, Bakersfield Center for Environmental Studies*. **Awarded** \$5,000

McNeish, RE. (2023) Microplastic abundance in oysters linked with estuary watershed development and protection status. *California State University, Bakersfield RSCA*. **Awarded** \$5,000

McNeish, RE. (2022) Terrestrial invasive plant, *Ailanthus altissima*, impacts on aquatic leaf decomposition and macroinvertebrate communities. *California State University, Bakersfield Title Vb*. **Awarded** \$5,000

McNeish, RE. (2022) Drought conditions impact leaf and plastic litter breakdown in ponds. *California State University, Bakersfield RSCA*. **Awarded** \$5,000

McNeish, RE. (2021) Landscape features impact leaf and plastic litter breakdown. *California State University, Bakersfield RSCA*. **Awarded** \$5,000

McNeish, RE. (2019) The impacts of land-use and microhabitats on microplastic abundance in ponds. *California State University, Bakersfield RSCA*. **Awarded:** \$5,000

McEwan, RW (PI) L King (Co-PI), **RE McNeish** (Co-PI), Taylor, D (Co-PI). (2017) Urban watershed collaborative: Monitoring outreach, and education that explore connections between the City of Dayton and her rivers. *City of Dayton*. **Awarded:** \$30,000

McNeish, RE. (2010-14) An invasive shrub, *Lonicera maackii* (Amur honeysuckle), alters stream nutrient dynamics and aquatic biological communities. Graduate Student Summer Fellowship, University of Dayton (*4 fellowships*). **Awarded:** \$20,650

McNeish, RE. (2013) Invaded riparian forests alter in-stream nutrient availability and indirectly contribute to harmful algal blooms. *Sigma Xi Grants-in-Aid of Research*. **Awarded:** \$1,000

McNeish, RE. (2008) Riparian invasion impacts growth and behavior ecology of native and invasive Crayfish. *Millersville University Student Research Grant*. **Awarded:** \$450.00

McNeish, RE. (2008) Riparian invasion impacts growth and behavior ecology of native and invasive Crayfish. *Millersville University Keever Grant*. **Awarded:** \$255.00

Not awarded:

McNeish, RE. (PI), L Thornton Hampton (Co-PI) (2023) Determining the relative toxicity of source-specific microplastic mixtures in three California marine species. *California Sea Grant & Ocean Protection Council*. **Requested** \$228,023

Lauer, A (PI), **RE McNeish** (Co-PI), L Hall (Co-PI), K Keller (Co-PI), H Santoke (Co-PI). (2022) Restoration of a riparian area along the endangered lower Kern River, California, with collaborative efforts to support wildlife, education, and recreation. *National Fish and Wildlife Foundation*. **Requested:** \$ 325,155

Sanchez, J (PI), A Lauer (Co-PI), **RE McNeish** (Co-PI), I Francis (Co-PI). (2022) Urban greening rain gardens. *California Natural Resources*. **Requested:** \$ 1,000,000

Newell, S (PI), M McCarthy (Co-PI), **RE McNeish** (Co-PI). (2021) Impact of microplastics on wetland nutrient removal efficiency in H2Ohio-associated wetlands. *Ohio Sea Grant*. **Requested:** \$159,999

Holleman R (PI), M Berg (Co-PI), H Ruhl (Co-PI), **RE McNeish** (Co-PI), J Largier (Co-PI), P Drone (Co-PI), J Olson (C-PI). (2021) Marine Plastics Debris in Monterey Bay National Marine Sanctuary and the Fate of Agricultural, Stormwater, and Wastewater Inputs. *NOAA Marine Debris Program*. **Requested:** \$347,561

McNeish, RE (PI), KK Keller (Co-PI), H Tavakol (Co-PI). (2020) Terrestrial-aquatic linkages: Modeling the abundance and transport of microplastics and connections to toxicity. *CSU COAST*. **Requested** \$398,958

McNeish, RE (PI), J Reece (Co-PI), B Winman (Co-PI), M Brady (Co-PI), A. Mine (Co-PI). (2020)

Terrestrial-aquatic connections: The distribution and fate of microplastics across Morro Bay Estuary and beaches. *CSU COAST*. **Requested:** \$287,792

Panno, SV (PI), WR Kelly (Co-PI), J Scott (Co-PI), W Zheng (Co-PI), **RE M^cNeish** (Co-PI), Holm (Co-PI), TJ Hoellein (Co-PI). (2017) Microplastic contamination in karst groundwater systems of the midwestern U.S.A. *Illinois Water Resources Research National Competitive Grants Program*. **Requested:** \$250,00

Kelly, JJ (PI), TJ Hoellein (Co-PI), **RE M^cNeish** (Co-PI). (2017) Microplastic abundance and impacts on wildlife in USA rivers. *Bailey Wildlife Foundation*. **Requested:** \$235,350

Hoellein, TJ (PI), **RE M^cNeish** (Co-PI), KJ Jankowski (Co-PI), JJ Kelly (Co-PI). (2017) Microplastic uptake and trophic transfer in freshwater food webs. *Water Resources Research National Competitive Grants Program*. **Requested:** \$250,000

M^cNeish, RE. (2015) Degraded riparian forests in the North American Midwest: Amur honeysuckle influences nutrient availability and dynamics across terrestrial and aquatic systems. *Ohio Invasive Plant Council: Invasive Plant Student Research Grant*. **Requested:** \$1,000

M^cNeish, RE. (2013) Degraded riparian forests have direct and indirect contributions to nutrients that support harmful algal blooms. *Environmental Protection Agency STAR Fellowship*.

M^cNeish, RE. (2013) Invaded riparian forests modify forest-stream connections, degrading stream quality and causing public health concerns. *Garden Club of America*.

M^cNeish, RE. (2012) Invaded riparian forests alter in-stream nutrient availability and indirectly contribute to harmful algal blooms. *Sigma Xi Grants-in-Aid of Research* **Requested:** \$1,000

M^cNeish, RE. (2012) Advancing our understanding of complex ecosystems: How terrestrial microbial communities contribute to aquatic organic matter and nutrient processes. *Department of Energy Office of Science Graduate Fellowship*.

M^cNeish, RE. (2012) *Lonicera maackii* invasion of riparian forests modifies nutrient cycling and the aquatic biology of headwater streams. *The Torrey Botanical Society Graduate Student Research Fellowship*. **Requested:** \$20,136.38

Undergraduate and Graduate Student Funding (Awarded \$47,289):

In Review:

Juarez, J^s (2023) Riparian invasive tree impacts macroinvertebrate communities and litter decomposition in freshwater habitats. *Sigma Xi Grants-in-Aid of Research*. **Requested:** \$1,000

Awarded:

Brown, AJ^s (2023) Microplastic seasonal variation and ‘community’ composition in coastal shellfish and sediments across levels of estuary protection status and watershed anthropogenic development. *CSUB Title Vb: STEM Graduate Excellence*. **Awarded:** \$2,000

Owens, I^s (2023) Application of the River Continuum Concept to arid streams across an elevational gradient. *CSUB Title Vb: STEM Graduate Excellence*. **Awarded:** \$2,000

Juarez, J^s (2023) Invasive *Ailanthus altissima* leaf decomposition in freshwater ecosystems and impacts on macroinvertebrate communities. *CSUB Title Vb: STEM Graduate Excellence*. **Awarded:** \$2,000

Brown, AJ^s (2023) Microplastic seasonal variation and ‘community’ composition in coastal *Crassostrea gigas* (Pacific oyster) and sediments across levels of estuary protection status and watershed anthropogenic development. *CSU Student Research Scholarship*. **Awarded:** \$2,000.

Christian, M^u (2023) Cattle grazing impacts on stream ecosystems at Tejon Ranch Conservancy. *CSU Student Research Scholarship*. **Awarded:** \$2,000.

