PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM (PRRIP -or- Program)

PRRIP Independent Scientific Advisory Committee (ISAC) Candidate Report

Prepared by: Dr. Chadwin Smith, Executive Director's Office (EDO)
May 2024

I. Introduction and Background

This report was prepared to assist the PRRIP's ISAC Selection Panel in identifying a recommended candidate for one (1) open seat on the ISAC in 2024. The open ISAC seat encompasses the following area of expertise:

> ***Large river ecology, restoration, and management.*** *Expertise in and experience with science disciplines related to large river ecology and management. Prior experience with large-scale aquatic restoration programs and the implementation of adaptive management preferred. Expertise in the ecology, habitat use, and movement of large river fish (particularly Acipenseriformes) and/or specific experience with pallid sturgeon use of and behavior in Missouri River tributaries, including the lower Platte River in Nebraska and the Yellowstone River in Montana and North Dakota, would be beneficial but is not required.*

The ISAC is a standing Advisory Committee for the PRRIP and is comprised of independent scientists knowledgeable in technical areas critical to implementation of the Extension Science Plan. The ISAC provides independent scientific counsel and advice to the Governance Committee (GC), the decision-making body for the PRRIP. The ISAC is currently composed of six (6) members covering a wide range of areas of scientific expertise important to evaluating the implementation and analysis of Program science. The categories of expertise are matched to the current primary scientific areas of interest for the Program and may be modified over time based on Program learning and updated areas of scientific and technical priorities. It is possible that an individual ISAC member may fulfill more that one of the areas of expertise below. To the extent possible, more than one ISAC member should have experience in the science and application of adaptive management (AM) within their area of disciplinary expertise.

- Avian ecology (whooping crane focus beneficial)
- Adaptive management and decision-making
- Ecological statistics
- Large river and riverine fish ecology (pallid sturgeon focus beneficial)
- Fluvial geomorphology (vegetation focus)
- Fluvial geomorphology (sediment/morphology/alluvial river focus)

New ISAC members will be evaluated by the ISAC Selection Panel appointed by the GC to develop criteria for evaluating potential ISAC candidates, review application materials, and recommend new members to the GC. The GC will make the final decision on ISAC member appointments. Dr. Smith of the EDO facilitates this process.

II. ISAC Candidates – Identification

The following is a brief summary of the process used by Dr. Smith to identify potential ISAC candidates for review by the ISAC Selection Panel.

Step 1 – Develop an External Solicitation seeking ISAC candidates for specific areas of expertise.

Dr. Smith developed an External Solicitation (**Appendix A**) in consultation with the PRRIP Executive Director, EDO staff, and members of the ISAC Selection Panel. That External Solicitation identifies the large river ecology, restoration, and management expertise needed for the open ISAC seat.

Step 2 – Solicit ISAC candidates.

ISAC candidates were solicited in the following manner:

- Dr. Smith's personal expertise network.
- Recommendations from the PRRIP Executive Director and EDO staff.
- Recommendations from members of the PRRIP Governance Committee (GC), Technical Advisory Committee (GC), Water Advisory Committee (WAC), Land Advisory Committee (LAC), and current members of the ISAC.
- Distribute the External Solicitation to relevant refereed journals, expertise networks via listservs, and professional societies.
- Requesting that contacted individuals distribute the External Solicitation to spread the request more widely.
- Additional potential ISAC candidates were contacted to determine their interest, availability, and willingness to serve. This contact was primarily conducted via electronic via email. Each candidate was provided with a copy of the External Solicitation and Dr. Smith discussed time commitments, experience, and potential conflicts of interest with candidates.

Step 3 – Collect application materials from each ISAC candidate.

Prospective candidates were asked to provide the following materials:

1) A *cover letter* describing your interest in the position, summarizing your expertise and experience, and addressing the ISAC membership considerations noted above.
2) A *one-paragraph biographical statement* summarizing your background, expertise, and experience that can be used to summarize candidate qualifications.
3) A *full curriculum vitae (CV)* detailing your education, experience, publication history, and other aspects of your background that relate to the area of expertise described above.
4) An *affirmative statement* that, during the contract phase, you could sign the PRRIP Conflict of Interest form for ISAC Members.
5) An *affirmative statement* that, during the contract phase, you could sign the PRRIP Certification Regarding Lobbying.
6) An *affirmative statement* that, during the contract phase, you could sign a contract affirming you are NOT disbarred from doing work for the federal government. This could include noting your ability to present a Dun & Bradstreet (DUNS) number, SAM registration ID, or federal tax ID if you intend to conduct work as a private consultant.

All materials are attached in **Appendix B** (in order of Rating Scores; see **Attachment #1 – 2024 ISAC Candidates Rating & Review Spreadsheet** for full rating details).

Step 4 – Candidate Conversations.
Dr. Smith conducted a short (30-minute) virtual conversation with each of the seven (7) ISAC candidates that submitted application materials to ask specific questions, clarify submitted information, provide general background about the PRRIP and the ISAC, and to answer any candidate questions.

III. ISAC Candidates – Review

Table 1 provides a census list of seven (7) ISAC candidates that submitted application materials as well as additional fourteen (14) individuals contacted by Dr. Smith to evaluate their interest in and availability for ISAC membership but did not submit application materials. **Table 1** also indicates the how each individual was recommended for consideration.

Table 1. Candidates (7) for the open ISAC seat in fluvial geomorphology and additional individuals (14) that were contacted about the opportunity but did not submit application materials. Each list of candidates is presented in alphabetical order. *Italics* are used to identify individuals residing outside of the U.S.

First	Last	Terminal Degree	Affiliation	Recommended by:	Status
ISAC Seat: Large River Ecology, Restoration, & Management – CANDIDATES					
Mike	*Bradford*	*Ph.D.*	*Simon Fraser University*	David Marmorek	**Candidate**
Keith	Gido	Ph.D.	Kansas State University	David Galat	**Candidate**
Martin	Hamel	Ph.D.	University of Georgia	External Solicitation	**Candidate**
Chris	Hoagstrom	Ph.D.	Weber State University	David Galat	**Candidate**
Yoichiro	Kanno	Ph.D.	Colorado State University	Jennifer Hoeting	**Candidate**
Gary	Lamberti	Ph.D.	University of Notre Dame	David Galat	**Candidate**
John	Sabo	Ph.D.	Tulane University	External Solicitation	**Candidate**
ISAC Seat: Large River Ecology, Restoration, & Management – CONTACTED, DID NOT APPLY					
Scott	Bonar	Ph.D.	University of Arizona (USGS co-op)	External Solicitation	Declined (workload)
Erin	Bray	Ph.D.	San Francisco State University	External Solicitation	Declined (academic department transition)
Steve	Chipps	Ph.D.	South Dakota State University	David Marmorek	Declined (workload)
David	Deslauriers	Ph.D.	University of Quebec-Rimouski	Steve Chipps	Declined (workload)
Corey	Dunn	Ph.D.	North Carolina State University (USGS co-op)	Mary Freeman	Contacted
Mary	Freeman	Ph.D.	USGS/University of Georgia	External Solicitation	Declined (wrong fit for ISAC)
Chris	Guy	Ph.D.	Montana State University	David Marmorek	Declined (workload)

First	Last	Terminal Degree	Affiliation	Recommended by:	Status
Christopher	Konrad	Ph.D.	USGS - Washington Water Science Center	External Solicitation	Declined (not allowed in current position)
Dave	Lytle	Ph.D.	Oregan State University	External Solicitation	Declined (workload)
Meryl	Mims	Ph.D.	Virginia Tech University	External Solicitation	Declined (workload)
Julian	Olden	Ph.D.	University of Washington	External Solicitation	Contacted
Craig	Paukert	Ph.D.	University of Missouri (USGS co-op)	David Galat	Contacted
Mark	Pyron	Ph.D.	Ball State University	External Solicitation	Contacted
Tom	Turner	Ph.D.	University of New Mexico (USGS co-op)	External Solicitation	Declined (workload)

ISAC Candidate Rating

Dr. Smith developed a coarse ISAC Candidate rating scale based on nine (9) categories related to specifications in the External Solicitation and Program need and an overall Rating Score. See **Attachment #1 – 2024 ISAC Candidates Rating & Review Spreadsheet** (Excel spreadsheet) for full rating results and brief Review Notes from Dr. Smith for each 2024 ISAC Candidate.

Rating Categories

1) **Terminal degree** – candidate has a terminal degree in aquatic or river ecology, fish ecology, or a related field (generally Ph.D. and/or P.E.).

2) **10+ Years' Experience in Relevant Field** – riverine or aquatic system ecology and management, fish ecology and management, etc.; 10+ years' experience including field work, research, teaching, consulting, publishing; can include time during graduate school (especially for terminal degree) if research/writing/field work relevant.

3) **High Achievement in Relevant Discipline** – cover letter and/or CV speaks to achievements such as career advancement, awards, recognition, etc.

4) **Strong Record of Scientific Accomplishment** – record of publishing, developing new models or approaches, career advancement in relevant field.

5) **High Standards** – cover letter and/or CV speak to high standards in application of science, in evaluation of scientific and technical materials in relevant field, and in approach to conducting, analyzing, and reviewing scientific materials.

6) **Forge Creative Solutions** – record of innovation or uniqueness in approaches to large river ecology and related fields.

7) **Collaboration** – record of working in multi-stakeholder settings, collaboration with other scientists or stakeholders, cover letter and/or CV speak to work in team settings.

8) **Experience with the PRRIP or Similar Programs** – previous experience or familiarity with the PRRIP (before or during the Cooperative Agreement, First Increment, or Extension); experience or familiarity with similar restoration or endangered species recovery programs.
9) **Experience & Expertise on Point with PRRIP Need** – experience with sand bed river systems, or with similar issues of ecology and management with gravel bed rivers; familiarity with latest modeling and data collection/analysis tools; familiarity with latest advancements in science in fields of riverine and fish ecology, river processes, river restoration, etc.

Individual category scores for each category were assigned as follows:

5 = Present and clear in cover letter and/or CV

3 = Present but unclear in cover letter and/or CV

1 = Not present and not clear in cover letter and/or CV

Overall Rating

Overall candidate rating scores were calculated as an average of the nine (9) category scores and were assigned as follows:

Rating of 4.5 or higher; strongest candidates for consideration.

Rating of 4.0-4.4; strong candidates that could warrant additional consideration.

Rating of 3.9 or below; lower rated candidates that may not warrant additional consideration at this time.

2024 ISAC Candidate List

Table 2 identifies the seven (7) candidates and includes their Rating Scores and a brief set of review notes from Dr. Smith to help further explain those scores and the general fit of each candidate for the PRRIP and for the open ISAC seat in large river ecology, restoration, and management. The candidates are listed alphabetically according to their Rating Scores. Dr. Smith critically reviewed each ISAC candidate to identify and attempt to avoid all conflicts of interests and ensure availability to serve. All seven (7) candidates are presented to the ISAC Selection Panel for consideration, discussion, and potential interviews.

