



Edwards Aquifer Habitat Conservation Plan

Report of the Science Committee Vacancy Work Group

Overview

The Edwards Aquifer Habitat Conservation Plan (EAHCP) Program Adaptive Management Stakeholder Committee (SH) approved creation of the Science Committee Vacancy Work Group at their March 24, 2022, Committee meeting. The work group was created to respond to two vacancies in the Adaptive Management Science Committee (SC). The SC is comprised of members who have technical expertise in the Edwards Aquifer, the Comal or San Marcos springs systems, or the Covered Species (EAHCP Funding and Management Agreement § 7.9). The EAHCP Implementing Committee (IC) and SH select an equal number of members of the SC and select one additional member jointly.

Three members of the SC stepped down in 2021 and 2022 prompting selection of one IC appointed SC member and two SH appointed SC members. Members of the SC that stepped down were Glenn Longley, Jackie Poole, and Doyle Mosier. Glenn Longley is a retired professor from Texas State University with over 50 years of experience who helped to identify many of the program's Covered Species. Jackie Poole is a botanist specializing in Texas wild-rice who retired from the Texas Parks and Wildlife Department (TPWD). Doyle Mosier is a fish biologist retired from the Lower Colorado River Authority and TPWD. Doyle Mosier was appointed by the IC and was replaced with Nathan Bendik at the March 24, 2022, IC meeting. Nathan Bendik is a salamander expert at the City of Austin. Other current members of the SC have expertise in riparian ecology, macroinvertebrates of the spring systems, biological diversity and sustainability, hydrogeology, environmental statistics, and stream ecology.

The SH Chair, Myron Hess, sought recommendations from members beginning in February 2022. Presentations were also made at the April 27, 2022, SC and May 19, 2022, SH meetings where requests were made for member recommendations. A final call for recommendations was made prior to the meeting of the work group, July 1, 2022.

Charge of the Science Committee Vacancy Work Group

The Work Group is charged with reviewing nominations to fill the vacancy, or vacancies, for Stakeholder-Committee-appointed positions on the Science Committee identified during the term of the Work Group and with presenting a recommendation to the Stakeholder Committee for filling each such vacancy. See **Appendix A** Charge of the Science Committee Vacancy Work Group.

Members of the Science Committee Vacancy Work Group

Members of the work group met July 1, 2022, to discuss two nominations submitted for consideration to fill the two SC vacancies. The work group met virtually on Microsoft Teams and operated by consensus. The meeting agenda (**Appendix B**), presentation (**Appendix C**), and meeting minutes (**Appendix D**) are included as referenced. Members of the work group are:

- Colette Barron Bradsby, TPWD and Work Group Chair
- Kimberly Meitzen, Texas State University
- Nathan Pence, Guadeloupe-Blanco River Authority
- Patrick Shriver, San Antonio Water Systems
- James Dodson, City of Victoria

The nominations and a summary of the work group's discussion follows.

Nominations to the Science Committee Vacancy Work Group

The work group received two nominations—Megan Bean, MS and Jason Martina, PhD. Megan Bean is a Senior Scientist and Native Fish Conservation Coordinator with TPWD. See her resume in **Appendix E**. Jason Martina is an Assistant Professor in the Department of Biology at Texas State University. He specializes in aquatic plant biology. See his resume in **Appendix E**.

Discussion of the Science Committee Vacancy Work Group

The work group Chair, Colette Barron Bradsby led the discussion of nominees. Overall members acknowledged the difficulty in finding members to serve on a voluntary basis and were appreciative of the candidates' interest in serving on the Science Committee. Members described what impressed them about the qualifications of both nominees.

Megan Bean's publications, field work, participation on advisory groups, and species experience with fisheries challenged by drought were noted in members' comments about her experience. Jason Martina's academic experience in aquatic vegetation, aquatic invasives, and climate change, as well as his experience on student committees and national research were highlighted. Colette also noted that both nominees work for organizations that support the EAHCP (TPWD and Texas State University) which will support their continued participation.

Recommendations of the Science Committee Vacancy Work Group

The work group recommended, by consensus, both nominations to the Stakeholder Committee—Megan Bean, MS and Jason Martina, PhD.



Appendix A

Science Committee Vacancy Work Group Charge

2022 Science Committee Vacancy Work Group Charge

Background: The Stakeholder Committee and the Implementing Committee each are charged, pursuant to Subsection 7.9.1 of the FMA, with appointing an equal number of members to the Science Committee, with one appointment made jointly. Currently, there is a vacancy, resulting from a resignation, for one of the positions appointed by the Stakeholder Committee. Based on absences, the possibility also exists that another vacancy may develop in the near future.

Work Group Membership:

- **Chair:** Collette Barron-Bradsby
- Kimberly Meitzen
- Nathan Pence
- Patrick Shriver
- James Dodson

Charge: The Work Group is charged with reviewing nominations to fill the vacancy, or vacancies, for Stakeholder-Committee-appointed positions on the Science Committee identified during the term of the Work Group and with presenting a recommendation to the Stakeholder Committee for filling each such vacancy.

Term: The term of membership on the Work Group is initially set to extend until the end of any Stakeholder Committee meeting held on October 13, 2022, but, if the Stakeholder Committee has not taken action to appoint persons to fill all then-vacant Stakeholder-Committee-appointed positions on the Science Committee by the end of that meeting, the term will automatically continue until the end of any Stakeholder Committee meeting held on December 15, 2022.

Procedures: Pursuant to Subsections 8.1 and 8.7 of the Stakeholder Committee Program Operational Rules, the Work Group is authorized to conduct its business and hold meetings, with appropriate notice and opportunity for public input, entirely through virtual communication channels, including, but not limited to, Zoom or Microsoft Teams. For purposes of approving the final text of a Work Group report and/or approving meeting minutes, the Work Group also is authorized to rely solely on email communications or individual conversations, including by phone call, in lieu of a meeting.

Adopted by the EAHCP Stakeholder Committee on March 24, 2022



Appendix B

Science Committee Vacancy Work Group Agenda



**Edwards Aquifer Habitat Conservation Plan
Science Committee Vacancy Work Group
Agenda**

July 1, 2022
Meeting Starts at 1:00PM

- 1) Call to Order.
- 2) Review of the Work Group Charge.
- 3) Discuss nominations to the Science Committee.
- 4) Science Committee Vacancy Work Group approval of final nominations to the Science Committee.
- 5) Discuss Work Group written report and presentation to the Stakeholder Committee.
- 6) Public comment.
- 7) Consider future meetings: Stakeholder Committee Meeting – October 13, 2022.
- 8) Questions.
- 9) Adjourn.



Appendix C

Science Committee Vacancy Work Group Presentation

Edwards Aquifer Habitat Conservation Plan Stakeholder Committee Science Team Vacancy Work Group



**Work Group Meeting
July 1, 2022**

Charge

- The Work Group is charged with reviewing nominations to fill the vacancy, or vacancies, for Stakeholder-Committee-appointed positions on the Science Committee identified during the term of the Work Group and with presenting a recommendation to the Stakeholder Committee for filling each such vacancy.

Term

- The term of membership on the Work Group is initially set to extend until the end of any Stakeholder Committee meeting held on October 13, 2022, but, if the Stakeholder Committee has not taken action to appoint persons to fill all then-vacant Stakeholder-Committee-appointed positions on the Science Committee by the end of that meeting, the term will automatically continue until the end of any Stakeholder Committee meeting held on December 15, 2022.

Procedures

- Pursuant to Subsections 8.1 and 8.7 of the Stakeholder Committee Program Operational Rules, the Work Group is authorized to conduct its business and hold meetings, with appropriate notice and opportunity for public input, entirely through virtual communication channels, including, but not limited to, Zoom or Microsoft Teams. For purposes of approving the final text of a Work Group report and/or approving meeting minutes, the Work Group also is authorized to rely solely on email communications or individual conversations, including by phone call, in lieu of a meeting.

Funding and Management Agreement

- 7.9.1. Membership on the Science Committee.

The Implementing Committee and the Stakeholder Committee will each select an equal number of members of the Science Committee and will coordinate with one another in making selections in order to ensure balance and proper coverage of areas of expertise. The Implementing Committee and the Stakeholder Committee will jointly select one additional member of the Science Committee. In the case of a vacancy on the Science Committee, the committee, or committees, that made the initial appointment for that position will appoint a replacement member.

Funding and Management Agreement

- 7.9.2. Role of the Science Committee.
 - a. consult with, advise and make recommendations to the Program Manager, the Implementing Committee and the Stakeholder Committee on any AMP Decision upon request;
 - b. provide independent and unbiased advice based on their best scientific judgment so that all AMP Decisions will be made consistent with the best scientific and commercial data available; and
 - c. participate in the meetings of the Science Review Panel and provide to the Panel such information as requested by that Panel or the Implementing Committee

Funding and Management Agreement

- 7.9.1.a Invitations to Serve

Any person to which the Implementing Committee or the Stakeholder Committee extends an invitation to be a member of the Science Committee will be requested to respond in writing to the Program Manager within 30 days of the date of the invitation advising of the acceptance of the invitation and to provide the invitee's contact information. If an invitee does not timely respond with acceptance, that invitation will be considered declined and another qualified person will be invited to become a member of the Science Committee in the same manner as for the invitation that was declined.

Factors for Selection

- Expertise of existing Science Committee members
- Upcoming Science Committee tasks
- Ability to provide independent unbiased advice





Appendix D

Science Committee Vacancy Work Group Meeting Minutes



Edwards Aquifer Habitat Conservation Plan Science Committee Vacancy Work Group

Meeting Minutes

July 1, 2022

1) Call to Order.

Chair, Colette Barron Bradsby called the meeting to order at 1:05 p.m. All members were present except Nathan Pence. Nathan provided comments to Colette via email. James Dodson joined the meeting at 1:15 p.m. Work group members include Colette Barron Bradsby, Nathan Pence, James Dodson, Kimberly Meitzen, and Patrick Shriver.

2) Review of the Work Group Charge.

Colette summarized the work group charge to review nominations to fill two vacancies and to present those recommendations to the Stakeholder Committee. The term of the work group is through December 2022 if for some reason the work group is not able to report back to the Stakeholder Committee at its next meeting in October. She described the procedures of the work group to use whatever means suitable to allow public comment at meetings. The work group is otherwise open in the way they want to communicate and conduct their business. The characteristics they are looking for in members was quoted from the Funding Management Agreement's Role of the Science Committee; they are seeking members to "provide independent and unbiased advice based on their best scientific judgement." Members will not be on the Science Committee until they have been formally invited and have accepted that invitation.

3) Discuss nominations to the Science Committee.

Colette then presented the factors for work group members to consider in their selection of nominees. The main factors for selection are to examine them in the context of the expertise of the existing Science Committee members, consider upcoming Science Committee tasks, and their ability to provide independent unbiased advice. She added that the work group members need to face a practical reality that there have been a couple rounds of nomination periods that resulted in two nominations. She acknowledged it is difficult to attract people to positions like those proposed; it is voluntary and on top of their other professional responsibilities.

She then asked if anyone had any questions or comments. There were none.

4) Science Committee Vacancy Work Group approval of final nominations to the Science Committee.

Colette opened the floor for discussion of the nominations in alphabetical order—Megan Bean, MS and Jason Martina, PhD. She noted that members had Megan Bean's CV with her experience, publications, and work experience. (Work group members were also provided with Jason Martina's CV before the meeting.)