Juarez, J^s (2023). Terrestrial-Aquatic Connections: Invasive *Ailanthus altissima* leaf decomposition in aquatic ecosystems and impacts on macroinvertebrate communities. *CSU COAST Graduate Student Award*. **Awarded:** \$4,000

Pantoja, E^u (2023) Landscape features impact microplastic abundance and transport during rain events and stormwater runoff. *CSU COAST Undergraduate Student Award*. **Awarded:** \$4,000

Pantoja, E^u (2022) Landscape features impact microplastic abundance and transport during rain events and stormwater runoff. *CSUB Career Pathways Program*. **Awarded:** \$2,000

Juarez, J^s (2022) Terrestrial native and invasive plants impact on aquatic macroinvertebrate communities. *CSUB Title Vb: STEM Graduate Excellence*. **Awarded:** \$2,000

Nunez, N^u (2022) Impact of water scarcity and drought conditions on plastic and natural leaf degradation. *CSU COAST Undergraduate Student Award*. **Awarded:** \$2,690

Macaranas, K^u (2021) Aquatic and terrestrial landscape features affect the atmospheric deposition of microplastics and nutrients. *CSU COAST Undergraduate Student Award*. **Awarded:** \$4,431

Fetters, AK^s (2021) Plastic and natural leaf degradation across terrestrial and aquatic habitats. *CSU Student Research Scholarship*. **Awarded:** \$2,000.

Fetters, AK^s (2021) Effect of anthropogenic structures on the abundance and distribution of anthropogenic litter and microplastics in an intermittent river. *CSU COAST Graduate Student Award*. **Awarded:** \$3,000

Fetters, AK (2021) Impact of anthropogenic structures on the abundance and distribution of anthropogenic litter and microplastics in an intermittent river. *CSUB Title Vb: STEM Graduate Excellence*. **Awarded:** \$2,000

Macaranas, K^u (2020) Landscape features impact atmospheric deposition of microplastics and nutrients. *CSU COAST Undergraduate Student Award*. **Awarded:** \$2,911

Fetters, AK^s (2020) Effects of anthropogenic structures on the retention and distribution of anthropogenic litter and microplastic abundances in an intermittent river. *CSU Student Research Scholarship*. **Awarded:** \$1,000

Macaranas, K^u (2019) Seasonal deposition of atmospheric microplastics and nutrients. *CSU COAST Undergraduate Student Award*. **Awarded:** \$2,103

Perez, K^u (2020) Microplastic abundance between lake microhabitats in fresh and saltwater lakes. *CSU Student Research Scholarship*. **Awarded:** \$2,000

Ortiz, D^u (2020) Locating and identifying microplastics in fish digestive system. *CSU Student Research Scholarship*. **Awarded:** \$2,000

Perez, K^u (2019) Microplastic abundance between lake microhabitats in fresh and saltwater lakes. *Sigma Xi Grants-in-Aid of Research*. **Awarded:** \$500

Ortiz, D^u (2019) Locating and identifying microplastics in fish digestive system. *Sigma Xi Grants-in-Aid of Research*. **Awarded:** \$1,000

Macaranas, K^u, K. Perez^u, D Ortiz^u, A Gil^u (2018 – 2021) *CSUB Louis Stokes Alliance for Minority Participation (LSAMP) Program Research Stipend*. **Awarded:** \$6,775 over 9 semesters

Submitted:

Brown, AJ^s (2023) Microplastic seasonal variation and ‘community’ composition in coastal *Crassostrea gigas* (Pacific oyster) and sediments across levels of estuary protection status and watershed anthropogenic development. *California Sea Grant*. **Requested:** \$90,000

Juarez, J^s (2022) Riparian invasive tree impacts macroinvertebrate communities and litter decomposition in freshwater habitats. *Sigma Xi Grants-in-Aid of Research*. **Requested:** \$1,000

Fetters, AK^s (2020) Impact of an anthropogenic structure on the transport of anthropogenic litter and microplastic pollution in an intermittent river. *CSU COAST Graduate Student Award*. **Requested:** \$3,000.

Fetters, AK^s (2020) Anthropogenic structures impact the retention and distribution of anthropogenic litter and microplastics in an intermittent river. *Sigma Xi Grants-in-Aid of Research*. **Requested:** \$1,000

Macaranas, K^u (2020) Atmospheric wet deposition of microplastics is impacted by landscape features. *Sigma Xi Grants-in-Aid of Research*. **Requested:** \$1,000

Fetters, AK^s (2019) Stormwater impacts on anthropogenic litter and microplastic abundance in ponds. *Sigma Xi Grants-in-Aid of Research*. **Requested:** \$1,000

Macaranas, K^u (2019) Atmospheric seasonal deposition of microplastics in open fields and forest habitats. *Sigma Xi Grants-in-Aid of Research*. **Requested:** \$1,000

TEACHING EXPERIENCE:

Lecture Courses:

- 2022 – 2023 Senior Seminar (BIOL 4928), California State University Bakersfield, CA – Instructor of Record; 2 semesters; 24 student section
- 2020 – 2023 Aquatic Ecology Lecture and Lab (BIOL 4360), California State University Bakersfield, CA – Instructor of Record; 1 semester; 24 student section
**Course designed from the ground up*
- 2020 – 2023 Introductory Biology Animals Lecture and Lab (BIOL 2110), California State University Bakersfield, CA – Instructor of Record; 3 semesters; 48 – 75 student sections
- 2019 - 2023 Human Ecology Lecture (BIOL 3210), California State University Bakersfield, CA – Instructor of Record; 5 semesters; 40 – 60 student sections
**Developed course curriculum*
- 2020 – 2023 General Ecology Lecture (BIOL3120), California State University Bakersfield, CA – Instructor of Record; 2 semesters; 40 – 50 student sections
- 2019 - 2022 Senior Seminar Lecture (BIOL 4910), California State University Bakersfield CA – Instructor of Record; 2 semesters; 24 student sections
- 2018 – 2023 Research Design and Analysis Lecture and Lab (BIOL 3120), California State University Bakersfield, CA – Instructor of Record; 6 semesters; 24 student sections

Laboratory Courses (28 sections):

- 2018 – 2020 Introductory Biology Animals Lab (BIOL 2110), California State University Bakersfield, CA; 3 semesters
- 2018 Integrated Life Science Lab (SCI 3010), California State University Bakersfield, CA; 1 semester

- 2017 Introductory Biology Lab (BIO 111L), Loyola University Chicago, IL; 2 semesters
- 2014 Marine Biology Field Course and Lab (BIO 420), University of Dayton, OH; 1 semester
- 2013 Ecology Lab (BIO 310L), University of Dayton, OH; 1 semester
- 2012 Restoration Ecology Lab (BIO 409L), University of Dayton, OH; 1 semester
- 2011-14 Invertebrate Zoology Lab (BIO 461L), University of Dayton, OH, 4 semesters
- 2010-12 Concepts of Biology Lab II: Evolution and Ecology (BIO 152L), University of Dayton, OH; 4 semesters
- 2009-12 Concepts of Biology Lab I: Cell and Molecular Biology (BIO 152L), University of Dayton, OH; 5 semesters

Invited Guest Lecturer and Laboratory Instructor (27 classes):