172 **Table 2.** ISAC candidate list presented to the ISAC Selection Panel for consideration.
173

First	Last	Terminal Degree	Affiliation	Location	Rating (scale 0-5)	Review Notes
Keith	Gido	Ph.D.	Kansas State University	Manhattan, KS	**4.6**	Long career with large river and small stream ecology in central and western U.S.; has been associated with the San Juan River RIP (closest analog to PRRIP) for about 30 years, also with Colorado River work through the GCMRC; also has worked on silvery minnow issues through the MRGESCP; more fish ecology expertise than general river ecology but has applied this to other sand bed rivers and in systems controlled by dams/reservoirs; has worked collaboratively with other scientists and stakeholders in areas like the San Juan, also as a researcher working with other scientists on publications related to environmental flows; has worked more on small-bodied species like chubs as opposed to sturgeon but similar issues, knows Mark Pegg and Ed Heist well; some concern about time constraints due to academic duties at Kansas State but generally feels good about being able to work around this.
John	Sabo	Ph.D.	Tulane University	New Orleans, LA	**4.6**	Expertise in river food web ecology, flow management, and impacts on fisheries from regulated rivers; has worked on Colorado River, Mekong River, Amazon River; at Tulane now working on Mississippi River issues, focus on collaborative efforts for climate adaptation; works in regulated systems on issues related to fisheries, food production, etc. so knows how to work in these collaborative spaces; comfortable in the science/policy space; has worked on water issues in California.
Mike	Bradford	Ph.D.	Simon Fraser University	Vancouver, BC, Canada	**4.3**	Long career in riverine and aquatic system ecology; well-published, recognized for work; previous experience on science panels and giving expert testimony; background in adaptive management, structured decision making, and other decision-related tools; experience with similar programs on Colorado River and Trinity River; background tied more deeply to salmonids, mountain rivers, West Coast, but said he has worked on the Peace River which is more of a plains river; some experience with white and lake sturgeon, some complementary issues.

First	Last	Terminal Degree	Affiliation	Location	Rating (scale 0-5)	Review Notes
Gary	Lamberti	Ph.D.	University of Notre Dame	Notre Dame, IN	**4.3**	Expert in aquatic biology and ecology; former member of the Missouri River ISAP; works in Pacific Northwest, Alaska, and Great Lakes; work has focused more on salmonids but does catch issues related to flow, migration, contaminants, climate change, etc.; typically works with smaller and mid-sized systems but comfortable working in large river systems as well.
Christopher	Hoagstrom	Ph.D.	Weber State University	Ogden, UT	**3.2**	Experience with fish in Great Plains rivers (SD and TX) as well as with sand-bed systems in NM; former fisheries tech for the USFWS; connection to Nebraska (parents from the state) and some familiarity with the Platte; somewhat younger in academic career post federal employment; concern about time and academic requirements.
Yoichiro	Kanno	Ph.D.	Colorado State University	Fort Collins, CO	**3.0**	Background in fisheries ecology, genetics, movement ecology, general stream and river ecology; some work with Atlantic sturgeon; work on salmonids in both U.S. and Japan; interesting background in diplomacy for Japan; somewhat young in academic career but has done a lot of work in that time on aquatic ecology issues; doing work for CWCB and South Platte basin on human dimensions of river/water management, would be good background for ISAC but is this an issue for the GC?
Martin	Hamel	Ph.D.	University of Georgia	Athens, GA	**2.8**	Direct experience working with pallid sturgeon on the lower Platte River; continued work on Atlantic, shortnose, and lake sturgeon; young in career relative to other candidates; concern about academic duties at the University of Georgia, as well as prior overlap with Mark Pegg and history of work on lower Platte.

174

Appendix A

PRRIP External Solicitation for ISAC Candidates

PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM (PRRIP -or- Program)
Independent Scientific Advisory Committee (ISAC)
2024 External Solicitation ISAC Member – Large River Ecology, Restoration, & Management

Application Materials Submission Deadline: Thursday, February 29, 2024 by 12:00 PM Central Time

POSITION SUMMARY

The Platte River Recovery Implementation Program (PRRIP -or- Program) seeks candidates for one (1) open seat on the Independent Scientific Advisory Committee (ISAC) in 2024. The ISAC evaluates the implementation, analysis, and synthesis of PRRIP science and provides independent scientific counsel and advice to the Governance Committee (GC), the decision-making body for the PRRIP. The ISAC is currently composed of six (6) members covering a wide range of areas of scientific expertise. This is an opportunity to join an interdisciplinary panel of independent science experts from around the world that provides actionable scientific counsel to one of the most successful collaborative endangered species recovery programs in the nation. It is also an opportunity to help connect cutting-edge science with decision-making for endangered species management and restoration program governance.

The PRIPP seeks a new ISAC member who is an expert in large river ecology and management with specific expertise and experience as described below:

> ***Large river ecology, restoration, and management.*** *Expertise in and experience with science disciplines related to large river ecology and management. Prior experience with large-scale aquatic restoration programs and the implementation of adaptive management preferred. Expertise in the ecology, habitat use, and movement of large river fish (particularly Acipenseriformes) and/or specific experience with pallid sturgeon use of and behavior in Missouri River tributaries, including the lower Platte River in Nebraska and the Yellowstone River in Montana and North Dakota, would be beneficial but is not required.*

OVERVIEW OF THE PRRIP AND THE ISAC

The PRRIP initiated on January 1, 2007, as a basin-wide effort between the states of Colorado, Wyoming, and Nebraska and the Department of Interior (Bureau of Reclamation and U.S. Fish and Wildlife Service) to provide land, water, and scientific monitoring and research to assist in the conservation of and evaluate Program benefits for the target species (whooping crane, interior least tern [now de-listed], piping plover, pallid sturgeon). The Program is implemented in an incremental manner, with the First Increment covering the 13-year period from 2007 through 2019 and the First Increment Extension covering a 13-year period from 2020 through 2032. In general, the purpose of the Program is to implement certain aspects of the Service's recovery plans for the target species that relate to the Program's identified "associated habitats" in the central Platte River by securing defined benefits for those species and their habitats. The Program provides ESA

compliance for existing and certain new water-related activities in the Platte basin upstream of the Loup River confluence for potential effects on the target species; helps prevent the need to list more Platte River species under the ESA; mitigates the adverse effects of certain new water-related activities through approved depletions plans; and establishes and maintains an organizational structure that ensures appropriate state and federal government and stakeholder involvement in the Program.

The Program is led by the GC consisting of representatives of Colorado, Wyoming, Nebraska, the Bureau of Reclamation, the Service, South Platte River water users, North Platte River water users, Nebraska water users, and environmental groups. The Program establishes key standing Advisory Committees to assist the GC in implementing the Program. Those committees include the Technical Advisory Committee (TAC), the Land Advisory Committee (LAC), the Water Advisory Committee (WAC), the Finance Committee (FC), and the ISAC. In a unique approach, the Program is staffed by an independent Executive Director (ED; Mr. Jason Farnsworth) and Executive Director's Office (EDO) personnel provided by Headwaters Corporation, a private, for-profit natural resources consulting company. Dr. Chadwin Smith of the EDO coordinates the work of the ISAC and other independent science for the Program.

The ISAC is a standing Advisory Committee for the PRRIP comprised of six independent scientists knowledgeable in technical areas critical to implementation of the Extension Science Plan. Members of the ISAC are experienced scientists with demonstrated achievement and high standing in their field appointed to fill specific areas of expertise needed by the Program (as described above). The Program attempts to maintain ISAC membership comprising a balance between scientists with specific knowledge of the Platte River basin and those with more broad and diverse experience. Members are expected to provide objective scientific advice in a timely and professional manner and work effectively in a multi-disciplinary setting. The ISAC operates as a collaborative interdisciplinary team. All ISAC members are free to contribute on any topic and lively discussions are part of ISAC meetings. ISAC recommendations to the Program are refined through such dialogue. ISAC membership is open to individuals employed by all agencies, institutions, and organizations, with the exception that members cannot be salaried employees of member entities of the GC or organizations with specific mandated representation on the LAC, WAC, and TAC.

New ISAC members are evaluated by an ISAC Member Selection Panel appointed by the GC to develop criteria for evaluating potential ISAC candidates, review application materials, interview candidates, and recommend new members to the GC. The GC makes ISAC member appointments. Dr. Smith of the EDO facilitates this process, which includes virtual and/or phone discussions with Dr. Smith and a virtual interview with members of the Selection Panel.

For more information on the PRRIP, visit our website at https://platteriverprogram.org/.

MAJOR DUTIES/RESPONSIBILITIES

- Advising the GC, TAC, and EDO on implementation of the Extension Science Plan, including providing an independent opinion on the design and implementation of science activities and adaptive management and the scientific rigor of proposed management actions and associated monitoring and research.

- Reviewing scientific information collected by the Program and providing an independent opinion on these results in terms of the response (or lack thereof) of the river and target species to management interventions.

- Review and interpret selected non-Program science (typically in the form of a publication from a refereed journal) to provide recommendation(s) on if/how to on-board technical aspects of the non-Program science in question to improve PRRIP science and its application.

- Responding to specific questions of a scientific nature from the GC, TAC, and EDO.

- Advising the GC, TAC, and EDO on the need for additional peer review.

- Two multi-day, in-person meetings each year – annual Science Plan Reporting Session, usually in February in Omaha, Nebraska; summer or fall ISAC Meeting, usually in Kearney, Nebraska.

- Virtual participation in the March GC Quarterly Meeting to communicate with the GC after the February Science Plan Reporting Session; virtual participation in other GC Quarterly Meetings as requested and/or for general interest.

- Additional virtual meetings and communication via email and phone.

ISAC MEMBERSHIP & REMUNERATION

The GC appoints ISAC members to an initial three-year term, renewable at GC discretion. The PRRIP provides ISAC members with an annual fixed-price stipend (generally invoiced quarterly) for work including document review, virtual meetings, in-person meetings, and travel time associated with attending in-person meetings. The approved general ISAC member stipend for FY2024 is $32,400 (for the 2024/25 contract period, this will equate to 18 days of time [8-hour days] at a rate of $225/hour). During the three-year appointment, ISAC member work is contracted annually via contract amendments that typically have an initiation date of July 1 of the current calendar year and extend through June 30 of the following calendar year. The annual ISAC scope of work and stipend rate is developed during the Program's budget and work plan development process and both require GC approval. In addition, all ISAC member travel expenses (airfare, hotels, meals, etc.) for in-person meetings are fully reimbursed as direct expenses by the PRRIP based on submitted receipts.

QUALIFICATIONS

- **Education** – Ph.D. or other terminal degree in a field related to the scientific area(s) of expertise identified above.

- **Experience** – Ten (10) or more years in a relevant field related to the scientific area(s) of expertise identified above. This may include research and/or teaching experience, publication in refereed journals, participation on editorial boards or funding review panels, or on-the-ground work in river settings or restoration contexts. Prior experience providing independent science oversight or guidance for large-scale restoration or endangered species recovery programs like the PRRIP or as part of other independent science advisory panels is desirable.

- **Considerations** – Specific ISAC membership considerations include:
  a) High achievement in a relevant scientific discipline.
  b) A strong record of scientific accomplishment documented by contribution to the peer-reviewed literature or other evidence of creative scientific accomplishment.
  c) High standards of scientific integrity, independence, and objectivity.
  d) Ability to forge creative solutions to complex problems.
  e) Interest in and ability to work effectively in an interdisciplinary setting.