Patrick Shriver started the discussion expressing that he liked that she (Megan) had published in her field and indicated that she had found her niche with TPWD. He suggested that Colette may have more to add since they both work at TPWD. Colette said she had only worked briefly with Megan. She did like that Megan has participated in quite a few advisory groups. Those experiences lend well to her participation in the EAHCP Science Committee where members have robust discussions and have to work through decision making. Patrick added that Megan has experience in physical sciences locally.

James Dodson joined the meeting and Colette and Patrick summarized what the group had covered. James then said that he was impressed with the breadth of Megan's field experience. He liked having someone with strong field biology experience.

Colette then reminded folks that the Science Committee had in the past had members from TPWD. She described the institutional value in having a Science Committee member working for TPWD.

Kimberly Meitzen concurred with what had been discussed. She noted Megan's expertise with fishes challenged by drought. In closing the discussion of Megan, Colette echoed what others had said.

Patrick asked to be reminded of the members coming off the committee. Chad Furl reminded members that Jackie Poole and Doyle Mosier had stepped down. He summarized; three members of the Science Committee had stepped down—Glenn Longley, Jackie Poole, and Doyle Mosier. Glenn Longley is a retired professor from Texas State University with over 50 years of experience who helped to identify many of the program's Covered Species. Jackie Poole is a botanist specializing in Texas wild-rice who retired from TPWD. Doyle Mosier is a fish biologist retired from the Lower Colorado River Authority and TPWD. Doyle Mosier was appointed by the Implementing Committee and was replaced with Nathan Bendik at the March 2022, Implementing Committee meeting. Nathan Bendik is a salamander expert at the City of Austin. Current members of the Science Committee have expertise in riparian ecology, macroinvertebrates of the spring systems, biological diversity and sustainability, hydrogeology, environmental statistics, and stream ecology. The remaining areas of expertise Chad was interested in filling were in fisheries and plants.

Colette then turned the discussion to Jason Martina. Kimberly started the discussion with fully supporting his nomination. She indicated that he would bring a lot of expertise because of his experience in aquatic vegetation and aquatic invasives. He also uses a full variety of tools and techniques bringing a lot of advice on adaptive management. She said that she had not worked with him directly but had heard great things about him from colleagues including someone that is actively working with him on grants. He has also served on several committees and is very thoughtful in his reviews of others work and the feedback he provides. Though he hasn't

published work on the Covered Species, she believes his experience will translate well to EAHCP programs.

James expressed his preference for a field biologist but indicated that Jason has the qualifications to fill the position.

Patrick indicated that he really liked his academic experience to support the current phase of the program in that he could support future modeling work. He also mentioned Jason's work on a national level.

Finally, Colette reiterated that his experience with climate change would offer a helpful perspective. She was impressed with his qualifications and had no problems recommending him.

She asked if anyone objected to recommending Jason Martina. There was no response.

She closed the discussion with Nathan's emailed response. He had no objection to either candidate. He thought there was only one vacancy and he liked Dr. Martina's experience in submerged aquatic vegetation.

Colette is comfortable saying from the meeting that the work group had a recommendation to support both candidates.

Kimberly wanted to mention that she reached out to others who could potentially be candidates for future vacancies. She spoke with Jay Banner who has expertise in climate science, climate change and large-scale watershed modeling. He was interested but not able to commit based on his current obligations. There was another suggestion for Ryan McManamey at Baylor. He does a lot of environmental flows work. She wanted to provide this information on these two individuals. She acknowledged that both Jason and Megan had already showed their willingness to serve in their responsiveness to the nomination process.

Colette also noted that it speaks well to their nominations that they both work for organizations that support the EAHCP.

Patrick asked Chad if the nominees meet the needs of the EAHCP moving forward. Chad indicated that they do. The only big gap the group had before going into this process was experience with salamanders. That gap has been filled by Nathan Bendik. Now Chad was hoping to fill the roles of the members that had left—fisheries and plant biology.

5) Discuss Work Group written report and presentation to the Stakeholder Committee.

Colette said she was pleased that the group was able to come to consensus and can recommend both nominations to the Stakeholder Committee. She will be working on the report with Program staff. She will send out the report for folks to review at the end of next week. She also let folks know that she is retiring at the end of July and will not be able to make the presentation to the Stakeholder Committee at their October 13 meeting. Kimberly volunteered to make the presentation to the Stakeholder Committee in October; Patrick and James agreed.

6) Public comment.

Colette offered an opportunity for public comment. Myron Hess thanked the work group members. He said he appreciated the discussion and said he feels good about the candidates they have.

Patrick thanked Colette for her service.

7) Adjourn.

The meeting was adjourned at 1:38 p.m.

Appendix E

Resumes

Megan G. Bean



512-214-3449



5103 Junction Highway
Mountain Home, Texas 78058



megan.bean@tpwd.texas.gov

EDUCATION

2006 - 2008

MASTER OF SCIENCE

Biology at Texas State University - San Marcos

2002 - 2006

BACHELOR OF SCIENCE

Biology, Minor in Chemistry at Texas State University - San Marcos

EXPERIENCE

MARCH 2022 -
PRESENT

Senior Scientist and Native Fish Conservation Coordinator

Texas Parks and Wildlife Department

- Coordinates Native Fish Conservation efforts at TPWD including participation with Species Status Assessments and engagement with USFWS and other partners
- Coordinates the Inland Fisheries State Wildlife Grant Program which addresses research needs for state species of greatest conservation need
- Coordinates Inland Fisheries component of the Texas Conservation Action Plan and updates to state listed and species of greatest conservation need lists

JAN 2012 -
FEBRUARY 2022

Watershed and Conservation Ecologist and Native Fish Conservation Coordinator for the Chihuahuan Desert

Texas Parks and Wildlife Department

- Leads regional and international work teams and collaborative partnerships to implement projects, conduct research and monitoring, and engage in science communication to benefit the aquatic and riparian resources
- Develops and implements watershed conservation projects to provide healthy habitats which benefit the natural resources of the state. Work has been statewide but focus has been on the Chihuahuan Desert and Edwards Plateau ecoregions
- Provides technical guidance to landowners, land managers, and other stakeholders in the identification, design, review, planning, and implementation of habitat restoration and land management projects and strategies
- Manages and ensures projects meet budget, regulatory, permitting, and compliance requirements
- Provides outreach and education to landowners, the public, stakeholders, and other conservation professionals
 - Co-manages the Facebook and Instagram pages for the Texas Rivers and Streams accounts
 - Organizes workshops and technical trainings for landowners, the public, and conservation professionals. Co-hosted professional and landowner workshops after the Oasis Pipeline Fire in Junction, Texas

- Collaborates with TPWD staff, conservation partners, and landowners to establish monitoring protocols and evaluate project effectiveness
- Manages grants and contracts including State Wildlife Grants, Section 6 Grants, National Fish and Wildlife Foundation Grants, TPWD Aquatic Invasive Species Riparian Restoration contracts, Desert Fish Habitat Partnership contracts, Multistate Conservation Grants, TPWD Landowner Incentive Program contracts, and VPA-HIP River Access and Conservation Areas Contracts
- Gives presentations and demonstrations to local landowners, conservation groups, and school groups about natural resource conservation and management
- Assists with the review of Paddling Trail locations and signage
- Develops materials like the Guide to the Sunfish of Texas
- Assists other TPWD with the development and design of outreach and educational material like
 - River Access and Conservation Areas brochures and handouts
 - Guadalupe Bass Conservation Plan: A ten-year plan for restoring and preserving the state fish of Texas 2017-2026
- Analyzes, interprets, and writes presentations, reports, articles, and publications with project collaborators
- Supervised Interns and supervises TPWD volunteers
- Represents the Inland Fisheries Division and the Habitat Conservation Branch on Division, state, regional, national, and international groups
 - Served as a member of the Inland Fisheries Awards Committee
 - Serves on the River Access and Conservation Areas Team
 - Participates in the Desert Fishes Council
 - DFC is a binational, scientific organization supporting the conservation of desert ecosystems
 - President from November 2019 to present
 - Member-At-Large from November 2016 to November 2018
 - Served as the Conservation grant coordinator and serves on the conservation grants selection committee
 - Serves as Editor for the Desert Fishes Council journal
 - Organized and hosted the 51st Annual Meeting in Alpine, Texas and organized the Chihuahuan Desert Symposium
 - Serves on the Desert Fish Habitat Partnership
 - TPWD Steering Committee Representative from 2015 to present
 - Rio Grande Representative on the Executive Committee from 2011 to present
 - Served as Partnership Coordinator with the Federal co-chair
 - Serves on the Grant Selection, Science, and Report Writing committees
 - Represents TPWD on the Rio Grande Chub and Sucker Conservation Team
 - Represents TPWD on the Pecos Pupfish Conservation Team
 - Serves on the Landowner Incentive Program selection and review committee
 - Serves on the TPWD Aquatic Invasive Species Riparian Restoration Committee
 - Represented TPWD in the Desert Landscape Conservation Cooperative and on several sub-committees
 - Represented TPWD at the Rio Grande/Rio Bravo Binational Forum (2017) with Sarah Robertson
 - Represented TPWD on the Big Bend Bi-National Conservation Cooperative group

**AUG 2008 -
JAN 2012**

**Research Associate and Texas Parks and Wildlife Department
Fellow**

Texas State University - San Marcos

- Participated in the Edwards Aquifer Recovery Implementation Program (EARIP) performing statistical analysis of species data
- Coordinated and co-led a team of undergraduate students to map the San Marcos River
- Coordinated fish research in the Rio Grande
- Developed a database of known information for Rio Grande fishes
- Worked in TPWD Genetics Laboratory on the populations genetics study of Guadalupe Bass
- Assisted Dr. Whiteside with the Texas Freshwater Fish Identification Course held at Texas State University - San Marcos

**AUG 2006 -
MAY 2008**

Instructional Assistant

Texas State University - San Marcos

- Taught labs for Ichthyology (BIO 4415/5425) and Intermediate Zoology (BIO 2411)
- Lab coordinator for Ichthyology and Zoology
- Coordinated lab schedules and Instructional Assistants
- Maintained lab inventories and assisted with lab budgets
- Organized research trips for Ichthyology lab

**MAY 2006 -
AUG 2008**

Graduate Research Assistant

Texas State University - San Marcos

Thesis Title: Occurrence and impact of the Asian Fish Tapeworm in the Rio Grande (Rio Bravo del Norte)

- Studied impacts of an invasive parasite on native fish fauna
- Oversaw an undergraduate student worker
- Prepared permit application for Texas and New Mexico
- Organized seasonal sampling trips to the upper Rio Grande and Pecos Rivers in New Mexico and lower Rio Grande in Texas to assess fish habitat associations
- Assisted on other research projects and gained experience with electrofishing (backpack, canoe, barge, boat), sampling gear (fish and aquatic invertebrates), collection fish and invertebrate abundance and habitat data, and radio telemetry

**JAN 2006 -
MAY 2006**

Undergraduate Research Assistant

Texas State University - San Marcos

- Independent study project documenting Asian Fish Tapeworm in the Rio Grande
- Published research in the Journal of Aquatic Animal Health

**AUG 2004 -
MAY 2006**

Athletic Academic Center Tutor

Texas State University - San Marcos

- Tutored students in Biology, Chemistry, English, Math, History, Political Science, and Philosophy

PROFESSIONAL AFFILIATIONS

- Desert Fishes Council
- American Fisheries Society
- Texas Chapter American Fisheries Society
- Texas Riparian Association
- American Society of Ichthyologists and Herpetologists

PUBLICATIONS

Bean, M., S. Robertson, A. Hoffmann, T. Birdsong, and P. Bean. In prep. Public Engagement in River and Riparian Conservation Through Social Media.