- 2020 Senior Seminar (BIO 500), Centre College, Danville, KY
- 2019 Aquatic Entomology (ENT 422), Michigan State University, MI
- 2019 General Ecology (BIO 130), California State University, Fresno, CA
- 2018 Conservation Biology (BIO 328), Loyola University Chicago, IL
- 2017 Environmental Instrumentation Lab (BIO 479L), University of Dayton, OH
- 2017 Introductory Biology (BIO 101), Loyola University Chicago, IL
- 2017 Solutions to Environmental Problems (ENV 350), Loyola University Chicago, IL
- 2017 Ecology (BIO 265), Loyola University Chicago, IL
- 2016 Introductory Biology (BIO 101), Loyola University Chicago, IL
- 2015 Aquatic Entomology (ENT 422), Michigan State University, MI
- 2014 Environmental Science and Society (EES 1990), Wright State University, OH
- 2014 Restoration Ecology (BIO 409), University of Dayton, OH
- 2014 Environmental Ecology (BIO 459), University of Dayton, OH
- 2012-14 Ecology (BIO 310), University of Dayton, OH
- 2013 Restoration Ecology (BIO 409), University of Dayton, OH
- 2013 Restoration Ecology Lab (BIO 409L), University of Dayton, OH
- 2011 Plant Diversity and Ecology (BIO 407), University of Dayton, OH
- 2010-2014 Comparative Animal Physiology Lab (BIO 450L), University of Dayton, OH
- 2009-2011 Global Environmental Biology Lab (BIO 395L), University of Dayton, OH
- 2009-2012 Ecology Lab (BIO 310L), University of Dayton, OH

MENTORING & ADVISING EXPERIENCE:

I have mentored over 100 undergraduate students, 13 high school students, and 5 M.S. students over the last 10 years. A total of 23 undergraduate students and 1 high school student had independent projects. Undergraduate students were volunteers or paid lab and field technicians. Out of these students: 72% were women, and 22% were from underrepresented groups in STEM (*e.g.*, Latino/a, socioeconomic disparity).

Specifically at CSUB, I served as academic adviser to more than 80 undergraduate students (Fall 2020 – Present), have been a research mentor to 35 undergraduate students and 4 M.S. students over the past five years. Five of these students presented at regional and international conferences virtually and in person. Six undergraduate students had independent research projects.

McNeish Lab Graduate Students:

Alexandra Brown, MS, California State University, Bakersfield (2023 – Present)

Isaac Owens, MS, California State University, Bakersfield (2023 – Present)

Jonathan Juarez, MS, California State University, Bakersfield (2022 – Present)

Amy Fetters, MS, California State University, Bakersfield (2018 – 2022)

Graduate Committee Member:

Emily Martin, MS, University of Georgia (2021 – 2022)

Alex Welch, MS, California State University, Bakersfield (2020)

Clair Savage, MS, California State University, Bakersfield (2020 – 2022)

Elizabeth McNamara, MS, California State University, Bakersfield (2020 – 2022)

Maddie Monroe, MS, University of Georgia (2020 – 2022)

Loren Hou, MS, Loyola University Chicago (2018 – 2020)

Mentored Undergraduate and High School students with independent projects:

California State University, Bakersfield:

Mason Christian (2023 – Present) Cattle grazing impacts on stream ecosystems at Tejon Ranch Conservancy

Emily Pantoja (2023 – Present) Landscape features impact microplastic abundance and transport during rain events and stormwater runoff

Natalie Nunez (2022) Plastic and tree leaf degradation in artificial ponds

Kaitlin Macaranas (2019 – 2022) Atmospheric wet deposition of microplastics is impacted by landscape features

Karina Perez (2019 – 2020) Microplastic abundance between lake microhabitats in fresh and saltwater lakes

Dwight Ortiz (2019 – 2020) Locating and identifying microplastics in fish digestive system

Loyola University Chicago:

Aye-Aye Myint and Nils Hoffmann (2017) Watershed land use patterns influence microplastic abundance in major tributaries of Lake Michigan

Randall Cybulski and Homira Wardak (2017) Microplastic abundance varies across river habitats within Lake Michigan Tributaries

Genesis Bustamante and Deeb Omari (2017) Microplastic abundance in fish within Lake Michigan tributaries

Millersville University of Pennsylvania:

Marisa Macchia and Austin Harrison (2018) Land-use effects on a temporal comparison of the presence and abundance of microplastics in riverine systems

**Co-mentored with Dr. John Wallace*

University of Dayton:

- Caitlin Buchheim (2016) Restoration of an invaded riparian zone influences stream macroinvertebrate Biomass
- Lucas Gaynor (2016) Riparian invasion influences seasonal patterns in terrestrial ecosystem subsidies available in headwater streams
- Claudia Garner (2015) *Lonicera maackii* (Amur honeysuckle) riparian invasion impacts aquatic macroinvertebrates biomass in a headwater stream
- Patrick Vrablik (2015) The removal of a riparian forest invader (*Lonicera maackii*) alters macroinvertebrate abundance and community dynamics
- Hannah O'Callaghan (2014) A nutrient analysis on *Lonicera maackii* and its contribution to stream nutrient availability and cycling
- Danielle Theimann (2014) *Lonicera maackii* riparian invasion impacts macroinvertebrate biomass and secondary production in a headwater stream
- Elena Mudrak (2014) The invasive shrub Amur honeysuckle differentially influences the growth of an herbaceous plant
- Elizabeth Gleason (2014) Nutrient leaching patterns of an invasive shrub, Amur Honeysuckle (*Lonicera maackii*), and native Box Elder (*Acer negundo*)
- Ryan Reihart (2014) The impact of the invasive shrub, *Lonicera maackii*, on aquatic macroinvertebrate community structure in a headwater stream
- Courtney Dvorsky (2013) The invasive shrub Amur honeysuckle (*Lonicera maackii*) influences nutrient dynamics in headwater streams
- Eryn Moore (2012) Re-establishing native flora in a streamside forest after removal of the invasive shrub Amur Honeysuckle (*Lonicera maackii*)
- Joe Branner (2011) Ecological restoration of the terrestrial environment can influence aquatic ecosystems: A test using the ubiquitous non-native invasive shrub *Lonicera maackii* (Amur honeysuckle)

University of Kentucky:

- Ellen Kaiser. (2012) The effect of Amur Honeysuckle (*Lonicera maackii*) and other invasive species on stream nutrient fluxes

Altar High School:

- Helen McHenry (2013) The Effect of an invasive shrub on *Brassica rapa* (Field Mustard) growth
- Helen McHenry (2014) The Effect of invasive honeysuckle on plant growth: sterilized vs. microbial leachate

Collaborated/Mentored Masters Student Researchers:

- Loyola University Chicago: Lisa Kim (2016 – 2017), Loren Hou (2017)

Undergraduate and High School Student Research Technicians:

- California State University Bakersfield: John Eusebio, Karina Perez, Dwight Ortiz, Emma Gillian, Kaitlin Macaranas, Dulce Sepulveda, Reina DeLeon, Alyson Gil, Antonio Materio, Alexandra Brown, Natalie Nunez, Magaly Avalos, Wefaq Alshimi, Tagacy Valdez, Emily Pantoja, Adriana Gutierrez, Alissa Montejo, Ashley Osorio, Karla Segura, Lily Dean, Makaila Clay, Samantha Medina Alvarez, Mason Christian, Amber Vail, Justin Lo, Grace Ude, Destiny Carbajal, Jade Dominquez, Andrew Alba, Brook Hinds, Crystal Duran, Mary Lepe, Yessica Lagunas, Araceli Ruiz (All students: 2018 – 2023)

Loyola University Chicago: Anna Vincent, Tony Overheiser, Veronica Lourich, Mia Wrey, Paul Risteca, Sarah Pajek, Daniella Drapatsky, Hailey Chan, Nils Hoffmann, Janet Ross, Stuti Desai, Roma Patel, Rachel Meyer, Naiha Sharma, Amy Fetters, Asad Hasan, Hamza Asim, Wesley Heal, Alejandra Brava, Ricardo Tijerina (All students: 2016 – 2018)