APPLICATION MATERIALS SUBMISSION

If you believe you meet the qualifications described above and are interested in being considered for the open ISAC member position, please submit the following initial application materials:

7) A *cover letter* describing your interest in the position, summarizing your expertise and experience, and addressing the ISAC membership considerations noted above. The cover letter should be addressed to:
   Chadwin Smith, Ph.D.
   Science Policy Coordinator
   Platte River Recovery Implementation Program
   4111 4th Ave., Suite 6
   Kearney, NE 68845
8) A *one-paragraph biographical statement* summarizing your background, expertise, and experience that can be used to summarize candidate qualifications.
9) A *full curriculum vitae (CV)* detailing your education, experience, publication history, and other aspects of your background that relate to the area of expertise described above.
10) An *affirmative statement* that, during the contract phase, you could sign the PRRIP Conflict of Interest form for ISAC Members, attached to this Solicitation as **Exhibit A**.
11) An *affirmative statement* that, during the contract phase, you could sign the PRRIP Certification Regarding Lobbying, attached to this Solicitation as **Exhibit B**.
12) An *affirmative statement* that, during the contract phase, you could sign a contract affirming you are NOT disbarred from doing work for the federal government. This could include noting your ability to present a Dun & Bradstreet (DUNS) number, SAM registration ID, or federal tax ID if you intend to conduct work as an ISAC member as a private consultant.

Please submit all materials electronically in PDF format to Dr. Chadwin Smith at smithc@headwaterscorp.com. Your materials will be evaluated by Dr. Smith and the ISAC Member Selection Panel with other potential candidates, and Dr. Smith may contact you for additional information or clarifications. The ISAC Member Selection Panel will conduct virtual interviews with a set of finalists to gather more information before making an appointment recommendation to the GC. *It is anticipated the GC will make the ISAC Member appointment in June 2024 and the new ISAC Member should be available to attend the Summer ISAC Meeting in Kearney, NE on July 16-18, 2024.*

If you have any questions about the PRRIP, the ISAC member opening, the function of the ISAC, or this External Solicitation please contact Dr. Smith at smithc@headwaterscorp.com or (402) 432-7950.

PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM (PRRIP -or- Program)
EXHIBIT A: PRRIP Conflict of Interest Form – ISAC Members

The PRRIP developed guidance regarding the avoidance of conflicts of interest in accordance with the ISAC Charter (Attachment 6, Appendix I) and the Peer Review Guidelines (Adaptive Management Plan, Appendix A) contained in the PRRIP Final Program Document. As stated in the ISAC Charter: "The ISAC must retain as much independence from the adaptive management program as possible. This independence requires that their role focus on reviewing products produced by the Program."

Potential conflicts of interest include but are not limited to:

- Financial interest in the restoration and management activities associated with the PRRIP.
- Familial relationship with any of the scientists conducting research and/or monitoring associated with the PRRIP.
- Bias, for personal reason for or against the scientists mentioned above and/or the entities involved in the implementation of the PRRIP.
- Professional connection with any entities involved with PRRIP implementation.
- Impacts of lobbying or political pressure exerted by person(s) looking for a particular result or more work with the PRRIP.
- Has conducted, is conducting, or intends to conduct work for or on behalf of the Program, or work that directly overlaps with Program scientific and technical priorities, which could result in an ISAC member reviewing and commenting on her/his own work product(s).

As a candidate proposed for participation on the ISAC, I hereby state that I do not have any conflicts of interest with the Platte River Recovery Implementation Program as outlined above and (if necessary) explained on the following page. I can serve effectively on the ISAC without any financial, familial, personal, or professional bias in order to further the goals and objectives of the PRRIP and the implementation and evaluation of the Extension Science Plan and associated scientific and technical activities, analyses, and syntheses.

FOR THE CONSULTANT:

_____ _____

NAME DATE

PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM (PRRIP -or- Program)
EXHIBIT B – Certification Regarding Lobbying

The undersigned certifies, on behalf of the Consultant, that to the best of his or her knowledge and belief:

1. No federal appropriated funds have been paid or will be paid, by or on behalf of the Consultant, to any person for influencing or attempting to influence an officer or employee of any federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, or the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement.

2. No registrant under the Lobbying Disclosure Act of 1995 has made any lobbying contacts on behalf of the Consultant with respect to the federal grant or cooperative agreement under which the Consultant is receiving monies.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who makes an expenditure prohibited by Section 1 above or who fails to file or amend the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

FOR THE CONSULTANT:

_____ _____

NAME DATE

Appendix B

ISAC Candidates – Submitted Application Materials

KANSAS STATE UNIVERSITY | Division of Biology

23 February 2024

Chadwin Smith, Ph.D.
Science Policy Coordinator Platte River Recovery Implementation Program
4111 4th Ave., Suite 6 145
Kearney, NE 68845

Dear Dr. Smith,

Please consider my application for the open seat on the Independent Scientific Advisory Committee (ISAC) for the Platte River Recovery Implementation Program (PRRIP). My extensive experience working on the conservation and ecology of fishes in both natural and regulated rivers would contribute greatly to the evaluation of this program. As you will see in my biographical statement and in the attached CV, I am a highly accomplished fisheries scientist with a strong record of peer-reviewed publications, student mentoring and collaborative research. Of specific relevance to the PRRIP, I have work collaboratively with scientist and managers from many state, federal and tribal agencies and have been involved in critical decision-making programs by providing synthetic research, field-based research and expert opinion. I have first-hand experience with conservation challenges associated with managing endangered species in large river-reservoir ecosystems, including conflicts among water users, control and management of invasive species, the use of hatchery augmentation to recovery endangered species, and mitigating the effects of environmental extremes. Much of my current and past research and activities includes balancing opinions and values among stakeholders that represent different interest groups.

Per the instructions for this application, I affirm that, during the contract phase, I can sign a contract affirming that I am NOT disbarred from doing work for the federal government and that I would be able to present a Dun & Bradstreet (DUNS) number, SAM registration ID, or federal tax ID if I conduct work as an ISAC member as a private consultant.

I hope you will agree that my collective experience and achievements would benefit this program. If you have any questions, please do not hesitate to e-mail (kgido@ksu.edu).

Sincerely,

Keith Gido
University Distinguished Professor

One-paragraph biographical statement summarizing your background, expertise, and experience that can be used to summarize candidate qualifications

My research focuses on aquatic systems in the western and central U.S., where I have been conducting research over the past 36 years. Projects from my research group have been funded through state, federal and non-government natural resource agencies that seek information on the ecology and management of threatened and endangered species as well as recreational fisheries. Research projects have included food-web studies, habitat assessments, long-term responses of fishes to climate and flows, interactions between native and nonnative fishes, and impacts of fragmentation. In 23 years at Kansas State University, I have mentored 29 graduate students and 3 postdoctoral associates. I teach both upper division undergraduate and graduate courses associated with Fisheries, Aquatic Ecology and Multivariate Statistics. I am an author or co-author on 174 peer-reviewed publication and am currently a senior editor for the journal *Ecology of Freshwater Fishes*, and have previously served on the editorial boards for *BioScience*, *Freshwater Science* and *Ecological Applications*. I have been involved in a number of multidisciplinary conservation and recovery and adaptive management programs as a science advisor or on peer-review panels, including the NSERC HydroNet Program (Canada), San Juan River Recovery and Implementation Program, Grand Canyon Research and Monitoring Center, US Army Corps of Engineers Sustainable Rivers Program, and the Kansas Alliance for Wetlands and Streams. Additionally, I have experience as a principle investigator and participant on large working groups to synthesize information on conservation challenges, most notably the management of environmental flows.

CURRICULUM VITAE OF KEITH BRYANT GIDO (February 2024)

Address: Kansas State University, Division of Biology
Ackert Hall
Manhattan, KS 66506
Phone: (785)532-5088
E-mail: kgido@ksu.edu

EDUCATION:

Ph.D. University of Oklahoma. 1999 (Zoology).
M.S. University of New Mexico. 1995 (Biology).
B.A. New Mexico State University. 1991 (Fisheries and Wildlife Sciences).

EMPLOYMENT:

2019 -	University Distinguished Professor, Division of Biology, Kansas State University
2020 – 2021	Interim Graduate Program Director, Kansas State University
2012 - 2019	Professor, Division of Biology, Kansas State University
2006 – 2012	Associate Professor, Division of Biology, Kansas State University
2001 - 2006	Assistant Professor, Division of Biology, Kansas State University
1999 - 2001	Postdoctoral Research Assistant, Sam Noble Oklahoma Museum of Natural History
Spring 2000	Postdoctoral Research Assistant, University of Oklahoma Biological Survey
1996 - 1999	Graduate Teaching Assistant, Department of Zoology, University of Oklahoma
1995 - 1996	Graduate Research Assistant, Department of Zoology, University of Oklahoma
1994 - 1995	Graduate Teaching Assistant, Department of Biology, University of New Mexico
1993 - 1994	Graduate Research Assistant, Department of Biology, University of New Mexico

COURSES TAUGHT:

Fish Ecology, Fisheries Management and Techniques, Analysis of Ecological Gradients, Community Ecology, Ichthyology, Introduction to Wildlife, Fisheries, and Conservation Biology
Reservoir Ecology, Reservoir Fish Ecology (Summer Field Course 2002; University of Oklahoma Biological Station)
Independent research for undergraduates (BIOL 698):
Mike Peterson (2002), Nate Franssen (2003), Angie Lickteig (2004), Phil Brinkley (2006), Justin Bengston (2006), Jenifer Nemec (2006), Tyler Kohler (2007), Kelsey Schroeder (2008), Jordan Fey (2008), Brandon Senger (2009), Mitch O'Reilly (2009), Joe Rezik (2011), Dustin Shaw (2011), Sky Hedden (2012), Kelsey Ellis (2014), Michael Denk (2014), Robbie Weber (2014), John Brandt (2014), Emily Johnson (2015), Tanna Fanshier (2017), Austin Earl (2017), Teri Potter (2018), Jenalyn Reichenbach (2019), Emily Samuel (2019), Hunter French (2021)

GRADUATE STUDENTS:

Layne Knight (MS, December 2004), Jeffrey Falke (MS, December 2004), Tim Strakosh (PhD, December 2005), Nathan Franssen (MS, May 2006), Katie Bertrand (PhD, May 2007), Darren Thornbrugh (MS, May 2008), Tyler Pilger (MS, June 2009), Josh Perkin (PhD, December 2012), Matt Troia (PhD May 2014), James Whitney (MS 2010; PhD 2014), C. Nathan Cathcart (MS 2014), Erika Martin (PhD, 2014), Skyler Hedden (MS, 2015), Casey Pennock (MS, 2016; PhD, 2019), Bryan Frennett (PhD, 2019), Garrett Hopper (PhD, 2019), Lindsey Bruckerhoff (PhD, 2020), Crosby Hedden (MS, 2020), Elizabeth Renner (PhD, 2021), Matthew Bogaard (MS, 2021), Peter Pfaff (PhD, 2022), Sophia Bonjour (PhD, 2023), John Cleveland (MS, expected 2024), Kade Jackson (MS, expected 2024), Logan Rowley (MS, expected 2024), Keegan Epping (MS, expected 2024), Elle Krellwitz (MS, expected 2025).