Sjoberg, J., B. Senger, M. Bean, K. Guadalupe, A. Robinson, and M. Maza. In prep. Standard methods for sampling desert springs. Standard Methods for Sampling North American Freshwater Fishes New edition. American Fisheries Society.

Bean, M. and A. Kalmbach. In prep. Watershed conservation and landowner engagement in Texas. Desert Fishes Council Special Publication.

Garrett, G., M. Bean, R. Edwards, and D. Hendrickson. 2021. Mining hidden waters: groundwater depletion and loss of aquatic diversity in the Chihuahuan Desert of Texas. In D. Propst, J. Williams, K. Bestgen, and C. Hoagstrom, editors. Standing Between Life and Extinction. University of Chicago Press.

Parker, S., J. Perkin, M. Bean, D. Lutz-Carrillo, and M. Acre. 2021. Temporal distribution modelling reveals upstream habitat drying and downstream non-native introgression are squeezing out an imperiled headwater catfish. Biodiversity Research 2020:1-19.

Osborne, M., D. Portnoy, A. Fields, M. Bean, C. Hoagstrom, and K. Conway. 2021. Under the radar: genetic assessment of Rio Grande Shiner (*Notropis jemezianus*) and Speckled Chub (*Macrhybopsis aestivalis*), two Rio Grande basin endemic cyprinids that have experienced recent range contractions. Conservation Genetics 22:187-204.

Acre, M., J. Perkin, and M. Bean. 2020. Multiple survey methods reveal greater abundance of endangered pupfish in restored habitats. Aquatic Conservation: Marine and Freshwater Ecosystems 2020:1-12.

Birdsong, T., G. Garrett, M. Bean, S. Curtis, K. Mayes, and S. Robertson. 2020. Conservation status of Texas freshwater fishes: informing state-based species protection. Journal of the Southeastern Association of Fish and Wildlife Agencies 8:40-52.

Birdsong, T., S. Magnelia, J. Botros, M. Bean, A. Hoffman, M. Parker, and S. Robertson. 2020. Texas river access and conservation areas: a case study in use of riparian leases to enhance angler access and facilitate river stewardship. Journal of the Southeastern Association of Fish and Wildlife Agencies 7:114-122.

Dauwalter, D., S. Vail-Muse, T. Thompson, J. Whittier, K. Johnson, and M. Bean. 2019. Partnering on multispecies aquatic assessments to inform efficient conservation delivery. Pages 11-32. In D. Dauwalter, T. Birdsong, and G. Garrett, editors. Multispecies and watershed approaches to freshwater conservation. American Fisheries Society, Symposium 91, Bethesda, Maryland.

Birdsong, T., G. Garrett, B. Labay, M. Bean, P. Bean, J. Botros, M. Casarez, A. Cohen, T. Heger, A. Kalmbach, D. Hendrickson, S. Magnelia, K. Mayes, M. McGarrity, R. McGillicuddy, M. Parker, and S. Robertson. 2019. Texas native fish conservation areas network: strategic investments in restoration and preservation of freshwater fish diversity. Pages 183-230. In D. Dauwalter, T. Birdsong, and G. Garrett, editors. Multispecies and watershed approaches to freshwater conservation. American Fisheries Society, Symposium 91, Bethesda, Maryland.

Garrett, G., T. Birdsong, M. Bean, and B. Labay. 2019. Chihuahuan desert native fish conservation areas: a multispecies and watershed approach to preservation of freshwater fish diversity. Pages 231-252. In D. Dauwalter, T. Birdsong, and G. Garrett, editors. Multispecies and watershed approaches to freshwater conservation. American Fisheries Society, Symposium 91, Bethesda, Maryland.

Magnelia, S., K. Mayes, M. Bean, C. Loeffler, and D. Bradsby. 2019. Four decades of conserving native fish in the Colorado River watershed. Pages 269-292. In D. Dauwalter, T. Birdsong, and G. Garrett, editors. Multispecies and watershed approaches to freshwater conservation. American Fisheries Society, Symposium 91, Bethesda, Maryland.

Garrett, G., T. Birdsong, M. Bean, and R. McGillicuddy. 2015. Guadalupe Bass restoration initiative. In M. Tringali, J. Long, T. Birdsong, and M. Allen, editors. Black Bass Diversity: Multidisciplinary Science for Conservation. American Fisheries Society, Symposium 82, Bethesda, MD 685 pp.

Birdsong, T., M. Bean, T. Grabowski, T. Hardy, T. Heard, D. Holdstock, K. Kollaus, S. Magnelia, and K. Tolman. 2015. Application and utility of a low-cost unmanned aerial system to manage and conserve aquatic resources in four Texas rivers. Journal of the Southwestern Association of Fish and Wildlife Agencies 2:80-85.

Bean, M. and T. Bonner. 2010. Spatial and temporal distribution of *Bothriocephalus acheilognathi* (Cestoda: Bothriocephalidae) in the Rio Grande (Rio Bravo del Norte). Journal of Aquatic Animal Health 22:182-189.

Bean, M. and T. Bonner. 2009. Impact of *Bothriocephalus acheilognathi* (Cestoda: Pseudophyllidae) on *Cyprinella lutrensis* condition and reproduction. Journal of Freshwater Ecology 24(3):383-391.

Bean, P., M. Bean, and T. Bonner. 2009. Threatened fishes of the world: *Moxostoma congestum* (Baird and Girard 1854) (Catostomidae). Environmental Biology of Fishes 85(2):173-174.

Bean, M., A. Skerikova, T. Bonner, T. Scholz, D. Huffman. 2007. First record of *Bothriocephalus acheilognathi* (Cestoda: Pseudophyllidae) in the Rio Grande with comparative analysis of ITS2 and V4-18S rRNA gene sequences. Journal of Aquatic Animal Health 19(2):71-76.

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Bean, M. and M. Parker. In Prep. Conservation and Restoration of Desert Streams in the Big Bend Region. National Fish and Wildlife Foundation.

Norris, C., W. Nowlin, M. Bean, N. Noreika, M. Kelly, D. Lutz-Carillo, P. Diaz, and R. Gibson. In review. Baseline biomonitoring of springs associated with the San Solomon Springs system. Texas Parks and Wildlife Department. Austin, TX.

Birdsong, T., G. Garrett, M. Bean, P. Bean, S. Curtis, P. Fleming, A. Grubh, D. Lutz-Carillo, K. Mayes, C. Robertson, S. Robertson, J.W. Schlechte, and N. Smith. 2020. Conservation of Texas freshwater fish diversity: selection of Species Greatest Conservation Need. Texas Parks and Wildlife Department. PWD RP T3200-2780 (10/20). Austin, TX.

Birdsong, T., M. Bean, P. Bean, J. Botros, M. De Jesus, A. England, P. Flemming, P. Ireland, C. Kittel, G. Linam, D. Lutz-Carillo, S. Magnelia, M. Matthews, M. McGarrity, R. McGillicuddy, M. Parker, N. Smith, and P. Thompson. 2018. Guadalupe Bass Restoration Initiative 2018 Annual Report. Texas Parks and Wildlife Department. Austin, TX.

Birdsong, T., D. Dauwalter, G. Garrett, B. Labay, M. Bean, J. Broska, J. Graham, S. Magnelia, K. Mayes, M. McGarrity, K. Johnson, S. Robertson, T. Thompson, S. Vail-Muse, and J. Whittier. 2018. Native Fish Conservation Areas of the southwestern USA: facilitating landscape-scale conservation of aquatic habitats and freshwater fishes. Final report submitted to the Wildlife Institute in fulfillment of Grant Agreement GPLCC 2015-01, Watershed-based Conservation Planning to Inform Selection and Implementation of a Network of Native Fish Conservation Areas.

Bean, M. 2016. Guadalupe Bass Restoration Initiative: Llano and Guadalupe River watersheds. Texas Parks and Wildlife Department. Austin, TX.

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Bean, M., G. Garrett, S. Magnelia, K. Saunders, R. Myers, J. Dennis, and W. Schlechte. 2012. Devils River standardized aquatic monitoring plan: from the headwaters to the confluence of Amistad Reservoir. Texas Parks and Wildlife Department. Austin, TX.

Heard, T., D. Runyan, R. Marfurt, M. Bean, and T. Bonner. 2008. Ecological characterization of the Rio Grande fish assemblages in Big Bend and Lower Canyons areas. River Systems Institute. San Marcos, TX.

PRESENTATIONS AND POSTERS

Bean, M., S. Robertson, A. Hoffmann, T. Birdsong, and P. Bean. 2021. Public and landowner engagement in river and riparian conservation through social media. Texas Urban Riparian Symposium. Virtual Conference.

Bean, M.G., S. Robertson, A. Hoffman, T. Birdsong, and P. Bean. 2021. Public engagement in river and riparian conservation through social media. Texas Chapter of the American Fisheries Society. Virtual Conference.

Acre, M., J. Perkin, and M.G. Bean. 2021. Multiple survey methods reveal greater abundance of endangered pupfish in restored habitats. Texas Chapter of the American Fisheries Society. Virtual Conference.

Parker, S., J. Perkin, M. Bean, D. Lutz-Carillo, and M. Acre. 2021. Temporal distribution modeling reveals upstream habitat drying and downstream non-native introgression are squeezing out an imperiled headwater fish. Texas Chapter of the American Fisheries Society. Virtual Conference.

Hendrickson, D., A. Cohen, M. Casarez, G. Garrett, T. Birdsong, S. Robertson, S. Curtis, and M. Bean. 2021. The Fishes of Texas project's impact on both conservation science and management and a fish collection. Society for the Preservation of Natural History Collections.

Bean, M. and G. Garrett. 2020. Highlights from the Chihuahuan Desert in Texas and New Mexico. Desert Fishes Council 52nd Annual Meeting. Virtual Conference.

Birdsong, T., G. Garrett, B. Labay, M. Bean, S. Curtis, K. Mayes, and S. Robertson. 2020. Managing watersheds and riverscapes for aquatic ecosystem resiliency in a rapidly urbanizing private lands state. American Fisheries Society 150th Annual Meeting. Columbus, OH.

Birdsong, T., G. Garrett, B. Labay, M. Bean, S. Curtis, K. Mayes, and S. Robertson. 2020. Integrating landscape-scale assessments into state-based conservation planning and delivery: challenges, opportunities, and effective case studies. Southern Division American Fisheries Society. Little Rock, AR.

Birdsong, T., M. Bean, S. Curtis, K. Mayes, S. Magnelia, M. Parker, and S. Robertson. 2020. Conservation status of Texas freshwater fishes and protected species recommendations. Southeast Association of Fish and Wildlife Agencies Conference.

Birdsong, T., M. Bean, S. Curtis, K. Mayes, S. Magnelia, M. Parker, and S. Robertson. 2020. Conservation status of Texas freshwater fishes and protected species recommendations. Texas Chapter American Fisheries Society. Waco, TX.

Perkin, J., S. George, M. Bean, and D. Lutz-Carillo. 2020. Conservation biogeography of Headwater catfish in the United States. Texas Chapter American Fisheries Society. Waco, TX.

Acre, M., J. Perkin, and M. Bean. 2020. Hands-off: a visual approach to monitor a threatened pupfish. Texas Chapter of the American Fisheries Society. Waco, TX.

Acre, M., J. Perkin and M. Bean. 2019. Spatial structure and survey method influence population estimates for endangered Comanche Springs Pupfish. Desert Fishes Council 51st Annual Meeting. Alpine, TX.