University of Dayton: Meg Maloney, Angela Giaquinto, Eric Borth, Nicholas Kunce, Michael Mingus, Valerie Vlk, Lauren Przybylski, Francis Albanese, Scott Chesla, Ellen Comes, Jessica DeGroot, Kara Dickey, Sarah Frankenberg, Amy Hruska, Charlie Jackson, Grace John, Simon McClung, Kyle McGeary, Alex Neal, Nolan Nicaise, Katie Norris, Maureen O’Neil, Maddey Pineault, Amy Myers, Katheryn Schaber, Lauren Shewhart, Mitchell Stanley, Anastasia Stolz, Grace Willkomm, Taylor Piatoke, Helena Abidin, Carolyn Bender, Taylor Buskey, Mike Ciesa, Kaitlyn Francis, Thomas Himmelmann, Mark Kremer, Marissa Krugh, Steven Lesiecki, Ginny Long, Mahrek Mahilrajan, Sean Mahoney, Tamara Manrique, Peter Pfister, Ian Pritchard, Matt Riccetti, Michael Ruddy, Brandon Salas, Mark Stypula, Hibba Sumra, Alaina Turner, Elizabeth Wetzel, Jack Farely, Lea Dolimier, Corey Kumineca, Mary Pangalangan, Hannah Smith, Caitlyn Stimson, Mackenzie Ryan, Peter Evens, Kiersten Angelos, Joseph Murphy, Celia Montemurri (All students: 2010 – 2016)

Senn High School: Aamna Siddiqui, Brandon Cifuentes (All students: 2016-2017)

California State University, Bakersfield REVS UP High School Program: Sarah Salam, Monica Hernandez, Charisma Arreola, Rasneet Grewal, Earl Barrovillo, Estelle Anquintero, Valerie Garcia, Hser Moo, Hedar Meija, Vanessa Chuang (All students: 2019)

PROFESSIONAL PRESENTATIONS:

(" undergraduate, ^s graduate, or ^hhigh school student):

Invited Research Seminars (12):

1. **McNeish RE** (2023) Talking trash: Applying ecological concepts to investigate anthropogenic litter and microplastics in the environment. *Illinois-Indiana Sea Grant – Emerging Contaminants in the Environment Conference*. *Featured Invited Speaker
2. **McNeish RE** (2023) Applying ecological concepts to investigate anthropogenic litter and microplastics. *Symposium on Urbanization and Stream Ecology – Virtual Speaker Series*. *Invited seminar
3. **McNeish RE** (2022) Talking trash: Anthropogenic activities and environmental conditions affect plastic pollution abundance, distribution, and fate. *Sierra Club – Buena Vista Chapter, Bakersfield, CA* *Invited seminar
4. **McNeish RE** (2022) Talking Trash: Human activities and environmental conditions affect plastic pollution abundance, distribution, and fate. *Buena Vista Museum, Bakersfield, CA* *Invited seminar
5. **McNeish RE**, LH Kim^s, SA Mason, JJ Kelly, TJ Hoellein (2019) Riverine microplastic: Connections with land-use effects and species traits. *California State University, Bakersfield, CA* *Invited seminar
6. **McNeish RE**, LH Kim^s, SA Mason, JJ Kelly, TJ Hoellein (2019) McNeish RE (2019) Riverine microplastic: Land-use effects and interactions with fish. *Sierra Club – Buena Vista Chapter, Bakersfield, CA* *Invited seminar
7. **McNeish RE**, LH Kim^s, SA Mason, JJ Kelly, TJ Hoellein (2019) Riverine microplastic: Connections with land-use effects and species traits. *Miami University, Oxford, OH* *Invited seminar

8. **McNeish RE**, LH Kim^s, HA Barrett^u, SA Mason, JJ Kelly, TJ Hoellein (2017) Riverine microplastic export: Land-use effects and interactions with fish. *Millersville University, PA*.
*Invited seminar
9. **McNeish RE**, LH Kim^s, HA Barrett^u, SA Mason, JJ Kelly, TJ Hoellein (2017) Riverine microplastic export: Land-use effects and interactions with fish. *Wright State University, OH*.
*Invited seminar
10. **McNeish RE**, LH Kim^s, HA Barrett^u, SA Mason, JJ Kelly, TJ Hoellein (2017) Riverine microplastic export: Land-use effects and interactions with fish. *University of Dayton, OH*.
*Invited seminar
11. **McNeish RE**, ME Benbow, RW McEwan (2016) Terrestrial-aquatic linkages: Riparian management of an invasive honeysuckle shrub impacts aquatic ecosystems and biota. *Loyola University Chicago Biology Seminar*. Chicago, IL
*Invited seminar
12. **McNeish RE**, ME Benbow, RW McEwan (2016) Ecosystem connections: The riparian invasive shrub *Lonicera maackii* alters ecosystem subsidies and aquatic functional diversity. *University of Cincinnati – Blue Ash College Biology Seminar*. Cincinnati, OH
*Invited seminar

Research Conference Oral Presentations (38):

1. **McNeish RE**, AK Fetters (2023) Terrestrial-aquatic connections: Plastic and tree leaf litter degradation and impacts on macroinvertebrate communities. *Ecological Society of America*. Portland, OR.
2. Brown L^s, **RE McNeish** (2023) Anthropogenic Pollution: Microplastic seasonal patterns in rivers and wastewater effluent. *CSUB Sustainability Symposium*. Bakersfield, CA
3. Juarez, J^s, **RE McNeish** (2023) Terrestrial-aquatic connections: Differential leaf litter decomposition and impacts on freshwater macroinvertebrate communities between invasive and native plant species. *CSUB Student Research Competition Symposium*. Bakersfield, CA
4. **McNeish RE**, TJ Hoellein (2022) Anthropogenic Subsidies: Applying ecological concepts to investigate anthropogenic litter in the environment. *Society for Freshwater Science*. Grand Rapids, MI.
5. Fetters AK^s, **RE McNeish** (2022) Spatial variation of riverine anthropogenic litter and microplastics is connected to bridges and debris dams. *Society for Freshwater Science*. Grand Rapids, MI
6. Martin, E^s, M Monroe^s, **RE McNeish**, S Golladay, K Capps (2022) Spatial and Temporal Variation of Surface Water Microplastics in a Rural Georgia Watershed. *Society for Freshwater Science*. Grand Rapids, MI
7. Macaranas K^u, AK Fetters^s, **RE McNeish** (2022) Landscape features and atmospheric conditions alter microplastic and nutrient depositional patterns. *Society for Freshwater Science*. Grand Rapids, MI.
8. Fetters AK^s, **RE McNeish** (2022) Natural and plastic leaf degradation in aquatic and terrestrial habitats. *CSU Student Research Competition*. Virtual Conference.
9. **McNeish RE**, M Achettu, LH Kimm, JJ Kelly, TJ Hoellein (2021) Riverine microplastic: Seasonal patterns, land-use effects, and interactions with fish. *Society for Freshwater Science*. Virtual Conference.