POST-DOCTORAL RESEARCH ASSOCIATES

Deb Walks (co-sponsor, 2006 – 2007), Michelle Evans-White (co-sponsor, 2006 – 2007), David Hoeinghaus (co-sponsor, 2006 – 2009), Janine Rüegg (co-sponsor, 2011 – 2016), Josh Perkin (2012 – 2014), James Whitney (2014), Casey Pennock (2020)

GRADUATE STUDENT SUPERVISORY COMMITTEES:

Mike Quist (PhD, May 2002), Stan Proboszcz (MS, July 2002), Bob Oakes (MS, December 2003), Kym Wilson (MS, December 2005), Jon O'Brien (PhD, June 2006), Justin Murdock (PhD, 2006), Jessica Eichmiller (MS, June 2007), Andy Makinster (MS, 2006), Jesse Fischer (MS, 2007), Jeffery Eitzmann (MS, 2007), Kristen Pitts (MS, 2008), Joshua Schloesser (MS, 2008), Wes Bouska (MS 2009), Andrea Severson (MS 2010), Kyle Winders (MS 2010), Alyssa Standorf (PhD 2011), Sivakumar Mohandass (PhD, 2011), Jason Fischer (MS, 2012), Katie Costigan (PhD 2013), Joe Gerkin (PhD, 2015), Danelle Russel (PhD 2014), Tyler Pilger (PhD, University of New Mexico, 2015), Lucas Driver (PhD, University of North Texas, 2015), Jane Fencl (M.S., 2015), Matt Trentman (MS, 2015), Micah Bennett (PhD, University of Southern Illinois, 2015), Willow Malone (MS, 2016), Rosalee Reese (MS, University of New Mexico, 2016), Ellen Welti (PhD, 2017), Robert Mapes (MS, 2016), Richard Lehrter (MS, 2016), Sophia Bonjour (MS, 2017, University of Southern Illinois), Ryan Greenway (PhD, 2019), Christopher Cheek (PhD, 2019, Purdue University), Henry Camarillo (MS, 2019), James Guinnip (PhD, DNF), Steven Bittner (MS, 2021, University of Oklahoma), John Coffin (PhD, 2022), Cody Craig (PhD, 2020, Texas State University), Haoyu Zang (PhD, DNF), Boomer Malanchuk (PhD, 2021), Gregor Hamilton (PhD, 2023, University of New Mexico), Dylan Ramage (MS, Landscape Architecture, 2023), Madison Nobrega (BS/MS, 2023), Sydney Nobel (PhD, in progress).

RESEARCH INTERESTS:

Conservation of native fish communities
Effects of fishes in ecosystems
Top-down versus bottom-up processes in aquatic ecosystems
Ecological effects and management of introduced species
Patterns of long-term variation in fish assemblages
Assemblage structure and population dynamics of freshwater fish communities

HONORS AND AWARDS:

Vernon C. Bode Distinguished Biology Research Award, Division of Biology, 2023
Fisheries Excellence Award, North Central Division of the American Fisheries Society, 2019
Donald W. Tinkle Research Excellence Award, Southwestern Association of Naturalists, 2015
Outstanding Graduate Faculty Award, Division of Biology, Kansas State University, 2012
Best Paper Presentation, Kansas Chapter of the American Fisheries Society, 2003
George Miksch Sutton Award in Conservation Research, 2001
University of Oklahoma, Zoology Department Award for Excellence in Graduate Student Teaching, 1999
Wilks Award finalist, Southwestern Association of Naturalists, 1999
Jimmie Pigg Student Travel Award, 1999
Outstanding Student Member NMSU Student Chapter of AFS, 1991
Ocie Grey Memorial Scholarship, 1991
Anthony Juliana Memorial Scholarship, 1990

RESEARCH GRANTS AT KANSAS STATE UNIVERSITY:

Kansas State University, *Biomonitoring of fish and macroinvertebrates in streams draining Colbert Hills Golf Course*. $10,500. Oct 2001 - June 2003.
Kansas State University Small Research Grant (USRG), *Food-web structure of invasive species in their native and introduced ranges*. $3,500. Nov 2001 - June 2002.
Kansas NSF EPSCoR. *Interactive Effects of Disturbance Frequency and Species Composition on Ecosystem Functioning of Intermittent Streams: A test of Future Climatic Change Scenarios*. $49,907. Jun. 2002 - Aug. 2003.
Kansas Department of Wildlife and Parks. *Effects of largemouth bass on habitat use by Topeka shiners, red shiners, and bluntnose minnows: implications for susceptibility to predation*. $36,580. Jan. 2003 - Dec. 2003.
Kansas NSF EPSCoR. Ecological Genomics Project (Subproject: Mike Herman and Loretta Johnson, PIs): *Heat Shock Proteins and Temperature Adaptation by Native Minnows of Kansas* (with Gerald Reeck). Sep. 2003 – Aug. 2005. Approximately $36,000.
Unites States Department of the Interior, Bureau of Reclamation. *Trophic relationships between Colorado pikeminnow (*Ptychocheilus lucius*) in the San Juan River*. Mar. 2003 - Mar. 2006. $130,000.
National Science Foundation. *REU Site: Conservation of the Tallgrass Prairie Ecosystem* (Brett Sandercock PI). $169,954. May 2003 - Apr. 2006
United States Department of the Interior, GAP analysis program (with Walter Dodds). *Kansas Aquatic Gap*. $210,166. Jul. 2001 - Jun. 2005.
Kansas Department of Wildlife and Parks. *Effects of water willow on age-0 centrarchids in Kansas reservoirs*. $131,778. Jan 2001 - Dec. 2005.
National Science Foundation Long-Term Ecological Research Program. *LTER V: Long-term research on grassland dynamics and global change*. J.M. Blair (PI), J.M. Briggs, D.C. Hartnett, L.C. Johnson, A.K. Knapp and others). $4,680,000 (approximately $25,000/yr to Gido's lab). November 1, 2002 – October 31, 2008
Kansas Department of Parks and Wildlife. *Building models to predict species occurrences in Kansas streams*. $149,480. August 2004 - July 2009.

National Science Foundation. *Interactive Effects of Disturbance Frequency and Species Composition on Ecosystem Functioning of Intermittent Streams: A test of Future Climatic Change Scenarios*. $320,000. Jan 2005 – Dec 2007

United State Department of the Interior, GAP analysis program. *Lower Colorado River Aquatic Gap*. $60,286. May 2004 – June 2005.

Kansas NSF EPSCoR. *Requirements for specialized research transport equipment: a unique airboat to study shallow reservoirs and rivers of the Great Plains*. J.H. Thorpe (PI), S.J. Randtke, F. deNoyelles, K. Gido. $33,333. Sept. 2004 – Aug. 2005.

EPA STAR grant. *Ecosystem thresholds and alternate states in Great Plains rivers and streams: cascading effects of anthropogenic hydrologic disturbance*. W. Dodds (PI), K. With, K. Gido, and J. Koelliker. $300,000. Mar. 2005 – Mar. 2007.

Kansas NSF EPSCoR. *Forecasting ecological change in the Central Plains.* L. Krishtalka and W.K. Dodds (Co-Directors, Gido leader of Aquatic Group). $3,200,000 (Aquatic Group budget approximately $200,000). Mar. 2006 – Mar. 2009.

New Mexico Department of Game and Fish. *Characterizing long-term changes in fish assemblages of the Gila River basin.* $15,000. May 2007 - June 2009.

Kansas Department of Wildlife and Parks. *Viability of fragmented streams in Kansas: effects of river impoundment on population genetic structure of a sentinel-species, Semotilus atromaculatus*. $47,101. May 2008 – December 2009.

U.S. Fish and Wildlife Service. *Consequences of Stream Fragmentation and Climate Change for Rare Great Plains Fishes*. $23,576. June 2010 – September 2010.

New Mexico Department of Game and Fish. *Informed Management of Native Fishes: Targeting Critical Life Stages of Nonnatives for Mechanical Removal*. $203,000. August 2007 – June 2011.

National Science Foundation Long-Term Ecological Research Program. *Konza Prairie LTER VI: Grassland Dynamics and Long-Term Trajectories of Change.* J.M. Blair (PI), W.K. Dodds, D.C. Hartnett, A. Joern, J.B. Nippert. $5,640,000 (approximately $30,000/yr to Gido's lab). November 1, 2008 – October 31, 2014.

New Mexico Department of Game and Fish. *Quantifying Basal Resource Productivity of Native and Non-Native Fishes in the Gila River Basin Fish Assemblages*. $118,004. March 2009 – June 2012

Kansas Department of Wildlife and Parks. *Mapping the occurrence of stream obstructions in the state of Kansas*. $34,118. June 2010 – November 2011.

New Mexico Department of Game and Fish. *Stream Fish Assemblages Monitoring Data and Decision-Support Model for Enhanced Critical Conservation Decision-Making in New Mexico*. $91,690. July 2010 – June 2012.

Kansas Department of Wildlife and Parks (Melinda Daniels, Co-PI). *Seasonal Fish Assemblages and Habitat Effects Near Bowersock Dam: Implications For Fish Passage*. $103,336. March 2010 – December 2011.

Kansas Department of Wildlife and Parks (Melinda Daniels Co-PI). *Reproductive life history of pelagic spawning fishes*. $124,473. April 2011 – August 2013.

U.S. Bureau of Reclamation. *Use and importance of tributaries to sustaining native fish communities in San Juan River*. $292,648. September 2011 – September 2015.

National Science Foundation (W. Dodds and K.Gido). *Collaborative Research: Scale, Consumers and Lotic Ecosystem Rates (SCALER): Centimeters to Continents*. $1,198,081. August 2011 – August 2016.

U.S. Bureau of Reclamation. *Metacommunity Dynamics of Gila River Fishes*. $187,152. September 2011 – September 2013 (no cost extension through September 2014).

Wildlife Management Institute. *Conservation Priorities for Great Plains Fish Communities Based on Riverscape Connectivity and Genetic Integrity of Populations*. $128,587. August 2012 – September 2013.

Wildlife Management Institute. *Mapping and Predicting Groundwater-Mediated Hydrologic Connectivity for Great Plains Prairie Rivers and Streams.* $84,218. October 2013 – September 2014 (no-cost extension through June 2015).

National Science Foundation (Matt Troia). *Dissertation research: Forecasting Global Warming Effects on Developmental Performance of Prairie Stream Fishes Along the River Continuum.* $12,695. June 2013 – May 2014.

New Mexico Department of Game and Fish. *Effects of the Whitewater-Baldy Complex Fire on Warmwater Fishes in the Gila River Basin, New Mexico.* $170,076. Jan 2014 – June 2016.

National Science Foundation. *Collaborative research: Shifting hotspots: how do consumer aggregations interact to influence resource heterogeneity and fluxes in streams?* $282,080. 4/1/2015 – 3/31/2018.

Kansas Department of Wildlife and Parks. *Efficacy of Fish Passage through the Lincoln Street Fishway on the Arkansas River, Kansas*. $114,251. June 2015 – July 2017.