Garrett, G. and M. Bean. 2019. Conservation of Chihuahuan Desert fishes - past and present. Desert Fishes Council 51st Annual Meeting. Alpine, TX.

George, S., J. Perkin, M. Bean and D. Lutz-Carrillo. 2019. Conservation biogeography of Headwater Catfish (*Ictalurus lupus*) in the United States. Desert Fishes Council 51st Annual Meeting. Alpine, TX.

Acre, M., J. Perkin, and M. Bean. 2019. Tradeoffs in spatially structured abundance estimates for endangered Comanche Springs Pupfish using hotspot analysis and n-mixture modelling. American Fisheries Society 149th Annual Meeting. Reno, NV.

Garrett, G., T. Birdsong, and M. Bean. 2019. Chihuahuan Desert native fish conservation areas: a multispecies and watershed approach to preservation of freshwater fish diversity. American Fisheries Society 149th Annual Meeting. Reno, NV.

Bean, M. G. 2019. Fish community research and monitoring for the Balmorhea springs complex. TransPecos Workgroup. Austin, TX.

McGillicuddy, R., G. P. Garrett, T. B. Birdsong, M. G. Bean, P. T. Bean, and S. Magnelia. 2019. Restoring the State Fish of Texas, Guadalupe Bass *Micropterus treculii*. Annual meeting of the Southern Division of the American Fisheries Society, Galveston, TX.

Bean, M. G. 2018. Watershed ecology and management in Texas. Annual Training Program for the Ellis Unit Texas Master Naturalists. Huntsville, TX.

Bean, M. G. 2018. Aquatic communities, research, and management in Texas. Annual Training Program for the Ellis Unit Texas Master Naturalists. Huntsville, TX.

Bean, M. G. 2018. Watershed ecology and aquatic ecosystem management in Texas. Annual Training Program for the Hill Country Chapter Texas Master Naturalists. Fredericksburg, TX.

Bean, M. G., G. P. Garrett, R. Martin, and S. Robertson. 2018. Desert Fish Management and Research in Texas: Rio Grande, Pecos, and Devils Rivers. Desert Fishes Council 50th Annual Meeting. Death Valley, CA.

Garrett, G., M. Bean, R. Edwards, and D. Hendrickson. 2018. Mining hidden waters: groundwater depletion, aquatic habitat degradation, and loss of fish diversity in the Chihuahuan Desert ecoregion of Texas. Desert Fishes Council 50th Annual Meeting. Death Valley, CA.

Bean, M., A. Kalmbach, T. Birdsong, G. Garrett, P. Bean, M. Parker, and J. Drebelbis. Building intra-agency collaborative partnerships to implement watershed-based conservation. 2017. American Fisheries Society 147th Annual Meeting. Tampa, FL.

Magnelia, S., M. Bean, and K. Mayes. 2017. Conservation of native fishes in the Colorado River basin, Texas. American Fisheries Society 147th Annual Meeting. Tampa, FL.

Garrett, G., T. Birdsong, B. Labay, and M. Bean. 2017. Native fish conservation areas of the Chihuahuan desert of Texas. American Fisheries Society 147th Annual Meeting. Tampa, FL.

Dauwalter, D., G. Vail-Muse, T. Thompson, M. Bean, K. Johnson, and Joanna Whittier. 2017. Partnering on multispecies aquatic assessments to inform efficient conservation delivery. American Fisheries Society 147th Annual Meeting. Tampa, FL.

Birdsong, T., S. Magnelia, M. Parker, S. Plante, and M. Bean. 2017. Restoring and preserving native fishes by spawning river conservation advocates. American Fisheries Society 147th Annual Meeting. Tampa, FL.

Bean, P., T. Birdsong, M. Bean, and G. Garrett. 2017. Watershed-based conservation assessments and planning to guide range-wide conservation of Guadalupe Bass. American Fisheries Society 147th Annual Meeting.

Bean, M., T. Birdsong, M. Parker, J. Moore, M. Shelley, and A. Kalmbach. 2015. Riparian Restoration projects on public and private lands in the Llano river Watershed. Urban Riparian Symposium. Austin, TX.

Bean, M., T. Birdsong, M. Parker, M. Shelley, and A. Kalmbach. 2015. TPWD's cross divisional efforts in the Llano River watershed to benefit aquatic resources. Texas Chapter American Fisheries Society. Tyler, TX.

Bean, P., M. Bean, J. Moore, and T. Birdsong. 2015. Watershed-scale conservation of fish habitats in the Edwards Plateau ecoregion of Texas. American Fisheries Society 145th Annual Meeting. Portland, OR.

Bean, M., J. Moore, P. Bean, T. Birdsong. 2015. Restoration of spring and stream aquatic systems in arid and semi-arid Texas regions through the Desert Fish Habitat Partnership and Southeast Aquatic Resources Partnership. American Fisheries Society 145th Annual Meeting. Portland, OR.

Bean, P., M. Bean, G. Garrett, and D. Lutz-Carrillo. 2013. Hybridization between Largemouth Bass and Florida Bass in the Devils River, Texas: Influence of reservoir stocking on upstream populations. Southern Division American Fisheries Society 143rd Annual Meeting. Nashville, TN.

Garrett, G., T. Birdsong, and M. Bean. 2013. Guadalupe Bass Restoration Initiative. Southern Division American Fisheries Society. Nashville, TN.

Bean, M., G. Garrett, T. Birdsong, R. McGillicuddy, P. Fleming, and N. Smith. 2013. Guadalupe Bass Restoration Initiative. American Fisheries Society 143rd Annual Meeting. Little Rock, AR.

Bean, P., M. Bean, G. Garrett, and D. Lutz-Carrillo. 2013. Hybridization between Largemouth Bass and Florida Bass in the Devils River, Texas: Influence of reservoir stocking on upstream populations. American Fisheries Society 143rd Annual Meeting. Little Rock, AR.

Birdsong, T., G. Garrett, M. Bean, and M. Montagne. 2012. Landscape-scale approaches to conservation of native fishes in the Edwards Plateau ecoregion of Texas: facilitating on-the-ground conservation actions through the development of private landowner networks. American Fisheries Society 142nd Annual Meeting. Minneapolis, MN.

Birdsong, T., G. Garrett, M. Bean, M. Montagne, R. Smith, S. Magnolia. 2011. Landscape-scale approaches to conservation of native fishes: use of a decision support framework to facilitate on-the-ground conservation actions in the Edwards Plateau ecoregion of Texas. American Fisheries Society 141th Annual Meeting. Seattle, WA.

Birdsong, T., M. Bean, and S. Robinson. 2010. Application of the National Fish Habitat Assessment as a conservation planning tool in the Southeastern US. American Fisheries Society 140th Annual Meeting. Pittsburgh, PA.

ARTICLES

Briggs, M., M. Bean, J. Bennett, R. Martin, J.J. Ochoa, A. Roberson, and O. Sanchez. 2019. Habitat restoration in the Big Bend and Northern Mexico: Success through binational collaboration, partnerships, and diversity. TPWD Landowner Incentive Program Newsletter.

Siegmund, T., A. Kalmbach, and M. Bean. 2019. Investing in Conservation. Texas Wildlife. Texas Wildlife Association.

Birdsong, T., M. Bean, J. Botros, S. Magnolia, M. Parker, S. Plante, and S. Robertson. 2018. Partnering with private landowners to expand paddling and fishing opportunities on Texas Rivers. TPWD Landowner Incentive Program Newsletter.

Bean, M. 2016. Landscape conservation through the Guadalupe Bass Restoration Initiative: a collaborative initiative between state, federal, and local partners. TPWD Landowner Incentive Program Newsletter.

Bean, M., USFWS, and TNC. 2013. Holistic spring and cienega restoration projects in west Texas. TPWD Landowner Incentive Program Newsletter.

Bean, M. 2012. The Rio Grande tributaries: habitat restoration in the Big Bend region. TPWD Texas Watersheds Newsletter.

Bean, M. 2011. Watershed BMP website coming soon: comprehensive site will provide a unique tool for conservation in Texas. TPWD Texas Watersheds Newsletter.

TRAINING AND COURSES

- CPR/AED/First Aid
- SCUBA Certified
- Stream Functions Pyramid Workshop (2019)
- Riparian Habitat Restoration for the Arid Southwest (2019)
- Senior Leadership Development Program (2017- 2018)
- River Morphology and Application (2016)
- Communication Across Generations (2016)
- Introduction to the Wildlife and Sport Fish Restoration Program (2016)
- The Grants Management Process (2016)
- Certified Texas Master Naturalist (2016)
- Cultural Resources
- Successful First Line Management (2015)
- Social Media (2015)
- What's What and How To: Human Resources Process Training Personnel Administration (2015)
- What's What and How To: Human Resources Process Training Personnel Classification (2015)
- What's What and How To: Human Resources Process Training Personnel Leave and Benefits (2015)
- Learning to Listen (2014)

- Building Effective Communication Skills (2014)
- Decision Analysis For Climate Change (January - March 2014)
- Oil and Gas 101 (October 2014)
- Texas Conservation Banking Training Course (April 2012)
- Stakeholder Facilitation Training (January 2012)
- Problem Definition: An overview of structured decision making (2011)
- Office Ergonomics (2011)
- Applied Fluvial Geomorphology (2010)
- Business Writing Skills (2010)
- Texas Watershed Steward Workshop (2010)
- Instream Flows 101 (2008)
- Assessing Instream Flows (2008)
- Instream Flows - Integration and Interpretation of Study Results (2008)
- Instream Flows 101 (2008)

SOFTWARE PROFICIENCY

- Adobe Acrobat and Photoshop
- Microsoft Word, Excel, PowerPoint, Access, Outlook, OneDrive, Teams
- Google Docs, Sheets, Slides, Forms, Drive, YouTube
- Zoom and WebEx
- R, Sigma Plot, ArcGIS, Google Earth Pro

AWARDS

- Inland Fisheries Division Award - Outstanding Teamwork with Sarah Robertson
- Texas Parks and Wildlife Department Employee Recognition Award - Outstanding Team (River Access and Conservation Areas Team)
- Texas Chapter of the American Fisheries Society - Outstanding Fisheries Worker of the Year (for the Watershed Conservation Program)
- Canyon Bass Club Scholarship
- Texas Chapter of the American Fisheries Society Student Scholarship
- Richan Aquatic Biology Scholarship
- Joan Austin Memorial Scholarship
- Graduate College Scholarship
- Howard D. Schulze Endowed Scholarship in Biology
- Celanese Chemicals Division Scholarship
- C.C. and Alma K. Schmidt Memorial Physics Scholarship
- Texas Tech University Merit Scholarship

SELECT COMMUNITY VOLUNTEER ACTIVITIES

- City of Kerrville Library Advisory Board - Chairperson
- Board Member of the Guadalupe Watercolor Group
- Graphic Design and IT support for the Guadalupe Watercolor Group
- Hill Country American Youth Soccer Association Coach (2 seasons)
- Hays-Caldwell Women's Center - Sexual and Domestic Violence HEARTeam Advocate
- Operation Write Home

Jason Philip Martina

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Education

Ph.D. in Plant Biology and Ecology, Evolutionary Biology and Behavior, 2012
Michigan State University, East Lansing, MI.

Co-Advised by Dr. Stephen K. Hamilton and Dr. Merritt R. Turetsky (University of Guelph)

M.S. in Biological Sciences, 2006
Northern Illinois University, DeKalb, IL.
Advised by Dr. Carl N. von Ende

B.S. in Biological Sciences (*magna cum laude*), 2004
Northern Illinois University, DeKalb, IL.