10. Fetters AK[§], **RE McNeish** (2021) Riverine litter: Bridges impact the abundance and distribution of anthropogenic litter and microplastics in an intermittent river. *Society for Freshwater Science*. Virtual Conference.
11. Fetters AK*, **RE McNeish** (2021) Effect of anthropogenic structures on the abundance and distribution of anthropogenic litter and microplastics in an intermittent river. *CSU Student Research Competition*. Virtual Conference.
12. Fetters AK[§], **RE McNeish** (2020) Riverine litter: Bridges impact the abundance and distribution of anthropogenic litter and microplastics in an intermittent river. *CSU COAST*. Virtual Conference.
13. Hou L[§], TJ Hoellein, **RE McNeish** (2019) Microplastic in aquatic food webs: Museum specimens and ingestion experiments reveal controls on microplastic ingestion by freshwater fish. *Society for Freshwater Science*. Salt Lake City, UT
14. Kim LH[§], ST Dunn, **RE McNeish**, JJ Kelly, ME Berg, TH Hoellein (2019) Anthropogenic litter in urban streams: Spatial distribution of plastic and its role in leaf litter breakdown. *Society for Freshwater Science*. Salt Lake City, UT
15. **McNeish RE**, LH Kim[§], SA Mason, JJ Kelly, TJ Hoellein (2019) Riverine microplastic: Land-use effects and interactions with fish. *Society for Freshwater Science*. Salt Lake City, UT
16. **McNeish RE**, LH Kim[§], SA Mason, JJ Kelly, TJ Hoellein (2019) McNeish RE (2019) Riverine microplastic: Land-use effects and interactions with fish. *California State University COAST, Long Beach, CA*
17. **McNeish RE**, LH Kim[§], HA Barrett^u, SA Mason, JJ Kelly, TJ Hoellein (2018) Riverine microplastic export: Land-use effects and interactions with fish. *Society for Freshwater Science*. Detroit, MI
18. Hoellein, TL, **RE McNeish**, S Dunn, LH Kim[§], A Vincent[§], L Hou[§], E Berg[§], JJ Kelly (2018) Plastic litter in freshwaters: Abundance, movement, and biological interactions. *Society for Freshwater Science*. Detroit, MI
19. **McNeish RE**, TJ Hoellein, SA Mason, and JJ Kelly (2017) Sources of microplastic contamination in Lake Michigan and interactions with aquatic biota. *Society for Freshwater Science*. Raleigh, NC
20. **McNeish RE**, SA Mason, TJ Hoellein, and JJ Kelly (2017) Sources of microplastic contamination in Lake Michigan and interactions with aquatic biota. *International Association for Great Lakes Research*. Detroit, MI
21. **McNeish RE**, ME Benbow, RW McEwan (2016) Terrestrial-aquatic connections: a riparian invasive shrub alters ecosystem subsidies and aquatic functional diversity. *Society for Freshwater Science*. Sacramento, CA
22. **McNeish RE**, ME Benbow, RW McEwan (2016) Terrestrial-aquatic connections: a riparian invasive shrub alters ecosystem subsidies and aquatic functional diversity. *The Midwest Ecology and Evolution Conference*. Oxford, OH
23. **McNeish RE**, EM Moore^u, ME Benbow, RW McEwan (2015) Removal of the invasive shrub, *Lonicera maackii*, from riparian forests influences headwater stream biota and ecosystem function. *The Ecological Society of America*. Baltimore, MD

24. **McNeish RE**, EM Moore^u, ME Benbow, RW McEwan (2015) Removal of the invasive shrub *Lonicera maackii* from riparian forests influences headwater stream biota and ecosystem function. *The Society for Freshwater Science*. Milwaukee, WI
25. **McNeish RE**, EM Moore^u, ME Benbow, RW McEwan (2015) Removal of the invasive shrub *Lonicera maackii* from riparian forests influences headwater stream biota and ecosystem function. *University of Dayton Annual Stander Symposium*. Dayton, OH
26. **McNeish RE**, EM Moore^u, ME Benbow, RW McEwan (2015) Removal of the invasive shrub *Lonicera maackii* from riparian forests influences headwater stream biota and ecosystem function. *The Midwest Ecology and Evolution Conference*, Indiana University – Bloomington, IN.
27. **McNeish RE**, EM Moore^u, ME Benbow, RW McEwan (2014) Cross-system subsidy changes associated with the removal of a riparian forest invader (*Lonicera maackii*) alter ecosystem processes and macroinvertebrate dynamics. *Natural Areas Conference*, Dayton OH.
28. **McNeish RE**, EM Moore^u, ME Benbow, RW McEwan (2014) Cross-system subsidy changes associated with the removal of a riparian forest invader (*Lonicera maackii*) alter ecosystem processes and macroinvertebrate dynamics. Joint Aquatic Science Meeting – *The Society for Freshwater Science* 30(2). Portland, OR
29. **McNeish RE**, EM Moore^u, ME Benbow, RW McEwan (2014) Riparian zone invasion of Amur honeysuckle alters headwater stream biota and ecosystem function. *University of Dayton Annual Stander Symposium*. Dayton, OH
30. **McNeish RE**, EM Moore^u, ME Benbow, RW McEwan (2014) Riparian zone invasion of Amur honeysuckle alters headwater stream biota and ecosystem function. *Midwest Ecology and Evolution Conference*, University of Dayton – Dayton, OH
31. McEwan, RW, **RE McNeish** and ME Benbow. 2013. Cross-habitat and cross-kingdom biodiversity effects: Riparian forest invasion by *Lonicera maackii* regulates aquatic macroinvertebrate and microbial communities. *Ecological Society of America Annual Meeting*, Minneapolis, MN
32. **McNeish RE**, EM Moore^u, ME Benbow, RW McEwan (2013) Riparian zone invasion of Amur honeysuckle alters headwater stream biota and ecosystem function. *North Central Weed Science Society*, Columbus, OH.
33. **McNeish RE**, RW McEwan, ME Benbow. (2013) Shifts in cross-system subsidies associated with riparian forest invasion alters aquatic ecosystem function. *Society for Freshwater Science*. Jacksonville, FL
34. **McNeish RE**, ME Benbow, RW McEwan (2013) A riparian forest invader alters cross-system subsidies that change ecosystem processes. *The Midwest Ecology and Evolution Conference*, University of Notre Dame – Notre Dame, IN
35. **McNeish RE**, RW McEwan, ME Benbow. (2012) Riparian invasion effects on terrestrial-aquatic linkages: Insights from a riparian restoration experiment. *The Society for Freshwater Science*. Louisville, KY
36. **McNeish RE**, ME Benbow, RW McEwan (2012) Riparian forest invasion by a terrestrial shrub (*Lonicera maackii*) impacts aquatic organic matter processing and biota in headwater streams. *The University of Kentucky Center for Ecology, Evolution, and Behavior Spring Research Symposium*. Lexington, KY

37. **McNeish RE**, ME Benbow, RW McEwan (2012) Riparian forest invasion by a terrestrial shrub (*Lonicera maackii*) impacts aquatic organic matter processing and biota in headwater streams. *University of Dayton Annual Stander Symposium*. Dayton, OH
38. **Barker¹ RE**, ME Benbow, RW McEwan (2011) Linkages between Terrestrial and Aquatic Communities: The Invasive Shrub *Lonicera maackii* Influences Ecosystem Processes and Macroinvertebrate Colonization. *University of Dayton Annual Stander Symposium*. Dayton, OH

Research Conference Poster Presentations (16):

1. Brown AJ[§], **RE McNeish** (2023) Anthropogenic Pollution: Microplastic seasonal patterns in rivers and wastewater effluent. *Ecological Society of America*. Portland, OR
2. Juarez, JJ[§], **RE McNeish** (2023) Terrestrial-Aquatic Connections: Invasive *Ailanthus altissima* leaf decomposition in freshwater ecosystems and impacts on macroinvertebrate communities. *Ecological Society of America*. Portland, OR
3. Fetters AK[§], **RE McNeish** (2022) Bridges and debris dams effect the spatial variation of anthropogenic litter in the Kern River, CA. *CSUB Sustainability Symposium*. Bakersfield, CA
4. Fetters AK[§], **RE McNeish** (2020) Anthropogenic structures effect anthropogenic litter and microplastic distribution in an intermittent river. *Society for Freshwater Science*. Virtual Conference
5. Risteca, P[§], K Rogers, **RE McNeish**, LH Kim[§], TJ Hoellein, JJ Kelly (2019) Variations in riverine microplastic abundance and associated microbiomes with watershed land-use. *Society for Freshwater Science*. Salt Lake City, UT
6. Hou L[§], **RE McNeish**, TJ Hoellein (2018) Microplastic in aquatic food webs: Museum specimens and ingestion experiments reveal controls on microplastic ingestion by freshwater fish. *Society for Freshwater Science*. Detroit, MI
7. Turner BCR[§], LH Kim[§], **RE McNeish**, P Risteca^u, TJ Hoellein, JJ Kelly (2017) Impacts of wastewater disinfection on bacterial biofilms colonizing microplastic particles in an urban stream. *Society for Freshwater Science*. Raleigh, NC
8. LH Kim[§], **RE McNeish**, TJ Joellein, JJ Kelly (2017) Microplastic composition and abundance in Lake Michigan tributaries. *Loyola University Chicago Research Symposium*. Chicago, IL
9. **McNeish RE**, LH Kim[§], SA Mason, BCR Turner[§], TJ Hoellein, and JJ Kelly (2016) Identifying sources of microplastic contamination in Lake Michigan. *Illinois Water Conference*. Urbana-Champaign, IL
10. **McNeish RE**, ME Benbow, McEwan, RW (2016) Terrestrial-aquatic connections: The riparian invasive shrub *Lonicera maackii* alters ecosystem subsidies and drives shifts in aquatic biota and ecosystem processes. *The Ohio Invasive Plant Council*. Columbus, OH
11. McEwan, RW, ME Benbow, KW Custer, **RE McNeish** (2016) A mechanistic framework for cross-habitat bottom-up effects of the invasive terrestrial shrub *Lonicera maackii* on the biology of headwater streams. *The Ecological Society of America*. Baltimore, MD
12. **McNeish RE**, ME Benbow, RW McEwan (2013) A riparian forest invader alters cross-system subsidies that change ecosystem processes. *University of Dayton Annual Stander Symposium*. Dayton, OH