National Parks Service. *Determine Implications of Non-Native Stocked Fish on Native Stream Communities at TAPR*. $22,770. September 2015 – September 2018.

National Parks Service. *Management Plan for the federally endangered Topeka shiner (Notropis topeka) within Tallgrass Prairie National Preserve*. $24,750. August 2015 – September 2018.

National Parks Service. *Assessing geomorphological conditions of Tallgrass Prairie National Park upland prairie stream reaches at TAPR*. $23,759. August 2015 – August 2018.

Kansas Department of Wildlife and Parks. *Relative contribution of gizzard shad to food webs in small Kansas impoundments*. $280,000. March 2017 – December 2020.

U.S. Fish and Wildlife Service. *Multi-scale factors influencing occurrences of Topeka Shiner (*Notropis topeka*) in the Flint Hills, Kansas*. $126,393. February 2017 – May 2022.

U.S. Bureau of Reclamation. *Population size, mobility and early life history of Razorback Suckers in the San Juan River – Lake Powell complex*. $1,133,713. August 2017 – September 2022.

U.S. Bureau of Reclamation. *Habitat Assessment for Spikedace and Loach Minnow*. $247,900. August 2018 – July 2021.

U.S. Geological Survey, John Wesley Powell Center for Analysis and Synthesis (Wenger, S., M. Freeman, A. Walters and K. Gido). *Synthesizing Multiple Long-Term Datasets to Test Flow Ecology Relationships to Inform Water Resources Management*. $35,402. April 2019.

National Parks Service. *Determine Status of Topeka Shiners and Potential for Propagation and Reintroduction throughout TAPR*. $54,639. May 2019 – September 2023.

National Parks Service. *Assess the Geomorphic Condition of Fox and Palmer Creeks at Tallgrass Prairie National Preserve (TAPR)*. $19,749. May 2019 – September 2023.

U.S. Fish and Wildlife Service. *Aquatic Prioritization Tool Focused on Topeka Shiner and Congeners: A pilot to prioritize management actions for strategic species recovery in the grassland ecosystem*. $40,000. Oct 2020 – Sept 2021.

National Science Foundation (J.B. Nippert, S.G. Baer, K.B. Gido, M. Smith, L.H. Zeglin). *LTER: Manipulating drivers to assess grassland resilience*. $7,122,000. November 2020 – October 2026.

U.S. Bureau of Reclamation. *Conservation research of Colorado River Basin fishes*. $574,383. October 2021 – September 2026.

U.S. Army Corps of Engineers. *Effects of Sediment Release from Water Injection Dredging on Downstream Freshwater Ecology in Kansas*. $182,006. September 2022 – October 2024.

Kansas Department of Wildlife and Parks. *Habitat use, movement, and entrainment of fishes in Milford and Tuttle Creek Reservoirs*. $19,940. July 2023 – June 2025.

National Science Foundation (K. Gido and T. Moore). *Collaborative Research: Can Human-Induced Turbidity Currents Enable Sustainability of Freshwater Reservoirs?* $149,979. 8/1/2023 – 7/31/2026.

U.S. Army Corps of Engineers. *Spawning chronology of fishes in relation to flows in the Kansas and Osage/Maris des Cygnes rivers*. $49,212. September 2023 – March 2025.

U.S. Army Corps of Engineers. *Monitoring of Tuttle Creek Reservoir water injection dredging demonstration in the Kansas and Big Blue rivers*. $171, 525. September 2023 – September 2025.

U.S. Geological Survey, South Central Climate Adaptation Science Center (L. Bruckerhoff and K. Gido). *Intermittent stream risk assessment: Mapping patterns of stream drying and identifying vulnerabilities of stream fish and crayfish communities*. $428,716. August 2023 – July 2026.

PROFESSIONAL ORGANIZATIONS:

American Fisheries Society
Southwestern Association of Naturalists
Society of Freshwater Science
Desert Fishes Council

PROFESSIONAL SERVICES:

Senior Editor, *Ecology of Freshwater Fishes*, 2024 - present
Editorial Board, *Ecology of Freshwater Fishes*, 2022 - 2023
Editorial Board, *BioScience*, 2020 - 2023
Editorial Board, *Freshwater Science*, 2012 – 2021
US Army Corps of Engineers, Sustainable Rivers Program for the Marais Des Cygnes River, Steering Committee, 2021 – present
US Army Corps of Engineers, Sustainable Rivers Program for the Kansas River, Steering Committee, 2017 – present
Board of Governors, Southwestern Association of Naturalist, 2007 – 2010, 2018 - 2021
Kansas Alliance for Wetlands and Streams Advisor, 2017 - 2020
Glen Canyon Dam Adaptive Management Program, Independent Review Panel, 2017-2018
Glen Canyon Dam Adaptive Management Program's fisheries program review panel, 2016
National Science Foundation Panel Member (2004, 2005, 2006, 2015, 2016)
National Science Foundation ad hoc proposal reviewer (2007, 2008, 2010, 2011, 2015, 2016)
San Juan River Recovery and Implementation Program Flow Evaluation Workshop, 2015
STREON working group, National Ecological Observatory Network, 2013 - 2015

President, Kansas Chapter of the American Fisheries Society, 2013-2014
Science Advisory Team, NSERC HydroNet Program, 2010 - 2014
Board of Editors, *Ecological Applications*, 2007 - 2010
Gila River Science Panel, 2009
Rio Grande Silvery Minnow Recovery Plan Peer Review, 2007
Arkansas River Shiner Science Advisory Board, 2003 – 2004
Foundation for Biology Committee, KSU Division of Biology, 2003 – 2007
Coordinator of Kansas Aquatic Gap Initiative, 2001-2007
Raney Awards committee (chair 2002), American Society of Ichthyologist and Herpetologists 2000-2002
Skinner Committee, American Fisheries Society 2001 - 2002
Proposal review panel for Grand Canyon Monitoring and Research Center 2001
Proposal reviews: Middle Rio Grande Valley Endangered Species Act Collaborative Program, Science Subcommittee 2002 and 2003 (9 grants reviewed); Maryland Sea Grant 2001
Animal Facilities Committee, University of Oklahoma 1998
Chairman, Publications Committee, UNM Biology Graduate Student Association 1994
President of NMSU Chapter of American Fisheries Society 1990-1991
Secretary NMSU Chapter of American Fisheries Society 1988-1989

PEER-REVIEWED PUBLICATIONS (* indicates KSU post doc or graduate students):

174. Pfaff, P.J., K.J. Hase and K.B. Gido. *In press*. Predator presence influences survival and behavior of translocated stream fish in ponds. Journal of Fish and Wildlife Management.
173. Grossman, G.D. and K.B. Gido. *In press*. Density-dependent Growth in Salmonids: a Metaanalysis. Pages ?? - ?? In: Lobon Cervia, J., P. Budy and R. Gresswell (eds.), Advances in the Ecology of Stream-Dwelling Salmonids. Springer-Link.
172. Hedden*, C.K., S.C. Hedden*, K.B. Gido, A.C. Cameron, D.L. Propst, and B.L. Stewart. *In press*. Multi-scale analysis suggests habitat variable, rather than nonnative abundance, predicted species occurrence and abundance. *Transactions of the American Fisheries Society*.
171. Neely, B.C., J.D. Koch, and K.B. Gido. *In press*. Effects of live-imaging sonar on Blue Catfish angler success, perception, and behavior. North American Journal of Fisheries Management.
170. Bonjour*, S.M., K.B. Gido, M.C. McKinstry, C.N. Cathcart*, M.R. Bogaard*, M. Dzul, B. Healy, Z.E. Hooley-Underwood, D. Rogowski, and C. Yackulic. 2023. Migration timing and tributary use of spawning flannelmouth sucker (*Catostomus latipinnis*). *Journal of Fish Biology* 103:851-1247.
169. Hedden*, S.C., **K.B. Gido**, C.K. Hedden*, B.T. Hickerson, and W.T. Stewart. 2023. Movement, Not Survival, Differs Between Wild and Hatchery-Reared Imperiled Desert Fishes. *North American Journal of Fisheries Management*. 1310 - 1321
168. Perkin*, J.S., P.M. Kocovsky, Z.D. Steffensmeier and **K.B. Gido**. 2023. Why are larger fish farther upstream? Testing multiple hypotheses using Silver Chub in two Midwestern United States riverscapes. *North American Journal of Fisheries Management*. 43: 1225–1245.
167. Siller*, M.K., P.J. Pfaff*, E. Wild and **K.B. Gido**. *Accepted*. Apparent Survival and Detection Probability of PIT tagged Small-bodied Stream Fishes Using Multi-pass Wand Antenna Surveys. *Environmental Biology of Fishes* 106:1371–1381.

166. Bogaard*, M.R., **K.B. Gido**, M.C. McKinstry and C.A. Pennock*. 2023. Water temperature predicts razorback sucker *Xyrauchen texanus* spawning migrations. *Environmental Biology of Fishes* 106:1503–1517.
165. Dibble, K.L., C.B. Yackulic, K.R. Bestgen, **K.B. Gido**, M.T. Jones, M.C. McKinstry, D. Osmundson, D. Ryden, R.C. Schelly. 2023. Assessment of recovery viability for Colorado pikeminnow *Ptychocheilus lucius* in the Colorado River in Grand Canyon. *Journal of Fish and Wildlife Management*. Journal of Fish and Wildlife Management 14: 239–268.
164. **Gido, K.B.**, M.J. Osborne, D.L. Propst, T.F. Turner, and J.D. Olden. 2023. Megadroughts pose mega-risk for native fishes in the American Southwest. *Fisheries* 48: 181-224.
163. Hopper*, G.W, C.C. Vaughn and **K.B. Gido**. 2023. Indirect function effects of neighbors on food web compartments could not overcome density-dependent limited growth of a grazing minnow. Food webs 35:e00277.
162. Neely, B.C., J.D. Koch and **K.B. Gido**. 2023. Evaluating the effect of live-imaging sonar on catch of crappies in a Kansas impoundment. *Fisheries*. 48:49-53.
161. Pfaff*, P.J. and **K.B. Gido**. 2023. Community assembly of prairie farm ponds: Build it and they will come, stock it and they won't. *Canadian Journal of Fisheries and Aquatic Sciences* 80: 287–297.
160. **Gido, K.B.**, S.C. Hedden*, L.A. Bruckerhoff*, C.A. Pennock*, C.K. Hedden*, G.W. Hopper*, E.A. Renner*, E.R. Johnson and B.J. Postlethwait. 2023. A perched culvert and natural obstructions limit fish dispersal in an intermittent prairie stream. *Freshwater Science* 42:33-43.
159. Hedden*, C.K., S.C. Hedden*, **K.B. Gido** and J.E. Whitney*. 2022. Intraspecific Response of Sonora Suckers to Consecutive Wildfire Disturbances. *Southwestern Naturalist*. 67: 133-142.
158. Wenger, Seth; Stowe, Ed; **Gido, Keith**; Freeman, Mary; Kanno, Yoichiro; Franssen, Nathan; Olden, Julian; Poff, N. LeRoy; Walters, Annika; Bumpers, Phillip M.; Mims, Meryl; Hooten, Mevin; Lu, Xinyi. 2022. Simple statistical models can be sufficient for testing hypotheses with population time series data. *Ecology and Evolution* 12:e9339.
157. Pennock*, C.A., Bruckerhoff*, L.A., **Gido, K.B.**, Barkalow, A.L., Breen, M., Budy, P., Mcfarlane, W.W., and Propst, D.L. 2022. Failure to achieve recommended environmental flows coincides with declining fish populations: long-term trends in a regulated and unregulated river. *Freshwater Biology* 67: 1631-1643.
156. Dean, E., Cooper, A., Wang, L., Daniel, W., David, S., **Gido, K.**, Hale, E., Haxton, T., Kelso, W., Leonard, N., Lido, C., Margraf, J., Porter, M., Pennock, C., Propst, D., Ross, J., Staudinger, M., Whelan, G., and Infante, D. 2022. The North American Freshwater Migratory Fish Database (NOMAD): Characterizing the migratory life histories of freshwater fishes of Canada, the United States, and Mexico. *Journal of Biogeography*. 48: 1193-1203. https://doi.org/10.5066/P9WDLLP0.
155. Hedden*, S.C., **K.B. Gido**, C.K. Hedden*, C.A. Pennock*, B.R. Duran, B.A. Hines, E.I. Gilbert, M.C. McKinstry, S.C. Durst and N.R. Franssen. 2022. Determining resource intake of a nonnative fish highlights potential predatory and competitive interactions. *Biological Invasions* 24: 2351–2364.
154. Evelyn, I.G., S.C. Hedden*, N.R. Franssen, and **K.B Gido**. 2022. Diet comparison between juvenile and adult invasive channel catfish (*Ictalurus punctatus*) in the San Juan River. *Southwestern Naturalist* 66:180-184.