Professional Experience

2019 – present	Assistant Professor , Department of Biology, Texas State University, San Marcos TX.
2016 – 2020	Adjunct Assistant Professor , Department of Ecosystem Science and Management, Texas A&M University
2016 – 2019	Program Coordinator , Ecology and Evolutionary Biology Doctoral Program and Applied Biodiversity Science Program, Texas A&M University
2015 – 2017	Visiting Scholar , Department of Biology, Trinity University, TX.
2014 – 2016	Assistant Professor of Biology, Department of Mathematics and Sciences, Our Lady of the Lake University, TX.
2012 – 2014	Postdoctoral Research Fellow with Dr. Deborah Goldberg (Ecology and Evolutionary Biology) and Dr. William Currie (Natural Resources and Environment), University of Michigan
2008 – 2011	Teaching Assistant , Department of Plant Biology, Michigan State University
2007 – 2010	Science To Achieve Results (STAR) Fellow , US EPA
2006 – 2008	Research Assistant , Department of Plant Biology, Michigan State University
2004 – 2006	Teaching Assistant , Department of Biological Sciences, Northern Illinois University
2004	Restoration Intern , McHenry County Conservation District, McHenry, IL.

Awards, Grants, and Fellowships

Funded Proposals:

- TPWD Aquatic Invasive Species Research Grant, “Using remote sensing to map *Arundo donax* populations in Native Fish Conservation Areas throughout Texas to better understand causal factors of invasion and set management priorities”. \$98,537. 2021-2023. *Principal Investigator*
- NASA OCEAN, “Integrating Systems Models and Remote Sensing to Explore Aquatic Ecosystem Vulnerability to Global Change in Lake Huron”. \$749,428. 2021-2024. *Principal Investigator*

- Texas Parks and Wildlife Traditional Section 6, “Habitat assessment, monitoring and landowner outreach for *Leavenworthia texana* and *Physaria pallida*”. \$99,292. 2021-2023 *Principal Investigator*
- NASA Interdisciplinary Research in Earth Science Program, “Quantifying How Global Change and Land Use Legacies Affect Ecosystem Processes at the Land Water Interface Across the Great Lakes Basin”. \$1,598,346. 2017-2021. *Co-Principal Investigator*
- EPA Great Lakes Restoration Initiative Program, “Implementing Adaptive Management and Monitoring for Restoration of Wetlands invaded by *Phragmites*.” \$648,799. 2016-2018. *Participant in cross-institutional collaborative team funded by this award.*
- Michigan Invasive Species Grant Program, “Comprehensive Invasive *Phragmites* Management Planning”. \$203,000. 2015-2018. *Co-Principal Investigator*
- University of Michigan Water Center Grant, “Assessing Ecosystem Services Provided by Restored Wetlands Under Current and Future Climate and Land-Use Scenarios”. \$50,000. 2013-2014.
- EPA STAR Fellowship, “Effects of Plant Diversity and Functional Identity on Ecosystem Nitrogen Retention and Removal in Great Lakes Wetlands”. \$110,000. 2007-2010.

Proposals not funded:

- USDA CRP Climate Change Mitigation Assessment Initiative, “Exploring the climate change mitigation potential of Conservation Reserve Program grasslands by assessing the relationship between vegetation communities and soil carbon sequestration”, submitted July 2021, *Co-Principal Investigator*
- NASA Carbon Cycle Science, “Understanding the Effects of Changes in Land Management, Climate, and Hydrology on Carbon Dynamics from Great Lakes Watersheds to Coastal Wetlands”, submitted December 2020, *Co-Principal Investigator*
- DOE Environmental System Science, “Simulating the Dynamic Effects of Perturbations on Ecosystem Function Along the US Great Lakes Terrestrial Aquatic Interface”, Submitted December 2020”, pre-application *Co-Principal Investigator*
- NSF EAGER SAI, “Optimizing Post-buyout Land Use to meet Stakeholder Needs through Ecological and Structural Infrastructure”, pre-application *Co-Principal Investigator*
- NASA Ocean Biology and Biogeochemistry, “Quantifying Great Lakes aquatic ecosystem vulnerability to climate change by integrating systems models and remote sensing”, submitted July 2020. *Co-Principal Investigator*
- National Science Foundation Division of Environmental Biology (DEB), “The physiological responses underlying grassland community and ecosystem responses to soil nitrogen”, submitted December 2019. *Co-Principal Investigator*
- Texas State University Research Enhancement Program, “Assessing soil carbon storage potential of Texas grasslands after 20 years of restoration”. *Principal Investigator*
- National Science Foundation Frontier Research in Earth Sciences (FRES), “Carbon Fluxes Down the Hydrologic Connectivity Cascade: Cross-scale Interactions of Water, Nutrients, and Plants in Freshwater Wetlands”, submitted February 2019
- Texas A&M University Tier One Program, “Creating and Integrating Sustainable Experiential Learning for Undergraduate and Graduate Students in Ecology and Evolutionary Biology”, submitted March 2017
- National Science Foundation Ecosystem Science Pre-Proposal, “Canopy structure and standing litter-NPP feedbacks governing invasion dynamics, lateral colonization, and C accumulation in herbaceous coastal wetlands”, submitted January 2015

- National Science Foundation MacroSystems Biology, “Carbon Fluxes Down the Hydrologic Connectivity Cascade: Cross-scale Interactions of Water, Nutrients, and Plants in Freshwater Wetlands”, submitted April 2014
 - **Note:** Top 4 proposal, rated “Outstanding”, recommended for funding, declined due to reallocation of funds

Smaller grants and fellowships:

- Texas State University Undergraduate Research Fellowship – Ryan Kridler (\$1000)
- College of Natural Science, MSU, Dissertation Completion Fellowship 2011 (\$6000)
- College of Natural Science, MSU, Dissertation Continuation Fellowship 2010 (\$6000)
- EEBB Travel Grant, MSU, 2007-2012 (Total awarded: \$2400)
- Paul Taylor Travel Grant, MSU, 2007-2011 (Total awarded: \$3875)
- Long-Term Ecological Research (LTER) Small Grant, 2010 (\$1500)
- MSU Graduate School Travel Grant 2008 and 2009 (Total awarded: \$500)
- Biogeochemistry Environmental Research Initiative Summer Fellowship, 2007 and 2008 (\$3000)
- Society of Wetland Scientists Research Grant, 2007 (\$1000)
- Kellogg Biological Station Visiting Graduate Fellowship, 2007 (\$2000)
- Northern Illinois University Fellowship, 2005-2006 (\$6000)
- McHenry County Conservation District Research Grant, 2006 (\$250)

Teaching:

- Department of Residence Life (MSU) Teaching Recognition, 2010

Refereed Publications (*co-first author, ^ denotes undergraduate student) Ladouceur, E., Ladouceur, E., S.A. Blowes, J.M. Chase, A.T. Clark, M. Garbowski, J. Alberti, C.A. Arnillas, J.D. Bakker, I.C. Barrio, S. Bharath, E.T. Borer, L.A. Brudvig, M.W. Cadotte, Q. Chen, S.L. Collins, C.R. Dickman, I. Donohue, G. Du, A. Ebeling, N. Eisenhauer, P.A. Fay, N. Hagenah, Y. Hautier, A. Jentsch, I.S. Jónsdóttir, K. Komatsu, A. MacDougall, J.P. Martina, J.L. Moore, J.W. Morgan, P.L. Peri, S.A. Power, Z. Ren, A.C. Risch, C. Roscher, M.A. Schuchardt, E.W. Seabloom, C.J. Stevens, G.F. Veen, R. Virtanen, G.M. Wardle, P.A. Wilfahrt, W.S. Harpole. Species losses, gains and changes in persistent species are associated with distinct effects in ecosystem functioning in global grasslands. *Ecology Letters (In Review)*

Jameson, E.E., Elgersma, K.J., **J.P. Martina**, W.S. Currie, and D.E. Goldberg. Size-dependent analyses provide insights into the reproductive allocation and plasticity of invasive and native *Typha*. *Biological Invasions (In Review)*

Currie, W.S., L. Bourgeau-Chavez, K.J. Elgersma, P. Higman, **J.P. Martina**, S.J. Sharp and M. Vanderhaar. Wetland process modeling for adaptive management: Restoration of *Phragmites*-invaded coastal wetlands in the Great Lakes region. Special Issue of *Ecological Informatics (In Revision)*

Rogan, J., M.R. Parker, Z.B. Hancock, A.D. Earl, E.K. Buchholtz, K. Chyn, **J.P. Martina**, L.A. Fitzgerald. Paths to annihilation: Genetic and demographic consequences of range contraction patterns. *The American Naturalist (Revisions Submitted)*

Carroll, O., E. Batzer, S. Bharath, E.T. Borer, S. Campana, E. Esch, Y. Hautier, T. Ohlert, E.W. Seabloom, P.B. Adler, J.D. Bakker, L. Biederman, M.N. Bugalho, M. Caldeira, Q. Chen, K. Davies, P.A. Fay, J.M.H. Knops, K. Komatsu, **J.P. Martina**, K.S. McCann, J.L. Moore, J.W. Morgan, T.O. Muraina, B. Osborne, A.C. Risch, C. Stevens, P.A. Wilfhart, L. Yahdjian, and A.S. MacDougall. Does multiple nutrient enrichment impact the stability of grassland biomass production? *Ecology Letters* (Accepted)

Yuan, Y., K.J. Elgersma, **J.P. Martina**, S. Sharp and W.S. Currie. 2021. Global warming potential driven by nitrogen inflow and hydroperiod in a model of Great Lakes coastal wetlands. *JGR – Biogeosciences* 126, e2021JG006242. <https://doi.org/10.1029/2021JG006242>

Novak, E.N., M. Bertelsen, R. Davis, D.M. Grobert, K.G. Lyons, **J.P. Martina**, M. McCaw, M. O'Toole, J.W. Veldman. 2021. Season of prescribed fire determines grassland restoration outcomes after fire exclusion and overgrazing. *Ecosphere* 12(9):e03730. 10.1002/ecs2.3730

Weinstein, C., L. Bourgeau-Chavez, S.L. Martin, W.S. Currie, K. Grantham, Q.F. Hamlin, D.W. Hyndman, K.P. Kowalski, **J.P. Martina**, D. Pearsall. 2021. Enhancing Great Lakes coastal ecosystems research by initiating engagement between scientists and decision-makers. *Journal of Great Lakes Research* 47: 1235-1240

Sharp, S.J., K.J. Elgersma, **Martina, J.P.** and W.S. Currie. 2021. Hydrologic flushing rates drive nitrogen cycling and plant invasion in freshwater coastal wetland model. *Ecological Applications* 31(2):e02233. [10.1002/eap.2233](https://doi.org/10.1002/eap.2233)

Borer, E.T, W.S. Harpole, P.B. Adler, M.N. Bugalho, M.W. Cadotte, M.C. Caldeira, M.S. Campana, A. Carlos-Albert, C.R. Dickman, T.L. Dickson, I. Donohue, A. Eskelinen, P.A. Fay, J.L. Firn, P.B. Graff, D.S. Gruner, R.W. Heckman, A.M. Koltz, K.J. Komatsu, L.S. Lannes, A.S. MacDougall, **J.P. Martina**, J.L. Moore, B. Mortensen, R. Ochoa-Hueso, H. Olde Venterink, S.A. Power, J.N. Price, A.C. Risch, M. Sankaran, M. Schütz, J. Sitters, C.J. Stevens, R. Virtanen, P.A. Wilfahrt, E.W. Seabloom. 2020. Nutrients cause grassland biomass to outpace herbivory. *Nature Communications* 11, 6036. <https://doi.org/10.1038/s41467-020-19870-y>