¹ Court ordered name changed to McNeish in 2011

13. **Barker RE**, RW McEwan, ME Benbow (2011) Restoration of a riparian zone heavily invaded by *Lonicera maackii* alters allochthonous inputs and in-stream organic matter processing. *The North American Benthological Society of America*. Providence, RI
14. **Barker RE**, TB Blair^u, ME Shoda, RW McEwan, ME Benbow (2010) Invasive species (*Lonicera maackii*) effects on terrestrial and aquatic linkages through organic matter processing and macroinvertebrate community colonization and survivorship. *Ecological Society of America*. Pittsburgh, PA.
15. **Barker RE**, TB Blair^u, ME Benbow, RW McEwan (2010) Linkages between terrestrial and aquatic communities: The invasive shrub *Lonicera maackii* influences leaf breakdown rates and macroinvertebrate colonization. *The North American Benthological Society of America*. Santa Fe, NM
16. **Barker RE**, JR Wallace (2009) Invasive ecology: Can the feeding on a non-indigenous plant influence the invasion success of a non-indigenous crayfish? *The North American Benthological Society of America*. Grand Rapids, MI

Mentored Undergraduate and High School Student Research Presentations (51):

1. Pantoja, E^u, **RE M^cNeish** (2023) Landscape features impact microplastic and nutrient patterns in seasonal wet deposition events and stormwater runoff
2. Alba, AP^u, Y Lagunas^u, JJ Juarez^s, **RE M^cNeish** (2023) Terrestrial-Aquatic Connections: A riparian invasive plant impacts aquatic macroinvertebrates and ecosystem processes. *California State University, Bakersfield Summer Undergraduate Research Program Symposium*. Poster Presentation.
3. Hinds, BM^u, MG Lepe^u, AJ Brown^s, **RE M^cNeish** (2023) Microplastic patterns in stormwater runoff from CSUB buildings. *California State University, Bakersfield Summer Undergraduate Research Program Symposium*. Poster Presentation.
4. Ruiz-Vasquez, A^u, C Duran^u, J Lo^u, I Owens^s, **RE M^cNeish** (2023) Terrestrial-Aquatic Connections: Cattle grazing effects on stream ecosystems and aquatic macroinvertebrates. *California State University, Bakersfield Summer Undergraduate Research Program Symposium*. Poster Presentation.
5. Juarez J^s, M Caly^u, L Dea^u, E Pantoja^u, K Segura^u, and **RE M^cNeish** (2022) The effect of plastic pollution on macroinvertebrate communities in a freshwater pond. *California State University, Bakersfield Summer Undergraduate Research Program Symposium*. Virtual Conference. Oral Presentation.
6. Nunez N^u, W Alshami^u, S Medina Alvarez^u, A Osorio^u, A Montejo^u, and **RE M^cNeish** (2022) Microplastic abundance patterns in Monterey Bay, CA rivers and wastewater effluent. *California State University, Bakersfield Summer Undergraduate Research Program Symposium*. Virtual Conference. Oral Presentation.
7. Macaranas K^u, AK Fetters^s, **RE M^cNeish** (2021) Landscape features impact atmospheric deposition of microplastics. *Society for Freshwater Science*. Virtual Conference. Poster Presentation.
8. Macaranas K^u, AK Fetters^s, **RE M^cNeish** (2020) Atmospheric deposition of microplastic and nutrients is impacted by landscape features. *ASLO-SFS Joint Meeting*. Virtual Conference. *Won best undergraduate research poster award in the general category
9. Karina Perez^u, **RE M^cNeish** (2020) Microplastic abundance on produce. *California State University, Bakersfield Student Research Competition*, Bakersfield, CA

10. Dwight Ortiz^u, **RE M^cNeish** (2020) Locating and identifying microplastics in fish digestive system. *California State University, Bakersfield Student Research Competition*, Bakersfield, CA
11. Macchia M^u, A Harrison^u, **RE M^cNeish**, J Jackson and J Wallace (2019) Land-use effects on a temporal comparison of the presence and abundance of microplastics in riverine systems. *Society for Freshwater Science*. Salt Lake City, UT
12. Macchia M^u, A Harrison^u, **RE M^cNeish**, J Jackson and J Wallace (2019) Land-use effects on the abundance and diversity of microplastics in riverine systems. *Commonwealth of Pennsylvania University Biologists Annual Conference*, Edinboro University, Edinboro, PA
13. Garroville E^h, E Anquintero^h, V Garcia^h, K Perez^u, **RE M^cNeish** (2019) Water quality patterns of freshwater habitats on California State University, Bakersfield's campus. *California State University, Bakersfield REVS UP*, Bakersfield, CA
14. Grewal, R^h, M Hernandez^h, S Salam^h, C Arreola^h, K Perez^u, **RE M^cNeish** (2019) Microplastic abundance in California State University, Bakersfield pond microhabitats. *California State University, Bakersfield REVS UP*, Bakersfield, CA
15. Chung, V^h, H Moo^h, H Mejia^h, K Perez^u, **RE M^cNeish** (2019) Aquatic macroinvertebrates and wildlife diversity is impacted by different freshwater habitats. *California State University, Bakersfield REVS UP*, Bakersfield, CA
16. Achettu, M^u, **RE M^cNeish**, TJ Hoellein, JJ Kelly (2018) Microplastic abundance in riverine fish along a land-use gradient. *Society for Freshwater Science*. Detroit, MI
17. Omari, D^u, H Wardak^u, H Asim^u, **RE M^cNeish**, JJ Kelly, TJ Hoellein. (2018) The effect of land-use on microplastic abundance in riverine sediment. *Loyola University Chicago Research Symposium*. Chicago, IL
18. Sharma, N^u, R Tijerina^u, **RE M^cNeish**, JJ Kelly, TJ Hoellein (2018) Microplastic in rivers and headwater streams. *Loyola University Chicago Research Symposium*. Chicago, IL
19. Meyer, RE^u, SP Desai^u, **RE M^cNeish**, JJ Kelly, TJ Hoellein (2018) Seasonal and land-use effects on riverine microplastic concentration. *Loyola University Chicago Research Symposium*. Chicago, IL
20. Achettu, M^u, J Ross^u, TA Siddiqui^u, **RE M^cNeish**, TJ Hoellein, JJ Kelly (2018) Microplastic abundance in riverine fish along a land-use gradient. *Loyola University Chicago Research Symposium*. Chicago, IL
21. Myint, AA^u, N Hoffmann^u, **RE M^cNeish**, JJ Kelly, TJ Hoellein (2017) Watershed land-use patterns influence microplastic abundance in major tributaries of Lake Michigan. *Loyola University Chicago Research Symposium*. Chicago, IL
22. Bustamante G^u, D Omari^u, **RE M^cNeish**, JJ Kelly, TJ Hoellein (2017) Microplastic in fish differs across functional feeding groups. *Loyola University Chicago Research Symposium*. Chicago, IL
23. Cybulski RA^u, HM Wardak^u, **RE M^cNeish**, JJ Kelly, TJ Hoellein (2017) Microplastic abundance varies across river habitats. *Loyola University Chicago Research Symposium*. Chicago, IL
24. Buchheim CM^u, **RE M^cNeish**, ME Benbow, RW McEwan (2016) Restoration of an invaded riparian zone influences stream macroinvertebrate biomass. *University of Dayton Annual Stander Symposium*. Dayton, OH