153. Pilger, T.J., **K.B. Gido**, D.L. Propst, J.E. Whitney*, and T.F. Turner. 2022. Demography predicts genetic effective size in a desert stream fish community. *American Naturalist* 200: 275-291.
152. Webster*, J.S., **K.B. Gido**, S.C. Hedden*, D.L. Propst, and J.E. Whitney*. 2022. Response of arid-land macroinvertebrate communities to extremes of drought, wildfire, and monsoonal flooding. *River Research and Applications* 38: 832-845.
151. Freeman, M.C, Bestgen, K.R., Carlisle, D., Frimpong, E.A., Franssen, N.R. **Gido, K.B.**, Irwin, E., Kanno, Y., Luce, C., McKay, S.K., Mims, M.C., Olden, J.D., Poff, N.L., Propst, D.L., Roy, A.H., Stowe, E.S., Walters, A., Wenger, S.J. 2022. Toward improved understanding of streamflow effects on freshwater fishes. *Fisheries* 47: 290-298.
150. Vaughn, C.C., T.B. Parr, **K.B. Gido**, T.P. DeBose, K.K. Gates, and G.W. Hopper*. 2022. Do mobile consumers homogenize the distribution of resources in stream food webs? A test with overlapping fish and mussel aggregations. *Freshwater Biology* 67: 684-694.
149. Hedden*, C.K., D.L. Propst, S.C. Hedden*, **K.B. Gido** and J.E. Whitney*. 2022. Differential Responses of Native Fishes in Two Headwater Tributaries of the Gila River Following Severe Wildfires. *Western North American Naturalist* 82: 201-207.
148. Hedden*, S.C. and **K.B. Gido**. 2022. Age-specific patterns of occurrence, density, and growth of two cyprinid fishes in headwater prairie streams. *Southwestern Naturalist* 65:205-215.
147. Hedden*, C.K., **K.B. Gido** and A.C. Cameron. 2022. How fast it too fast? Growth rates of four native Gila River cyprinids along a water velocity gradient. *Ecology of Freshwater Fishes*. 31: 118-128.
146. Pennock*, C.A., Z. Ahrens, M.C. McKinstry, P. Budy and **K.B. Gido**. 2021. Trophic niches of native and nonnative fishes along a river-reservoir continuum. *Scientific Reports* 11, 12140. https://doi.org/10.1038/s41598-021-91730-1
145. Bruckerhoff*, L.A., C.A. Pennock* and **K.B. Gido**. 2021. Do fine-scale experiments underestimate predator consumption rates? *Journal of Animal Ecology*. 90: 2391-2403. https://doi.org/10.1111/1365-2656.13549
144. Hedden*, S.C., L.A. Bruckerhoff* and **K.B. Gido**. 2021. Assessing linkages between small impoundments and long-term trajectories of prairie stream fish assemblages. *American Midland Naturalist* 185:187-200. https://doi.org/10.1674/0003-0031-185.2.187
143. Pennock*, C.A. and **K.B. Gido**. 2021. Spatial and temporal dynamics of fish assemblages in a desert reservoir over 38 years. *Hydrobiologia* 848: 1231–1248. https://doi.org/10.1007/s10750-021-04514-z
142. Comte, Lise ; Carvajal, Juan; Tedesco, Pablo; Giam, Xingli; Brose, Ulrich; Eros, Tibor; Filipe, Ana; Fortin, Marie-Josée; Irving, Katie; Jacquet, Claire; Larsen, Stefano; Sharma, Sapna; Ruhi, Albert; Becker, Fernando; Casatti, Lilian; Castaldelli, Giuseppe; Dala-Corte, Renato; Davenport, Stephen; Franssen, Nathan; García-Berthou, Emili; Gavioli, Anna; **Gido, Keith**; Jimenez-Segura, Luz; Leitão, Rafael; McLarney, Bill; Meador, Jason; Milardi, Marco; Moffatt, David; Occhi, Thiago; Pompeu, Paulo; Propst, David; Pyron, Mark; Salvador, Gilberto; Stefferud, Jerome; Sutela, Tapio; Taylor, Christopher; Terui, Akira; Urabe, Hirokazu; Vehanen, Teppo; Vitule, Jean; Zeni, Jaquelini; Olden, Julian. 2021. RivFishTIME: A global database of fish time-series to study global change ecology in riverine systems. *Global Ecology and Biogeography*. 30:38-50. https://doi.org/10.1111/geb.13210
141. Hedden*, S.C., **K.B. Gido**, C.K. Hedden*, C.A. Pennock*, B.R. Duran, B.A. Hines, E.I. Gilbert, M.C. McKinstry, S.L. Durst, and N.R. Franssen. 2021. Quantifying Native

Fishes Consumption by Nonnative Channel Catfish in a Desert River. *North American Journal of Fisheries Management*. 41(Special Issue 1):S82–S94. https://doi.org/10.1002/nafm.10514.

140. Pennock*, C.A., B. Hines, T. Francis, D. Elverud, M. McKinstry and **K.B. Gido**. 2021. Reservoir fish assemblage structure across an aquatic ecotone: Can river-reservoir interfaces provide conservation and management opportunities? *Fisheries Management and Ecology* 28:1-13.
139. Bruckerhoff*, L.A., **K.B. Gido**, M. Estey and P. Moore. 2020. Disentangling effects of predators and landscape factors as drivers of stream fish community structure. *Freshwater Biology* 66: 656-668. https://doi.org/10.1111/fwb.13668
138. Pennock*, C.A., M.C. McKinstry and **K.B. Gido**. 2020. Razorback Sucker movement strategies across a river-reservoir habitat complex. *Transactions of the American Fisheries Society*. 149:620-634.
137. Pennock*, C.A., M.C. McKinstry, C.N. Cathcart*, **K.B. Gido**, T.A. Francis, B.A. Hines, P.D. MacKinnon, S.C. Hedden*, E.I. Gilbert, C.A. Cheek, D.W. Speas, K. Creighton, D.S. Elverud and B.J. Schleicher. 2020. Movement ecology of imperiled fish in a novel ecosystem: River-reservoir movements by razorback sucker and translocations to aid conservation. *Aquatic Conservation: Marine and Freshwater Ecosystems* 30:1540-1551.
136. Hopper*, G.W., **K.B. Gido**, C.A. Pennock*, S.C. Hedden*, B.D. Frenette*, N. Barts, C.K. Hedden*, and L.A. Bruckerhoff*. 2020. Nowhere to swim: interspecific responses of prairie stream fishes in isolated pools during severe drought. *Aquatic Sciences* 82 doi: 10.1007/s00027-020-0716-2
135. Bonjour, S.M., M.R. Whiles, and **K.B. Gido**. 2020. Influence of fishes on macroinvertebrate communities and insect emergence production in intermittent stream permanent water refugia. *Freshwater Biology* 65:1412-1428.
134. Neely, B.C., J.D. Koch, **K.B. Gido**, C.J. Chance-Ossowski, E.A. Renner*. 2020. Factors influencing Bluegill growth in small Kansas impoundments. *Journal of Fish and Wildlife Management* 11DOI: 10.3996/082019-JFWM-065
133. Trentman, M.T., W.K. Dodds, **K.B. Gido**, J. Rüegg, and C.M. Ruffing. 2020. Using path analyses to determine interacting effects of biotic and abiotic factors on patch-scale biogeochemical rates in a prairie stream. *Aquatic Ecology* 82 doi: 10.1007/s00027-020-0702-8
132. Hedden*, S.C. and **K.B. Gido**. 2020. Dispersal drives temporal changes in fish community abundance in intermittent stream networks. *River Research and Applications* 36:797-806.
131. *Bruckerhoff, L. A., R. Connell, J. Guinnip, E. Adhikari, A. Godar, **K.B. Gido,** A.W. Boyle, A. Hope, A. Joern, and E. Welti. 2020. Harmony on the prairie? Grassland plant and animal community responses to variation in climate across land-use gradients. *Ecology* 101: e02986.
130. Parr, T.B., C.C. Vaughn and K.B. Gido. 2020. Animal effects on dissolved organic carbon lability in an algal controlled ecosystem. *Freshwater Biology* 65:1298-1310.
129. *Hopper, G.W., **K.B. Gido**, C.A. Pennock*, S.C. Hedden*, C.M. Tobler, C.K. Hedden* and L.A. Bruckerhoff*. 2020. Biomass loss and species turnover during severe drought shift stream community excretion stoichiometry. *Freshwater Biology* 65:403-416.
128. *Frenette, B.D., L.A., Bruckerhoff,* M. Tobler and **K.B. Gido**. 2019. Temperature effects on performance and physiology of two prairie stream minnows. *Conservation Physiology* 7(1): coz063.