*Siciliano-Martina, L.M. and ***J.P. Martina**. 2020. Shifting barriers to the acceptance of evolution in an underrepresented student group. *International Journal of Science Education* 42: 2205-2223

Goldberg, D.E., E.E. Batzer, K.J. Elgersma, **J.P. Martina**, and J. Klimesova. 2020. Allocation to clonal growth: critical questions and protocols to answer them. *Perspectives in Plant Ecology, Evolution and Systematics* 43: 125511

Siciliano-Martina, L.M. and **J.P. Martina**. 2018. Stress and social behaviors of maternally-deprived captive giraffes (*Giraffa camelopardalis*). *Zoo Biology* 37: 80-89

^Batzer, E.E., **J.P. Martina**, K.J. Elgersma and D.E. Goldberg. 2017. Clonal plant allocation to daughter ramets is a simple function of parent size across species and nutrient levels. *Plant Ecology* 218: 1299-1311 DOI: <https://doi.org/10.1007/s11258-017-0769-z>

Goldberg, D.E., **J.P. Martina**, K.J. Elgersma, and W.S. Currie. 2017. Plant size and competitive dynamics along nutrient gradients. *American Naturalist* 190: 229-243

Elgersma, K.J., **J.P. Martina**, W.S. Currie, and D.E. Goldberg. 2017. Effectiveness of cattail (*Typha* spp.) management techniques depends on exogenous nitrogen inputs. *Elementa* 5:19, DOI: <https://doi.org/10.1525/elementa.147>

Martina, J.P., Currie, W.S., Goldberg, D.E., and K.L. Elgersma. 2016. Nitrogen loading leads to increased carbon accretion in both invaded and uninvaded coastal wetlands. *Ecosphere* 7(9): e01459. 10.1002/ec2.1459

Elgersma, K.J., Wildova, R., **Martina, J.P.**, Currie, W.S. and D.E. Goldberg. 2015. Does clonal resource translocation relate to invasiveness of *Typha* taxa? Results from a common garden experiment. *Aquatic Botany* 126: 48-53

Martina, J.P., Hamilton, S.K., Turetsky, M.R. and ^C.J. Phillippo. 2014. Organic matter stocks increase with degree of invasion in temperate inland wetlands. *Plant and Soil* 385: 107-123

Currie, W.S., Goldberg, D.E., **Martina, J.P.**, Wildova, R., Farrer, E., and K. Elgersma. 2014. Emergence of nutrient-cycling feedbacks related to plant size and invasion success in a wetland community-ecosystem model. *Ecological Modelling* 282: 69-82

Martina, J.P. and C.N. von Ende. 2013. Increased spatial dominance in high nitrogen, saturated soil due to clonal architecture plasticity of the invasive wetland plant, *Phalaris arundinacea*. *Plant Ecology* 214: 1443-1453

Martina, J.P. and C.N. von Ende. 2012. Highly plastic response in morphological and physiological traits to light, soil-N and moisture in the model invasive plant, *Phalaris arundinacea*. *Environmental and Experimental Botany* 82: 43-53.

Ball, B.A., Kominoski J.S., Adams, H.E., Jones, S.E., Kane, E.S., Loecke, T.D., Mahaney, W.M., **Martina, J.P.**, Prather, C.M., Robinson, T.M.P., and C.T. Solomon. 2010. Direct and terrestrial vegetation-mediated effects of environmental change on aquatic ecosystem processes. *Bioscience* 60: 590-601.

Martina, J.P. and C.N. von Ende. 2008. Correlation of soil nutrient characteristics and reed canarygrass (*Phalaris arundinacea*: Poaceae) abundance in northern Illinois, USA. *American Midland Naturalist* 160: 430-437.

Manuscripts in Preparation

Martina, J.P., R. Ramirez, K.L. Elgersma, S. Sharp, W.S. Currie, D.E. Goldberg. Propagule pressure and disturbance interact along a nitrogen gradient to influence invasion outcomes in a simulated wetland system. (*In Prep*)

Martina, J.P., K.J. Elgersma, W.S. Currie, and D.E. Goldberg. Can invasion be reversed by removing the main driver or has a regime shift occurred? A test case using a simulated wetland ecosystem. (*In Prep*)

Martina, J.P., R. O'Connor, S.K. Hamilton and M.R. Turetsky. Litter diversity and interactive effects between litter and soil control decomposition and nitrogen transformation in invaded wetlands. (*In Prep*)

Ruiz, C.M., **J.P. Martina**, D.E. Goldberg and K.J. Elgersma. The effects of nutrient resorption on the success of *Typha x glauca*. (In Prep)

Thesis Publications

Martina, J.P. 2012. Invasive plant species impacts on carbon and nitrogen cycling in inland Michigan wetlands. Dissertation, Michigan State University, East Lansing, MI.

Martina, J.P. 2006. Effects of soil nutrient characteristics, moisture, and light on the growth response and resource allocation of *Phalaris arundinacea*, an invasive wetland plant. Master's Thesis, Northern Illinois University, Dekalb IL.

Teaching Experience and Training

Participant in The Prairie Project Education Cohort, 2021-2023

USDA funded project aimed to examine how pyric-herbivory and mixed-species grazing can support the sustainability of livestock production and ecosystem services in the Great Plains region. The education component trains regional educators to develop modules that introduce relevant science to their students through experiential learning and citizen science research.

Certificate in College Science Teaching, 2013

Postdoctoral Short-Course offered by the Rackham School of Graduate Studies and the Center for Research on Learning and Teaching
University of Michigan, Ann Arbor, MI.

Courses Taught:

Texas State University

Wetland Plant Ecology and Management (Lecture & Lab)	2020 – 2022
Ecology and Management of Aquatic Macrophytes (Lecture & Lab)	2020 – 2022
Population and Conservation Seminar: Plant-Soil Feedbacks	2021
Global Change Biology (Lecture)	2020 – 2021

Texas A&M University

Fundamentals of Environmental Decision Making (Lecture)	2018
First Year Graduate Seminar in EEB	2016 - 2018

Our Lady of the Lake University

Environmental Science (Lecture & Lab)	2015 - 2016
Vascular Plants (Lecture & Lab)	2014 - 2016
Introduction to Evolution (Online)	2015 - 2016
Aquatic Biology (Lecture & Lab)	2015
General Ecology (Lecture & Lab)	2014 - 2015

University of Michigan

Practice Teaching Facilitator, CRLT Teaching Orientation	2013 – 2014
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Michigan State University (Teaching Assistant)

Tropical Biology (Lecture)	2011
Organisms and Populations (Lab)	2010 - 2011
Experiments in Plant Biology (Lab)	2010

General Plant Biology (Lab)	2009
General Ecology (Lecture & Lab)	2008

Northern Illinois University (Teaching Assistant)	
Fundamentals of Biology (Lab)	2004 - 2006

Guest Lectures

BIO 3460 Aquatic Biology, Fall 2019, 2020, Title: Plant adaptations to wetland environments. Texas State University.

BIO 4400 Plants Important for Wildlife, Fall 2019, Title: Causes and impacts of plant invasions. Texas State University

WFSC 628 Wetland Ecology and Pollution, Fall 2017, Title: The quest for control: adaptive management of invasive species in wetlands. Texas A&M University

RENR 205 Introduction to Ecology, Fall 2017, Lecture Title: Ecological principles in conservation and management. Texas A&M University

NRE 509 Ecology: Science of Context and Interaction, Fall 2013, Lecture Title: N and the N cascade. University of Michigan

NRE 501 Biofuels and Sustainability, Winter 2013, Lecture Title: Biofuels and invasive plant species. University of Michigan

FW 417 Wetland Ecology and Management, Fall 2007-2013, Lecture Title: Invasive plant species in wetlands. Michigan State University

ZOL 485 Tropical Biology, Fall 2011, Lecture Title: Decomposition: mechanisms and global patterns. Michigan State University

ZOL 897 Ecosystem Ecology and Global Change, Spring 2011, Discussion of the rise and fall of the phosphorus paradigm in limnology. Michigan State University

PLB 105 Plant Biology, Spring 2009, Lecture Title: Humans and the environment. Michigan State University

Invited Seminars

Studying global change in wetlands and grasslands. Environmental Science and Sustainability Seminar Series. Department of Mathematics and Sciences. Our Lady of the Lake University, San Antonio, TX. November 2021

Using experimental and modeling approaches to reconcile the past, present, and future of wetland plant invasions. Department of Biology Seminar Series. Texas State University, San Marcos, TX. January 2019

Merging remote sensing, modeling, and field data to understand and manage plant invasions in Great Lakes coastal wetlands. Seminar Series cohosted by the Ecology and Evolutionary Biology and Applied Biodiversity Science Programs. Texas A&M University, College Station, TX. October 2016

Plant invasion in coastal Great Lakes wetlands: Merging satellite, modeling, and field data to understand causes and consequences. Department of Biology Sciences Seminar Series. Trinity University, San Antonio, TX. October 2015

Invasive plants in wetlands: using an experimental and modeling framework to understand causes and consequences. Department of Biological Sciences Seminar Series. Northern Illinois University, DeKalb, IL. April 2014

Invasive plants in wetlands: using an experimental and modeling framework to understand causes and consequences. Conservation Ecology Seminar Series. University of Michigan, Ann Arbor, MI. February 2014

The effects of organic pollutants in urban lakes. Department of Mathematics and Sciences. Our Lady of the Lake University, San Antonio, TX. January 2014

Biodiversity: definition, benefits, and threats. Department of Biology Seminar. Angelo State University, San Angelo, TX. January 2014

Understanding causes and consequences of plant invasion in coastal wetlands. Department of Biology Seminar. Angelo State University, San Angelo, TX. January 2014

Invasive species effects on biogeochemical cycling in temperate wetlands. Plant Ecology Discussion Group. University of Michigan, Ann Arbor, MI. Spring 2011.