25. Lucas G^u, **RE McNeish**, RW McEwan (2016) Riparian invasion of Amur honeysuckle (*Lonicera maackii*) influences leaf litter availability in headwater streams. *University of Dayton Annual Stander Symposium*. Dayton, OH
26. Eisle, SN^u, **RE McNeish**, RW McEwan (2016) *Lonicera maackii* alters terrestrial-aquatic nutrients fluxes by modifying throughfall chemistry. *The Midwest Ecology and Evolution Conference*. Oxford, OH
27. Buchheim, CM^u, **RE McNeish**, ME Benbow, RW McEwan (2016) Restoration of an invaded riparian zone influences stream macroinvertebrate biomass. *The Midwest Ecology and Evolution Conference*. Oxford, OH
28. Eisle, SN^u, **RE McNeish**, RW McEwan (2016) *Lonicera maackii* alters terrestrial-aquatic nutrients fluxes by modifying throughfall chemistry. *The Ohio Invasive Plant Council*. Columbus, OH
29. Buchheim, CM^u, **RE McNeish**, ME Benbow, RW McEwan (2016) Restoration of an invaded riparian zone influences stream macroinvertebrate biomass. *The Ohio Invasive Plant Council*. Columbus, OH
30. Vrablik, PM^u, **RE McNeish**, ME Benbow, RW McEwan (2015) The removal of a riparian forest invader (*Lonicera maackii*) alters macroinvertebrate abundance and dynamics. *The Society for Freshwater Science*. Milwaukee, WI
31. Garner CM^u, **RE McNeish**, ME Benbow, RW McEwan (2015) *Lonicera maackii* (Amur honeysuckle) riparian invasion impacts aquatic macroinvertebrates biomass in a headwater stream. *The Society for Freshwater Science*. Milwaukee, WI
32. Shade, CA^u, **RE McNeish**, RW McEwan (2015) Investigation of the impacts from *Lonicera maackii* riparian forests on plant organic matter availability in headwater streams. *University of Dayton Annual Stander Symposium*. Dayton, OH
33. O'Callaghan, HL^u, **RE McNeish**, RW McEwan (2015) A nutrient analysis on *Lonicera maackii* and its contribution to stream nutrient availability and cycling *University of Dayton Annual Stander Symposium*. Dayton, OH
34. Garner CM^u, **RE McNeish**, ME Benbow, RW McEwan (2015) *Lonicera maackii* riparian invasion effects aquatic macroinvertebrates biomass and secondary production in a headwater stream. *University of Dayton Annual Stander Symposium*. Dayton, OH
35. Vrablik, PM^u, **RE McNeish**, ME Benbow, RW McEwan (2015) The removal of a riparian forest invader (*Lonicera maackii*) alters macroinvertebrate abundance and dynamics. *University of Dayton Annual Stander Symposium*. Dayton, OH
36. Garner CM^u, **RE McNeish**, ME Benbow, RW McEwan (2015) *Lonicera maackii* riparian invasion effects aquatic macroinvertebrates biomass and secondary production in a headwater stream. *The Midwest Ecology and Evolution Conference*, Indiana University – Bloomington, IN
37. Dvorsky CL^u, **RE McNeish**, RW McEwan (2014) The invasive shrub Amur honeysuckle (*Lonicera maackii*) influences nutrient dynamics in headwater streams. *University of Dayton Annual Stander Symposium*. Dayton, OH
38. Theimann D^u, **RE McNeish**, RW McEwan (2014) *Lonicera maackii* riparian invasion impacts macroinvertebrate biomass and secondary production in a headwater stream. *University of Dayton Annual Stander Symposium*. Dayton, OH

39. Mudrak EM^u, **RE M^cNeish**, RW McEwan (2014) The invasive shrub Amur honeysuckle differentially influences the growth of an herbaceous plant. *University of Dayton Annual Stander Symposium*. Dayton, OH
40. Gleason L^u, **RE M^cNeish**, RW McEwan (2014) Nutrient leaching patterns of invasive an shrub, Amur Honeysuckle (*Lonicera maackii*), and native Box Elder (*Acer negundo*). *University of Dayton Annual Stander Symposium*. Dayton, OH
41. Reihart RW^u, **RE M^cNeish**, RW McEwan (2014) The impact of the invasive shrub, *Lonicera maackii*, on aquatic macroinvertebrate community structure in a headwater stream. *University of Dayton Annual Stander Symposium*. Dayton, OH
42. Dvorsky CL^u, **RE M^cNeish**, RW McEwan (2014) The invasive shrub Amur honeysuckle (*Lonicera maackii*) influences nutrient dynamics in headwater streams. *Midwest Ecology and Evolution Conference*. University of Dayton – Dayton, OH.
43. Theimann D^u, **RE M^cNeish**, RW McEwan (2014) *Lonicera maackii* riparian invasion impacts macroinvertebrate biomass and secondary production in a headwater stream. *Midwest Ecology and Evolution Conference*. University of Dayton – Dayton, OH
44. Mudrak EM^u, **RE M^cNeish**, RW McEwan (2014) The invasive shrub Amur honeysuckle differentially influences the growth of an herbaceous plant. *Midwest Ecology and Evolution Conference*. University of Dayton – Dayton, OH
45. Gleason L^u, **RE M^cNeish**, RW McEwan (2014) Nutrient leaching patterns of invasive an shrub, Amur Honeysuckle (*Lonicera maackii*), and native Box Elder (*Acer negundo*). *Midwest Ecology and Evolution Conference*. University of Dayton – Dayton, OH
46. Reihart RW^u, **RE M^cNeish**, RW McEwan (2014) The impact of the invasive shrub, *Lonicera maackii*, on aquatic macroinvertebrate community structure in a headwater stream. *Midwest Ecology and Evolution Conference*. University of Dayton – Dayton, OH
47. Dvorsky CL^u, **RE M^cNeish**, RW McEwan (2013) The invasive shrub Amur honeysuckle (*Lonicera maackii*) influences nutrient dynamics in headwater streams. *Women's Science Conference*. Cincinnati OH.
48. Dvorsky, CL^u, **RE M^cNeish**, RW McEwan (2013) The invasive shrub Amur honeysuckle (*Lonicera maackii*) influences nutrient dynamics in headwater streams. *University of Dayton Annual Stander Symposium*. Dayton, OH
49. Moore E^u, RW McEwan, **RE M^cNeish** (2012) Re-establishing native flora in a streamside forest after removal of the invasive shrub Amur Honeysuckle (*Lonicera maackii*). *University of Dayton Annual Stander Symposium*. Dayton, OH
50. Branner J^u, **RE Barker**, ME Benbow, RW McEwan (2011) Ecological restoration of the terrestrial environment can influence aquatic ecosystems: A test using the ubiquitous non-native invasive shrub *Lonicera maackii* (Amur honeysuckle). *University of Dayton Annual Stander Symposium*. Dayton, OH
51. Blair TB^u, ME Shoda, **RE Barker**, RW McEwan, ME Benbow (2010) Differential effects of introduced and native tree species leachate on stream insects *The North American Benthological Society of America*. Santa Fe, NM