127. *Cathcart, C.N., **K.B. Gido**, and H.W. Brandenburg. 2019. Spawning locations within and among tributaries influence Flannelmouth Sucker offspring experience. *Transactions of the American Fisheries Society* 148:963–977.
126. *Hopper, G.W., T.G. Popjoy, **K.B. Gido**, and C.C. Vaughn. 2019. Freshwater mussels alter fish distributions at fine spatial scales through habitat subsidies. *Freshwater Science* 38:702–712.
125. *Pennock, C.A., M. Farrington and **K.B. Gido**. 2019. Feeding ecology of co-occurring early life stage suckers in a regulated river. *Transactions of the American Fisheries Society* 148:938–951.
124. Perkin*, J.S., T.A. Starks*, C.A. Pennock*, **K.B. Gido**, G.W. Hopper*, S.C. Hedden*. 2019. Extreme drought causes fish recruitment failure in a fragmented Great Plains riverscape. *Ecohydrology* 12:e2120.
123. Correa, E.C., F.D. Oliveira Roque, R. M. Utz, **K.B. Gido**. 2019. Effects of macroconsumers on benthic communities across a gradient of vegetation loss in tropical karst streams. *Hydrobiologia* 836:21-34.
122. *Bruckerhoff, L.A. and **K.B. Gido**. 2019. Assessing site-selection strategies for modeling the influence of landscape factors on stream fish assemblages. Pages 159 - 178 *in* R.M. Hughes, D.M. Infante, L. Wang, K. Chen, and B.F. Terra, editors. Advances in understanding landscape influences on freshwater habitats and biological assemblages. American Fisheries Society, Symposium, 90, Bethesda, Maryland.
121. **Gido, K.B.**, D.L. Propst, J.E. Whitney*, S.C. Hedden*, T.J. Pilger*, and T.F. Turner. 2019. Pockets of resistance: response of arid-land fish communities to climate, hydrology, and wildfire. *Freshwater Biology* 64:761–777.
120. Franssen, N.R., E.I. Gilbert, D.L. Propst and **K.B. Gido**. 2019. Hatchery -reared endangered Colorado Pikeminnow (*Ptychocheilus lucius*) undergo an uncharacteristic gradual transition to piscivory after introduction to the wild. *Aquatic Conservation: Marine and Freshwater Ecosystems*. 29:24-38.
119. Hopper*, G.W., **K.B. Gido**, C.C. Vaughn, T.B. Parr, T.G. Popejoy, C.L. Atkinson, and K.K Gates. 2018. Spatial and temporal distribution of the biomass of dominant animal consumer groups mediates their influence on nutrient heterogeneity in streams. *Oecologia* 188:1133-1144.
118. Cathcart*, C.N., C.A. Pennock*, C.A. Cheek, M.C. McKinstry, P.D. MacKinnon, M.M. Conner and **K.B. Gido**. 2018. Waterfall formation at a desert river-reservoir delta isolates endangered fishes. *Reservoir Research and Applications* 34:948-956.
117. Hedden*, S.C., E.A. Renner*, **K.B. Gido** and K.J. Hase. 2018. Impacts of small impoundments on an intermittent headwater stream community. *Southwestern Naturalist* 63:34-41.
116. Pennock*, C.A., C.N. Cathcart*, S.C. Hedden*, R.E. Weber*, and **K.B. Gido**. 2018. Fine-scale movement and habitat use of a prairie stream fish assemblage. *Oecologia* 186:831-842.
115. Rolls, R.J., J. Heino, D.S. Ryder, B.C. Chessman, I.O. Growns, R.M. Thompson, **K.B. Gido**. 2018. Scaling biodiversity responses to hydrological regimes. *Biological Reviews* 93:971-995.
114. Cathcart*, N.C., **K.B. Gido**, M.C. McKinstry, P.D. MacKinnon. 2018. Patterns of Fish Movement at a Desert River Confluence. *Ecology of Freshwater Fishes* 27:492-505.

113. Pennock*, C.A., D. Bender, J. Hofmeier, J.A. Mounts, R. Waters, V.D. Weaver, and **K.B. Gido**. 2018. Can Fishways Mitigate Fragmentation Effects on Great Plains Fish Communities? *Canadian Journal of Fisheries and Aquatic Sciences* 75:121-130.
112. Perkin*, J.S., **K.B. Gido**, J.A. Falke, K.D. Fausch, H. Crockett, E.R. Johnson, J. Sanderson. 2017. Groundwater declines are linked to changes in Great Plains stream fish assemblages. *Proceedings of the National Academy of Sciences* 114:7373–7378.
111. Kerezsy, A., **K.B. Gido**, M. Magalhães, and P. Skelton. 2017. The biota of intermittent rivers and ephemeral streams: fishes. Pages 273 – 297 in: Intermittent Rivers: Ecology and Management (eds. T. Datry, N. Bonada and A. Boulton). Elsevier.
110. Vanni, M.J. and 73 co-authors. 2017. A global database of nitrogen and phosphorus excretion rates of aquatic animals. *Ecology* 98: 1475-1475.
109. Pilger, T.J., **K.B. Gido**, D.L. Propst, J.E. Whitney*, and T.F. Turner. 2017. River network architecture, genetic effective size, and distributional patterns predict differences in genetic structure across species in a dryland stream fish community. *Molecular Ecology* 26: 2687-2697.
108. Whitney*, J.E., **K.B. Gido**, S.C. Hedden*, G.L. Macpherson, T.J. Pilger, D.L. Propst, and T.F. Turner. 2017. Identifying the source population of fish re-colonizing an arid-land stream following wildfire-induced extirpation using otolith microchemistry. *Hydrobiologia* 797: 29-45.
107. Troia*, M.J. and **K.B. Gido**. 2017. Testing metabolic cold adaptation as a driver of warm-water fish species replacement along the river continuum. *Environmental Biology of Fishes* 100:265-279.
106. Utz, R.M., S.D. Cooper, **K.B. Gido** and J.R. Steward. 2017. Exclusion of fish and invertebrates from benthic patches across water conductivity levels using high-frequency (10 Hz) pulses and adjustable electrical settings. *Freshwater Science* 36:151–161.
105. Pennock*, C.A., **K.B. Gido**, J.S. Perkin* and.V.D. Weaver. 2017. Collapsing range of an endemic Great Plains minnow, peppered chub *Macrhybopsis tetranema*. *American Midland Naturalist* 177:57-68.
104. Pennock*, C.A. and **K.B. Gido**. 2017. Density-dependence of herbivorous Central Stoneroller *Campostoma anomalum* in stream mesocosms. *Ecology of Freshwater Fishes* 26:313–321.
103. Hedden*, S.C. and **K.B. Gido**. 2016. Movement distances and activity of introduced flathead catfish *Pylodictis olivaris* in the upper Gila River basin, New Mexico, and potential impacts on native fishes. *Southwestern Naturalist* 61:210-216.
102. Martin*, E.C., **K.B. Gido**, N. Bello, and W.K. Dodds. 2016. Increasing fish taxonomic and functional richness affects ecosystem properties of small headwater prairie streams. *Freshwater Biology* 61:887-898.
101. Pennock*, C.A., B.D. Frenette*, M.J. Waters* and **K.B. Gido**. 2016. Survival and Tag Retention of Southern Redbelly Dace *Chrosomus erythrogaster* Injected with Two Sizes of Passive Integrated Transponder (PIT) Tags. *North American Journal of Fisheries Management* 36:1386–1394.
100. Hedden*, S.C., J.E. Whitney* and **K.B. Gido**. 2016. Introduced Flathead Catfish *Pylodictis olivaris* Consumptive Demand on Native Fishes of the Upper Gila River, New Mexico. *North American Journal of Fisheries Management* 36:55–61.
99. Troia*, M.J., M.A. Denk* and **K.B. Gido**. 2016. Temperature-dependent performance as a driver of warmwater fish species replacement along the river continuum. *Canadian Journal of Fisheries and Aquatic Sciences* 73:394-405.

98. **Gido, K.B.**, J.E. Whitney*, J.S. Perkin*, and T.F. Turner. 2016. Fragmentation, connectivity and fish species persistence in freshwater ecosystems. Pages 292-323 In: Closs et. al. (eds). Fish Conservation. Cambridge University Press.
97. Whitney*, J.E., **K.B. Gido**, E.C. Martin and K.J. Hase. 2016. The first to go and the last to leave: colonization and extinction dynamics of common and rare fishes in intermittent prairie streams. *Freshwater Biology* 61:1321–1334.
96. Whitney*, J.E., **K.B. Gido**, T.J. Pilger, D.L. Propst, and T.F. Turner. 2016. Metapopulation analysis indicates native and nonnative fishes respond differently to wildfire in a desert stream. *Ecology of Freshwater Fishes* 25: 376-392.
95. Franssen, N.R., S.L. Durst, **K.B. Gido**, D.W. Ryden, V. Lamarra, and D.L. Propst. 2016. Long-term fish community dynamics from spatially intensive monitoring of a managed desert river. *River Research and Applications* 32: 348-361.
94. Perkin*, J.S., M.J. Troia*, D.C.R. Shaw*, J.E. Gerken*, and **K.B. Gido**. 2016. Multiple Watershed Alterations Influence Fish Community Structure in Great Plains Prairie Streams. *Ecology of Freshwater Fishes* 25:141-155.
93. Cathcart*, C.N., **K.B. Gido**, and M. McKinstry. 2015. Fish Community Distributions and Movements in Two Tributaries of the San Juan River, New Mexico and Utah, USA. *Transactions of the American Fisheries Society* 144:1013-1028.
92. Whitney*, J.E., **K.B. Gido**, T.J. Pilger, D.L. Propst and T.F. Turner. 2015. Biotic response to consecutive wildfires in a warmwater dryland river network. *Freshwater Science* 34:1510-1526.
91. Pilger, TJ, **K.B. Gido**, D.L. Propst, J.E. Whitney*, T.F. Turner. 2015. Comparative conservation genetics of protected endemic fishes in an arid-land riverscape. *Conservation Genetics.* 16:875-888.
90. Troia*, M.J. and **K.B. Gido**. 2015. Multi-trait functional strategies drive community assembly of stream fishes along environmental gradients and across spatial scales. *Oecologia* 177:545–559.
89. Dodds, W.K., M.R. Whiles, **K.B. Gido**, M.R. Daniels and B. Grudzinski. 2015. The stream biome gradient concept: controlling factors of lotic systems across broad biogeographic scales. *Freshwater Science* 34:1-19.
88. Perkin*, J.S., **K.B. Gido**, K.H. Costigan, M.D. Daniels and E.R. Johnson. 2015. Fragmentation and drying ratchet down Great Plains stream fish diversity. *Aquatic Conservation: Marine and Freshwater Ecosystems.* 25:639-655.
87. Perkin*, J.S., **K.B. Gido**, A.R. Cooper, T.F. Turner, M.J. Osborne, E.R. Johnson and K.B. Mayes. 2015. Fragmentation and dewatering transform Great Plains stream fish communities. *Ecological Monographs* 85:73-92.
86. Troia*, M.J., J.E. Whitney* and **K.B. Gido**. 2015. Thermal performance of larval longfin dace (*Agosia chrysogaster*), with implications for climate change. *Environmental Biology of Fishes*. 98:395-404.
85. Osborne, M., T. F. Turner, **K. B. Gido**, and J. S. Perkin*. 2014. Comparative riverscape genetics reveals reservoirs of genetic diversity for conservation and restoration of Great Plains fishes. *Molecular Ecology* 23: 5663-5679.
84. Propst, D.L., **K.B. Gido**, J.E. Whitney*, E.I. Gilbert, T.J. Pilger*, A.M. Monie, Y.M. Paroz, J.M. Monzingo and D.A. Meyers. 2014. Efficacy of mechanically removing nonnative predators from a desert stream. *River Research and Applications* 31:692-703.