First-Author Conference Presentations (*denotes an invited talk)

Martina, J.P., K.L. Elgersma, D.E. Goldberg, S.J. Sharp, W.S. Currie. Tipping the tipping point: After a regime shift to invader dominance can management or high water levels push a wetland plant community back to a pre-invaded state? Society for Ecological Restoration. Virtual. June 2021. (*oral presentation*)

Martina, J.P., K.J. Elgersma, D.E. Goldberg, S.J. Sharp, W.S. Currie. Tipping the tipping point: After a regime shift to invader dominance can management or high water levels push a wetland plant community back to a pre-invaded state? American Geophysical Union Fall Meeting. Virtual. December 2020. (*eLightning Poster*)

***Martina, J.P.**, K.L. Elgersma, W.S. Currie, D.E. Goldberg. Can invasion be reversed by removing the main driver or has a regime shift occurred? A test case using a simulated wetland ecosystem. Texas Aquatic Plant Management Society Annual Conference. Bryan, TX. November 2019. (*oral presentation*)

Martina, J.P., K.L. Elgersma, W.S. Currie, D.E. Goldberg. Can invasion be reversed by removing the main driver or has a regime shift occurred? A test case using a simulated wetland ecosystem. Texas Chapter of the Society of Ecological Restoration. Galveston, TX. November 2019. (*oral presentation*)

Martina, J.P., R. Ramirez, K.L. Elgersma, S. Sharp, W.S. Currie, D.E. Goldberg. Propagule pressure and clonal branching architecture interact along a nitrogen gradient to influence invasion outcomes in a simulated wetland system. Annual Meeting of the Ecological Society of America. Louisville, KY. August 2019. (*oral presentation*)

Martina, J.P., K.L. Elgersma, W.S. Currie, D.E. Goldberg. Can invasion be reversed by removing the main driver or has a regime shift occurred? A test case using a simulated wetland ecosystem. Annual Meeting of the Ecological Society of America. New Orleans, LA. August 2018. (*oral presentation*)

Martina, J.P., K.L. Elgersma, W.S. Currie, D.E. Goldberg. What are the effects of management duration and type (burning, herbiciding, mowing) on the success of invasive cattail and C and N cycling? Society of Wetland Scientists Annual Meeting. Corpus Christi, TX. May-June 2016. (*oral presentation*)

Martina, J.P., K.L. Elgersma, W.S. Currie, D.E. Goldberg. Evaluating the efficacy of management techniques (mowing, burning, and herbiciding) on the control of cattail (*Typha* spp.) across a gradient of nitrogen loading. Texas Chapter of the Society of Ecological Restoration. San Antonio, TX. November 2015. (*oral presentation*)

Martina, J.P., K.L. Elgersma, W.S. Currie, D.E. Goldberg. Effectiveness of cattail (*Typha* spp.) management techniques (mowing, burning, and herbiciding) depends on exogenous nitrogen inputs. Annual Meeting of the Ecological Society of America. Baltimore, MD. August 2015. (*oral presentation*)

Martina, J.P., W.S. Currie, D.E. Goldberg, K.L. Elgersma. Physiological trait variation in plant invaders influences invasion success and C cycling across a nitrogen gradient in a simulated wetland ecosystem. Annual Meeting of the Ecological Society of America. Sacramento, CA. August 2014. (*oral presentation*)

***Martina, J.P.,** W.S. Currie, D.E. Goldberg, K.L. Elgersma. Investigating the major drivers of C storage in coastal wetlands using a simulation model: Do plant invasions matter? Joint Aquatic Sciences Meeting. Portland, OR. May 2014. (*oral presentation*)

Martina, J.P., W.S. Currie, D.E. Goldberg, K.L. Elgersma. Interactive effects of invasion and hydrology influence C storage along a nitrogen gradient in a simulated clonal wetland ecosystem. 98th Annual Meeting of the Ecological Society of America. Minneapolis, MN. August 2013. (*oral presentation*)

Martina, J.P., W.S. Currie, D.E. Goldberg. The interaction between litter and N loading determines invader success and N retention in a simulated clonal wetland ecosystem. American Geophysical Union Fall Meeting. San Francisco, CA. December 2012. (*oral presentation*)

Martina, J.P., W.S. Currie, D.E. Goldberg. The interaction between litter, N loading, and allocation requirement determines invader success in a simulated clonal wetland ecosystem. Society of Wetland Scientists North Central Chapter Meeting. Indiana Dunes National Lakeshore, IN. September 2012. (*oral presentation*)

Martina, J.P., S.K. Hamilton and M.R. Turetsky. Effects of aboveground biomass and litter on biogeochemical cycling in stands of the invasive wetland plant, *Phragmites australis*. 97th Annual Meeting of the Ecological Society of America. Portland, OR. August 2012. (*oral presentation*)

Martina, J.P., M.R. Turetsky and S.K. Hamilton. Invasive plants in wetlands: Effects of litter and soil conditioning on decomposition and N transformation rates. 96th Annual Meeting of the Ecological Society of America. Austin, TX. August 2011. (*oral presentation*)

Martina, J.P. Dominant species effects on C and N cycling in temperate wetlands. Kellogg Biological Station Brown Bag Series. Hickory Corners, MI. Fall 2010. (*oral presentation*)

Martina, J.P., C.J. Phillip, S.K. Hamilton and M.R. Turetsky. Dominant species effects on carbon and nitrogen cycling in temperate wetlands. 95th Annual Meeting of the Ecological Society of America. Pittsburgh, PA. August 2010. (*oral presentation*)

Martina, J.P., C.J. Phillip, S.R. Rubin and M.R. Turetsky. Consequences of plant invasion on carbon and nitrogen transformation and storage in temperate wetlands. 94th Annual Meeting of the Ecological Society of America. Albuquerque, NM. August 2009. (*poster*)

Martina, J.P., C.J. Phillip, S.R. Rubin and M.R. Turetsky. Consequences of plant invasion on carbon and nitrogen transformation and storage in temperate wetlands. Great Lakes Regional Biogeochemistry Symposium. KBS. May 2009. (*poster*)

Martina, J.P. Consequences of plant invasion on nitrogen transformations and C and N storage in Michigan Wetlands. Kellogg Biological Station Brown Bag Series. Hickory Corners, MI. Spring 2009. (*oral presentation*)

Martina, J.P. and C.N. von Ende. Effects of light, soil-N, and moisture on the biomass and resource allocation of *Phalaris arundinacea*. 93rd Annual Meeting of the Ecological Society of America. Milwaukee. August 2008. (*poster*)

Martina, J.P., C.J. Phillip and M.R. Turetsky. Organic matter accumulation and quality in Michigan wetlands: consequences of plant diversity and biological invasion. Society of Wetland Scientists. Washington, D.C. May 2008. (*poster*)

Martina, J.P. and C.N. von Ende. Effects of light, soil-N, and moisture on the biomass and resource allocation of *Phalaris arundinacea*. Botany and Plant Biology 2007 Joint Congress, Chicago, IL. July 2007. (*poster*)

Martina, J.P. and C.N. von Ende. Effects of light, soil-N, and moisture on the biomass and resource allocation of *Phalaris arundinacea*. Invasive Species Research Symposium. Michigan State University, East Lansing, Michigan. May 2006. (*poster*)

Martina, J.P. and C.N. von Ende. Light, nitrogen, and moisture effects of biomass allocation in reed canarygrass (*Phalaris arundinacea*). Phi Sigma Research Symposium. Northern Illinois University, Dekalb, IL. May 2004. (*poster*)

Co-Authored Presentations (*Bold indicates presenter, * denotes invited talk, ^ denotes student*)

Sharp, S.J., K.J. Elgersma, J.P. Martina, Y. Yuan, W.S. Currie. Nutrient loading regime determines N and P limitation and alters ecosystem function in simulated coastal wetlands along a climate change gradient. American Geophysical Union Fall Meeting. Virtual. December 2020. (*eLightning Poster*)

^Yuan Y, S.J. Sharp, J.P. Martina, K.J. Elgersma, W.S. Currie. Modeling the effects of nitrogen and hydroperiod on greenhouse gas emissions in Great Lakes coastal wetlands. American Geophysical Union Fall Meeting. Virtual. December 2020. (*Poster*)

Kendall, A.D., M. Battaglia, L.L. Bourgeau-Chavez, W.S. Currie, K.J. Elgersma, D.E. Goldberg, Q.F. Hamlin, D.W. Hyndman, S.L. Martin, J.P. Martina, S.J. Sharp, L. Wan. Connecting landscape-applied nutrients to widespread coastal wetland invasion across the Laurentian Great Lakes. American Geophysical Union Fall Meeting. Virtual. December 2020. (*eLightning Poster*)

Sharp, S.J., ^Y. Yuan, A. Kendall, K.J. Elgersma, S. Martin, L. Wan, J.P. Martina, and W.S. Currie. Mapping watershed nitrogen removal in emergent wetlands of the Great Lakes. The Stewardship Network Conference. East Lansing, MI. January 2020. (*poster*)

Currie, W.S., K.J. Elgersma, J.P. Martina, S.J. Sharp and ^Y. Yuan. Modeling nutrient cycling and retention in wetlands as a simultaneous driver and outcome of ecosystem self-organization. American Geophysical Union Fall Conference, San Francisco, CA. December 2019. (*poster*)

Sharp, S.J., K.J. Elgersma, J.P. Martina, D.E. Goldberg, W.S. Currie. Disentangling interactions of *Phragmites* invasion, hydrology and nutrient loading helps predict N-removal in freshwater coastal wetlands. Annual Meeting of the Ecological Society of America. Louisville, KY. August 2019. (*oral presentation*)

Currie, W.S., K.J. Elgersma, J.P. Martina, S. Sharp, D.E. Goldberg. Plant functional traits, community composition, and environmental conditions combine to produce ecosystem-level N cycling dynamics in an individual-based model of wetlands. Annual Meeting of the Ecological Society of America. Louisville, KY. August 2019. (*oral presentation*)

^Yuan, Y., S. Sharp, J.P. Martina, K.J. Elgersma, W.S. Currie. Hydroperiod and water levels effects on GHG exchanges in Great Lakes coastal wetlands. Annual Meeting of the Ecological Society of America. Louisville, KY. August 2019. (*poster*)

Bourgeau-Chavez, L.L., W.S. Currie, K.J. Elgersma, D.E. Goldberg, D.W. Hyndman, J.P. Martina. Human and environmental effects on Great Lakes coastal ecosystems. NASA Land Cover Land Use Change Program. Rockville, MD. May 2019. (*poster*)

Sharp, S., K.J. Elgersma, J.P. Martina, W.S. Currie, D.E. Goldberg. Hydrologic drivers of N-removal and *Phragmites* invasion of Great Lakes coastal wetlands. The Stewardship Network: Restoring Native Ecosystems Conference. East Lansing, MI. January 2019. (*oral presentation*)

^Jameson, E., K.J. Elgersma, J.P. Martina, D.E. Goldberg. More invasive cattails allocate less to sexual reproduction and are less plastic over nutrient gradients. Annual Meeting of the Ecological Society of America. New Orleans, LA. August 2018. (*poster presentation*)

Goldberg, D.E., E. Batzer, J.P. Martina, K.L. Elgersma. Allocation to clonal growth: approaches and questions. 12th Clonal Plant Symposium. Brunswick, ME. July 2018. (*oral presentation*)

Currie, W.S., J.P. Martina and K.J. Elgersma. The Mondrian model: Introduction of an interactive web-based tool for Great Lakes coastal wetland management and restoration. Presented to the United States Geological Survey. Michigan Tech Research Institute, MI. June 2018. (*oral presentation*)

Currie, W.S., K.J. Elgersma, J.P. Martina, and L.L. Borgeau-Chavez. The Mondrian model: a tool to develop an adaptive management framework to restore invaded wetlands. The Stewardship Network: Restoring Native Ecosystems Conference. East Lansing, MI. January 2018. (*oral presentation*)

Currie, W.S., K.J. Elgersma, J.P. Martina, and L.L. Borgeau-Chavez. The Mondrian model: a tool to develop an adaptive management framework to restore invaded wetlands. International Association of Great Lakes Researchers (IAGLR). Detroit, MI. May 2017. (*oral presentation*)

^**Coulter, S.,** J. Hall and J.P. Martina. Deep sea ocean oil degradation: varying nutrient levels in efforts to increase anaerobic oil degradation rates. OLLU McNair Scholars and Student Research Symposium. San Antonio, TX. April 2017. (*oral presentation*)

^**Ramirez, R.** and J.P. Martina. Investigating the effects of propagule pressure and biotic resistance on the invasion success of *Typha x glauca* across a nitrogen gradient using a simulation model. Society of Wetland Scientists Annual Meeting. Corpus Christi, TX. May-June 2016. (*poster*)

^**Ramirez, R.** and J.P. Martina. Investigating the effects of propagule pressure and biotic resistance on the invasion success of *Typha x glauca* across a nitrogen gradient using a simulation model. OLLU McNair Scholars and Student Research Symposium. San Antonio, TX. April 2016. (*oral presentation*)