AWARDS AND RECOGNITION:

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| 2016 | John Comer Graduate Ecological Research Award |
| 2016 | Ph.D. in Biology Graduate Student Showcase Award |

- 2012 Gerald Willis Award for Excellence in Teaching Advanced Biology Laboratory Classes
- 2011 John Comer Graduate Ecological Research Award
- 2011 Gerald Willis Award for Excellence in Teaching Introductory Biology Laboratory Classes

PROFESSIONAL SERVICE AND OUTREACH:

- 2023 Invited participant to the internationally attended microplastic workshop hosted by the International Joint Commission to contribute to developing the microplastic monitoring program for the North American Great Lakes.
- 2023 Invited participant to collaborate with a team of scientists to develop field methods for the State of California for studying microplastic presence in aquatic animals.
- 2023 Co-Organized trash cleanup event with Bring Back the Kern, local grassroots organization.
- 2023 Invited participant to the internationally attended microplastic workshop hosted by the Southern California Water Research Authority to contribute to developing the next steps in microplastic research for the State of California.
- 2022 McNeish lab participated in the local Bring Back the Kern River Cleanup
- 2021 Participant in the LGBTQ+ Inclusive Teaching Summit. The summit helped educators explore methods for including LGBTQ+ issues in the curriculum to foster a sense of community and inclusiveness for students who identify as LGBTQ+.
- 2020 Participant in the Title Vb: Graduate Student-Faculty Collaborative Research Program, which encourages faculty-student collaboration for a proposed research topic
- 2020 Virtual Microplastics Workshop. Hosted by the Tennessee Aquarium and Tennessee Technological University Resources Center. Expert panelist for microplastic methods discussion and training.
- 2020 Scientific Expert for “Banquet of the Beasts” documentary on animal decomposition filmed by the German Marco Polo production company
- 2019 Judge for student research posters as the Society for Freshwater Science Annual Meeting
- 2019 Science Bowl volunteer timekeeper held at CSUB
- 2018 CSUB Biology faculty representative to the Bakersfield, CA Sierra Club with the goal of educating the community on the research and potential collaboration opportunities with CSUB Biology faculty.
- 2018 Girls Empowered by Math & Science (GEMS) Conference. Chicago, IL. Conducted a plastic pollution workshop with 5th – 8th grade students as part of the Women in Science initiative.
- 2017 Chicago River Cleanup. Chicago, IL. Worked with the TODO organization as part of a citizen science project to assess anthropogenic litter in the Chicago River summer and autumn of 2017.

- 2017 Honest Conversations with Real Scientists. Chicago, IL. Served as a science panelist to discuss plastic pollution in the environment with local Chicago residents.
- 2017 Are you eating your fleece? ABC Channel 7 News Chicago. Interview on microplastic research in rivers and fish. <http://abc7chicago.com/news/are-you-eating-your-fleece/1969996/>
- 2017 Girls Empowered by Math & Science (GEMS) Conference. Chicago, IL. Conducted a plastic pollution workshop with 5th – 8th grade female students as part of the Women in Science initiative.
- 2017 Science Night at the Museum. Grand Rapids, MI. Plastic pollution demonstration and discussion with the public about research on plastic pollution in rivers.
- 2016 The Great Lakes eXXpedition. Charlevoix, MI. Microplastic education instructor and scientist on Inland Seas Research Vessel for the simultaneous sampling of microplastic across the Great Lakes, USA and Canada.
- 2014 Assistant to the Program Chair, Natural Areas Conference, Dayton, OH
- 2014 Moderated the Invasive Species session, Natural Areas Conference, Dayton, OH
- 2014 Judged student research posters, Natural Areas Conference, Dayton, OH
- 2014 Moderated the Aquatic Ecology session, MEEC, Dayton, OH
- 2013 – 2014 Co-coordinated the 2014 Midwest Ecology and Evolution Conference (MEEC) hosted by University of Dayton, OH
- 2013 Co-hosted invited biology seminar speaker Dr. Michelle Evans-White, University of Dayton, OH
- 2013 EcoChat Seminar Series. Centerville, OH. Generated discussion with local residents and land owners about the importance of riparian zones for rivers.

Journal Reviewer: *Advances in Ecology, American Midland Naturalist, Analytical Methods, Applied Spectroscopy, Aquatic Sciences, Biological Invasions, Ecological Applications, Forests, Freshwater Science, Journal of Great Lakes Research, Limnology and Oceanography Letters, Microbial Ecology, Torrey Botanical Society, Urban Naturalist, Water Research*

Grant Reviewer: *Legislative-Citizen Commission on Minnesota Resources, Wisconsin Sea Grant, CSU Council on Ocean Affairs, Science, & Technology (CSU COAST), Graduate Women in Science, South Carolina Sea Grant*

State Agency Policy Reviewer: *California State Water Resources Control Board (Expert for the state's legal definition of microplastic particles and methodologies for microplastic extraction and identification)*

CURRENT COLLABORATORS:

Local Bakersfield, CA: Hall, Lucas (California State University Bakersfield CA), Keller, Kane (California State University Bakersfield, CA), Coleman, Mitchell (Tejon Ranch Conservancy, CA), Antje Laur (California State University Bakersfield, CA), Buena Vista Sierra Club

Regional: Wong, Charles (Southern California Coastal Water Research Project Authority), Hardin, Dane (Applied Marine Sciences, CA), Senyk, Erika (Applied Marine Sciences, CA), Leah Thornton Hampton (Southern California Coastal Water Research Project Authority)

Broader USA: Newell, Silvia (Wright State University, OH), McIntosh, Mollie (Xavier University, OH), Hoellein, Timothy (Loyola University Chicago, IL), Wallace, John (Millersville University, PA), Jackson, John (Stroud Water Research Center, PA), Larson, Courtney (US EPA & University of Minnesota – Duluth, MN), Benbow, Eric (Michigan State University, MI)

International: Rochman, Chelsea (University of Toronto, Canada)

SCIENCE SOCIETIES:

- 2009 – Present Society for Freshwater Science (formerly NABS)
**Early Career Development Committee (2019 – Present)*
- 2019 – Present Sigma Xi
- 2010 – Present Ecological Society of America (ESA)

UNIVERSITY, SCHOOL, AND DEPARTMENT SERVICE at CSUB:

- 2022 – Present Department of Biology Graduate Committee
- Elected to the departments graduate committee which supports the graduate director, contributes to departmental graduate student policies, and participates in admissions of new graduate students to the M.S. Biology degree program
- 2022 – Present CSU WATER Faculty Representative
- Part of the interim working group to restructure and develop the new CSU WATER affiliated group
 - Co-organized the CSU WATER conference
 - CSUB campus representative to CSU WATER
- 2020 – Present Faculty Sustainability Committee
- Volunteered participant on a faculty led sustainability initiative at CSUB
 - Collaborate to develop undergraduate sustainability minor while working with the university's sustainability department to develop sustainable practices across campus
 - Co-organized the CSUB annual Sustainability Symposium (2021, 2023)
- 2020 – Present CSU COAST Faculty Representative
- Appointed university representative to the CSU system umbrella organization for marine, coastal, and coastal watershed research
 - Lead the CSU COAST undergraduate research funding program at CSUB
- 2019 – Present CSUB Center for Environmental Studies Board Member
- Dean appointed representative for the School of Natural Sciences, Mathematics, and Engineering to the board that oversees the university's field research station
 - Develop policy, manage resources, and review research proposals for funding
- 2019 CSUB Biology ad-hoc Graduate Catalog and Guide Revision Committee
- Volunteered participant to review the Department of Biology's graduate catalog and policies in collaboration with department colleagues