Currie, W.S., L.L. Borgeau-Chavez, K.J. Elgersma, N.H.F. French, D.E. Goldberg, S.K. Hart, D.W. Hyndman, A.D. Kendall, S.L. Martin, J.P. Martina. Nutrient-driven plant invasions in wetlands around the Michigan coastline: Using satellite and field data to test model linkage across scales. Annual Meeting of the Ecological Society of America. Baltimore, MD. August 2015. (*oral presentation*)

Elgersma, K.J., Martina, J.P., Currie, W.S. and D.E. Goldberg. Native wetland plants provide biotic resistance against non-native cattail invasion in oligotrophic and eutrophic wetlands. Annual Meeting of the Ecological Society of America. Baltimore, MD. August 2015. (*poster*)

Elgersma, K.J., Martina, J.P., **Currie, W.S.** and D.E. Goldberg. Assessing ecosystem services provided by restored wetlands under current and future land-use scenarios. UM Water Center Annual Meeting, Ann Arbor, MI. July 2015. (*poster*)

Currie, W.S., L.L. Borgeau-Chavez, K.J. Elgersma, N.H.F. French, D.E. Goldberg, S. Hart, D.W. Hyndman, A.D. Kendall, S.L. Martin, J.P. Martina. Modeling water levels, nutrient inflows, plant invasions and C storage in coastal Great Lakes wetlands. University of Michigan Biological Station Winter Research Meeting. Ann Arbor, MI. February 2015. (*oral presentation*)

***Currie, W.S.,** L.L. Borgeau-Chavez, K.J. Elgersma, N.H.F. French, D.E. Goldberg, S. Hart, D.W. Hyndman, A.D. Kendall, S.L. Martin, J.P. Martina. Linking a large-watershed hydrogeochemical model to a wetland community-ecosystem model to estimate plant invasion risk in the coastal Great Lakes region, USA. American Geophysical Union Fall Meeting. San Francisco, CA. December 2014. (*oral presentation*)

Elgersma, K.L., J.P. Martina, W.S. Currie, D.E. Goldberg. Nitrogen loading in Great Lakes coastal wetlands affects N retention, plant community composition, and non-native invasion success. Annual Meeting of the Ecological Society of America. Sacramento, CA. August 2014. (*oral presentation*)

^**Batzer, E.E.,** D.E. Goldberg, J.P. Martina, K.J. Elgersma. Clonal reproduction within Cyperaceae: Allocation, translocation, and response to nutrient availability. Annual Meeting of the Ecological Society of America. Sacramento, CA. August 2014. (*poster*)

Elgersma, K.L., J.P. Martina, W.S. Currie, D.E. Goldberg. Assessing ecosystem services provided by restored wetlands under current and future climate and land-use scenarios. University of Michigan Water Center Annual Meeting, Ann Arbor, MI. June 2014. (*poster*)

Elgersma, K.L., J.P. Martina, W.S. Currie, D.E. Goldberg. Effect of nutrients on invasive wetland plant establishment and competition between native and invasive plants. 3rd Annual Winter Research Meeting, U of M Biological Station, Ann Arbor, MI. February 2014. (*oral presentation*)

Elgersma, K.L., J.P. Martina, W.S. Currie, D.E. Goldberg. Wetland responses to nutrient inputs: community composition, nutrient retention, and invasion risk. 98th Annual Meeting of the Ecological Society of America. Minneapolis, MN. August 2013. (*poster*)

Currie, W.S., D.E. Goldberg, J.P. Martina. Exploring interwoven cause and effect in nutrient cycling, plant size, and invasion success in a wetland community-ecosystem model. Society of Wetland Scientists North Central Chapter Meeting. Indiana Dunes National Lakeshore, IN. September 2012. (*oral presentation*)

***Goldberg, D.E., K.J. Elgersma, W.S. Currie, J.P. Martina.** Building an integrated program to understand wetland plant invasions. Society of Wetland Scientists North Central Chapter Meeting. Indiana Dunes National Lakeshore, IN. September 2012. (*oral presentation*)

von Ende, C.N. and J.P. Martina. Highly plastic response in morphological and physiological traits to light, soil-N and moisture in the model invasive plant, *Phalaris arundinacea*. Wisconsin Wetland Association's 17th Annual Wetland Conference. Lake Geneva, WI. February 2012. (*poster*)

Webinars and Other Online Products

Martina, J.P., Currie, W.S., and K.J. Elgersma. A primer on the user-friendly Mondrian model for wetland ecology and invasive species management. Hosted by the Great Lakes *Phragmites* Collaborative. July 2018. <https://www.greatlakesphragmites.net/resources/webinars/>

Phragmites Management Look-Up Table: A Tool for *Phragmites* Adaptive Management Strategies. Developed by the Mondrian Team. <https://sites.google.com/uni.edu/phragmiteslookuptable>

Mentoring and Supervising Experience

Graduate Students Advised

Tilak Chaudhary (Ph.D. Student)

Megan Herod (M.S. Student, thesis)

Brianna Fogel (M.S. Student, thesis)

Traci Foulkes (M.S. Student, thesis)

Jenna DeMent (M.S. Student, thesis)

Anthony Omofoma (M.S. Student, non-thesis) – Graduated Fall 2021

Graduate Student Thesis Committee Member

Alexandra Salinas (M.S. Student)

Kristen K. Sustaita (M.S. Student)

Shelby Conway (M.S. Student)

Emily Lorkovic (M.S. Student)

Joseph Plappert (M.S. Student) – Graduated Fall 2021

Michael McClellan (M.S. Student, non-thesis) – Graduated Fall 2021

Undergraduate Research Project Advisor (TXST-BIO 4299)

Sydney Scace (current)

Alex Badgwell (graduated Spring 2021)

Ryan Kridler (graduated Fall 2021)

Current Texas State University Undergraduate Students

Alex Badgwell, Ryan Kridler, Sydney Scace, Emily Horan, Andrew Martinez, Courtney Velasquez

Past Texas State University Undergraduate Students

James Caulfield (2020-2021)

Sabrina Sanders (2020-2021)

Claudia Arias (2020)

David Molnar (2019-2020)

Jair G-Aviles (CoSE Undergraduate Research Program, 2020)

Texas A&M University

Research Assistants (November 2017 – August 2019). I supervised four undergraduates, Grace Vielleux, Ryan Doner, Michael Behrendt, and Aaron Banks, in modelling management scenarios associated with Great Lakes coastal wetlands research.

Our Lady of the Lake University

Undergraduate Capstone Project (May 2015 - May 2017). I mentored three senior undergraduates (Ramiro Ramirez (2015), Danielle Herrera (2015), and Sydney Coulter (2016)) in independent research on invasive plant ecology and oil degradation by microbes.

Independent Study Mentorship Program at John Jay High School (August 2015-May 2016). I mentored Carter Guffey (Senior, JJHS) in independent research using a greenhouse study to examine the effects of crop plant biodiversity on ecosystem function.

Honors Capstone Thesis (January – May 2016). I was the faculty advisor for Valarie Villarreal's senior honors thesis, titled "The Unknown Future of the Banana".

University of Michigan

Full-time and Part-time Research Assistants (May 2012 – August 2014). I supervised Derek Ager, Evan Batzer, Hannah Reses, Jerry Tyrell, and Paige Meyers in field and lab techniques associated with Great Lakes coastal wetlands research (postdoctoral research).

Michigan State University

Undergraduate Field and Lab Assistants (May 2010 – January 2012). I supervised Matt Chansler, Matt Kolp, and Claire Taylor (undergraduates, Plant Biology) in field and lab techniques associated with inland wetlands research (dissertation project).

Undergraduate Field and Lab Assistant (May 2009-May 2010). I mentored Ryan O'Connor (undergraduate, Zoology) in independent research and lab and field techniques.

Undergraduate Senior Project (August 2007-May 2009). I mentored two senior undergraduates (Colin Phillippo and Spencer Rubin) in the Department of Plant Biology in independent research in both field and laboratory techniques leading to the completion of their senior projects.

Program for Undergraduate Research in the Life Sciences (PURL) (August 2007-May 2008). I mentored seven undergraduates who rotated through the Turetsky lab (MSU) in wetland biogeochemistry techniques, as well as basics in scientific methodology and inquiry.

University Service

Strategic Planning Committee – Department of Biology, TXST, 2021
Graduate College's Outstanding Thesis Award Committee in the Life Sciences, TXST, 2021
Environment and Sustainability Committee, Faculty Senate Committee, TXST, 2021
Greenhouse Committee, Department of Biology, TXST, 2021
Faculty reviewer for the Undergraduate Research Fellowship program, TXST, 2019-2021
Women in Science and Engineering (WiSE) poster judge, TXST, 2020
Faculty advisor for *Ecology and Evolutionary Biology Independent Student Organization*, a TAMU graduate student organization, 2017 - 2019
Faculty advisor for *Earth Club*, an OLLU student organization, 2015-2016
Honors Faculty Council, Our Lady of the Lake University, 2014-2016
Alternate, Westside Creeks Restoration Oversight Committee, San Antonio River Authority, 2014-2016
Panelist, Professional Development Series: Exploring Academic Publishing, OLLU, February 10, 2015
Graduate Student Organization (Plant Biology) Treasurer, MSU, 2009-2012
Dean's Student Advisory Council Plant Biology Representative, MSU, 2008-2009
Graduate Student Organization (Plant Biology) President, MSU, 2007- 2008
Biogeochemistry Environmental Research Initiative (BERI) Coordinator, MSU, 2007-2008

Major University Coordinating Activities

Texas A&M University

EEB Core Modules (EEBL 601-608)	2017 – 2019
Open Source for Open Science Workshop	2016 – 2019
EEB Recruiting Weekend	2016 – 2019
EEB and ABS Seminar Series	2016 – 2019
Darwin Day	2016 – 2019
4 th Southeast Texas Evolutionary Genetics and Genomics Symposium	2019

Professional Service and Membership

Manuscript Reviewer for *Freshwater Biology*, *Science of the Total Environment*, *Plant Ecology*, *Ecology and Evolution*, *Ecological Applications*, *Biogeochemistry*, *Nature – Scientific Reports*, *PLOS ONE*, *New Phytologist*, *Oecologia*, *Ecosphere*, *Chemistry and Ecology*, *Geoderma*, *Aquatic Sciences*, *Weed Research*, *Flora*, *Soil Science Society of America Journal*, *Ecological Engineering*, *Restoration Ecology*

External Proposal Reviewer for the French National Research Agency (ANR) “Terre vivante”– 2021
Proposal Review Panel Participant for DOE Environmental System Science – 2021
External Proposal Reviewer for Graduate Women in Science Fellowships – 2018, 2019
External Proposal Reviewer for NSF Division of Environmental Biology – Ecosystems 2017
External Proposal Reviewer for Maryland Sea Grant College Program 2015

Conference symposia/sessions organized:

- American Geophysical Union 2020 Annual Conference Session titled: Understanding impacts of climate, land use, and hydrologic linkages from the land to the shore on coastal ecology
- Society of Wetland Scientists 2016 Annual Conference Symposium titled: Ecosystem management impacts on biogeochemical cycling in wetlands

Society of Wetland Scientists (Member)

Served as Chair of the Biogeochemistry Section from 2014-2017

Society for Ecological Restoration (Member)

Ecological Society of America (Member)

American Geophysical Union (Member)

Sigma Xi (Full member)

Phi Kappa Phi (graduate, MSU Chapter)

Golden Key International Honour Society (graduate, MSU Chapter)

Golden Key International Honour Society (undergraduate, NIU Chapter)