83. Troia*, M.J., J.E. Whitney* and **K.B. Gido**. 2014. Broadcast spawning over cobble by longfin dace (*Agosia chrysogaster*) in artificial stream channels. *The Southwestern Naturalist*. 59:277-280.
82. Maine*, J.J., J.E. Whitney* and **K.B. Gido**. 2014. Dietary overlap of invertivorous fishes and macroinvertebrates in the Gila River, NM. *The Southwestern Naturalist*. 59: 292–295.
81. Whitney*, J.E., **K.B. Gido** and D.L. Propst. 2014. Factors associated with the success of native and nonnative species in an unfragmented arid-land riverscape. *Canadian Journal of Fisheries and Aquatic Sciences* 71: 1134-1145.
80. Troia*, M.J. and **K.B. Gido**. 2014. Towards a mechanistic understanding of stream fish niche divergence along a river continuum. *Ecosphere* 5:41 http://dx.doi.org/10.1890/ES13-00399.1
79. Franssen, N.R., J.E. Davis, **K.B. Gido**, and D. Ryden. 2014. Fish community responses to mechanical removal of nonnative fishes in a large southwestern river. *Fisheries* 39:352-363.
78. Costigan*, K.H., J.S. Perkin*, M.D. Daniels and **K.B. Gido**. 2014. Longitudinal variability in hydraulic geometry and substrate characteristics of a Great Plains sand-bed river. *Geomorphology* 210:48-58.
77. Stewart-Koster, B., J.D. Olden, and **K.B. Gido**. 2014. Quantifying flow-ecology relationships with functional linear models. *Hydrological Sciences Journal* 59: 629–644.
76. Olden, J.D., C.P. Konrad, T.S. Melis, M.J. Kennard, M.C. Freeman, M.C. Mims, E.N. Bray, **K.B. Gido**, N.P. Hemhill, D.A. Lytle, L.E. McMullen, M.Pyron, C. T. Robinson, J.C. Schmidt, J.G. Williams. 2014. Are large-scale flow experiments informing emerging challenges in freshwater management? *Frontiers in Ecology and the Environment* 12:176-185.
75. Troia*, M.J. and **K.B. Gido**. 2013. Predicting Community-Environment Relationships of Stream Fishes across Multiple Drainage Basins: Insights into Model Generality and the Effect of Spatial Extent. *Journal of Environmental Management*. 128:313-323.
74. Bertrand*, K.N., M.R. Whiles, J.R. Murdock* and **K.B. Gido**. 2013. Influence of macroconsumers, stream position, and nutrient gradients on invertebrate assemblage development following flooding in intermittent prairie streams. *Hydrobiologia* 714:169–182.
73. Perkin*, J.S., **K.B. Gido**, O. Al-Ta'Ani, and C. Scoglio. 2013. Simulating Fish Dispersal in Stream Networks Fragmented by Multiple Road Crossings. *Ecological Modeling* 257: 44– 56.
72. **Gido, K.B.**, D.L. Propst, J.D. Olden and K.R. Bestgen. 2013. Multi-decadal responses of native and introduced fishes to natural and altered flows in streams of the American Southwest. *Canadian Journal of Fisheries and Aquatic Sciences*. 70:554-564.
71. Martin*, E.C., J.E. Whitney* and **K.B. Gido**. 2013. Habitat associations of stream fishes in a rare and declining ecosystem. *American Midland Naturalist*. 170:39–51.
70. Hudman, S. and **K.B. Gido**. 2013. Multi-scale effects of impoundments on genetic structure of creek chub (*Semotilus atromaculatus*) in the Kansas River basin. *Freshwater Biology* 58:441-453.
69. Perkin*, J.S. and **K.B. Gido**. 2012. Fragmentation alters stream fish community structure in dendritic ecological networks. *Ecological Applications* 22: 2176–2187.

68. **Gido, K.B**. and D.L. Propst. 2012. Long-term dynamics of native and nonnative fishes in the San Juan River, New Mexico and Utah under a partially managed flow regime. *Transactions of the American Fisheries Society*. 141:645-659.
67. Pilger*, T.J. and **K.B. Gido**. 2012. Variation in Unionid Assemblages between Streams and a Reservoir within the Kansas River Basin. *The American Midland Naturalist*. 167:356–365.
66. Konrad C.P., J.D. Olden, D.A. Lytle, T.S. Melis, J.C. Schmidt, E. Bray, M.C. Freeman, **K.B. Gido**, N. Hemphill, M.J. Kennard, L. McMullen, M.C. Mims, M. Pyron, C.T. Robinson, J.G., Williams. 2011. Large-scale flow experiments for managing rivers. *BioScience* 61:948-959.
65. Reisinger, A.J., **K.B. Gido** and W.K. Dodds. 2011. Direct and indirect effects of central stoneroller (*Campostoma anomalum*) on mesocosm recovery following a flood: can macroconsumers affect denitrification? *Journal of the North American Benthological Society* 30:840-852.
64. Perkin*, J.S and **K.B. Gido**. 2011. Stream Fragmentation Thresholds for a Reproductive Guild of Endemic Great Plains Fishes. *Fisheries* 36:371-383.
63. Stefferud, J, D.L. Propst, and **K.B. Gido**. 2011. Spatially variable response of native fish assemblages to discharge, nonnative predators and habitat characteristics in an arid-land river. *Freshwater Biology* 56:1403-1416.
62. Kohler*, T., **K.B. Gido**, J.M. Murdock* and W.K. Dodds. 2011. Nutrient loading and grazing by the minnow *Phoxinus erythrogaster* shift periphyton abundance and stoichiometry in experimental streams. *Freshwater Biology* 56:1133–1146.
61. Murdock, J.M., W.K. Dodds, **K.B. Gido** and M.R. Whiles. 2011. Dynamic influences of nutrients and grazing fish on benthic algae during recovery from flood. *Journal of the North American Benthological Society.* 30: 331-345
60. Franssen*, N.R., M. Tobler, and **K.B. Gido.** 2011. Biodiversity and stability in a highly imperiled ecosystem: Can compensatory dynamics stabilize diverse riverine communities? *Oikos* 120:582-590.
59. Dodds, W. K, W.H. Clements, **K.B. Gido**, R.H. Hilderbrand and R.S. King. 2010. Thresholds, breakpoints, and non-linearity in freshwater systems as related to management. *Journal of the North American Benthological Society* 29:988-997.
58. **Gido, K.B.**, W.K. Dodds and M.E. Eberle. 2010. Retrospective analysis of fish community change during a half-century of land-use and streamflow changes. *Journal of the North American Benthological Society*. 29:970-987.
57. Pilger*, T.J., **K.B. Gido** and D.L. Propst. 2010. Food Web Structure and Interactions in the Gila River, USA: Implications for Native Fish Conservation. *Ecology of Freshwater Fishes*. 19: 300–321.
56. **Gido, K.B.**, D.A. Jackson. 2010. Community ecology of stream fishes: synthesis and future directions. Pages 651 – 664 In: *Advances in Stream Fish Community Ecology: Concepts, Approaches and Techniques* (Eds. K.B. Gido and D.A. Jackson). American Fisheries Society, Symposium 73. Bethesda, Maryland.
55. **Gido, K.B.**, K.N. Bertrand*, J.N. Murdock, W.K. Dodds, and M.R. Whiles. 2010. Disturbance mediated effects of stream fishes on ecosystem processes: concepts and results from highly variable prairie streams. Pages 593 – 617 In: *Advances in Stream Fish Community Ecology: Concepts, Approaches and Techniques* (Eds. K.B. Gido and D.A. Jackson). American Fisheries Society, Symposium 73. Bethesda, Maryland.
54. Thornbrugh*, D.J. and **K.B. Gido**. 2010. Influence of spatial positioning within stream

networks on fish assemblage structure in the Kansas River basin, USA. *Canadian Journal of Fisheries and Aquatic Sciences* 67: 143–156.

53. Murdock, J.N., **K.B. Gido**, W.K. Dodds, K.N. Bertrand*, and M.R. Whiles. 2010. Consumer return chronology alters recovery trajectory of stream ecosystem structure and function following drought. *Ecology* 91:1048-1062.
52. **Gido, K.B.**, J. Schaefer, and J.A. Falke*. 2009. Convergence of littoral zone fish communities in reservoirs. *Freshwater Biology*. 54:1163-1177.
51. Bertrand*, K.N., **K.B. Gido**, W.K. Dodds, J.N. Murdock*, and M.R. Whiles. 2009. Disturbance frequency and assemblage functional composition mediate ecosystem processes in prairie streams. *Oikos* 118:917-933.
50. Strakosh*, T.R., **K.B. Gido** and C.S. Guy. 2009. Effects of American Water Willow Establishment on Density, Growth, Diet, and Condition of Age-0 Largemouth Bass Micropterus salmoides in Kansas Reservoirs. *Transactions of the American Fisheries Society* 138:269-279.
49. **Gido, K.B.** and C.W. Hargrave. 2009. Fish, Productivity. In G.E. Likens (Ed.). *Encyclopedia of Inland Waters*, volume 3, pp. 473-481 Oxford: Elsevier.
48. Bengtson*, J.R., M. Evans-White* and **K.B. Gido**. 2008. Effects of grazing minnows (*Phoxinus erythrogaster*) and crayfish (*Orconectes nais* and *O. neglectus*) on stream ecosystem structure and function. *Journal of the North American Benthological Society*. 27:772–782.
47. Propst, D.L., **K.B. Gido** and J.A. Stefferud. 2008. Natural flow regimes, nonnative fishes, and persistence of native fish assemblages in arid-land river systems. *Ecological Applications* 18:1236-1252.
46. Pilger*, T.J., N.R. Franssen* and **K.B. Gido**. 2008. Prey of introduced largemouth bass (*Micropterus salmoides*) in the San Juan River, NM. *The Southwestern Naturalist* 53:105-108.
45. Franssen*, N.R., **K.B. Gido** and D.L. Propst. 2007. Flow regime affects availability of nonnative prey of an endangered predator. *Biological Conservation* 138:330-340.
44. **Gido, K.B.** and N.R. Franssen*. 2007. Invasion of stream fishes into low trophic positions. *Ecology of Freshwater Fishes* 16:457-464.
43. Bertrand*, K.N. and K.B. Gido. 2007. Effects of the herbivorous minnow, southern redbelly dace (*Phoxinus erythrogaster*) on stream ecosystem structure and function. *Oecologia*. 151:69–81
42. Franssen*, N.R., **K. B. Gido**, T. R. Strakosh*, K. N. Bertrand*, C. M. Franssen, C. P. Paukert, K. L. Pitts, C. S. Guy, J. A. Tripe, S. J. Shrank. 2006. Effects of floods on fish assemblages in an intermittent prairie stream. *Freshwater Biology* 51: 2072–2086.
41. Bertrand*, K.N., **K.B. Gido**, and C.S. Guy. 2006. An evaluation of single-pass versus three-pass backpack electrofishing to estimate trends in species abundance and richness in prairie streams. *Transactions of the Kansas Academy of Sciences* 109:131-138.
40. Matthews, W.J., **K.B. Gido**, G.P. Garrett, F.P. Gelwick, J. Stewart, and J. Schaefer. 2006. Modular experimental riffle-pool stream system. *Transactions of the American Fisheries Society* 135:1559-1566.
39. Ramirez, R., E. R. Johnson, and **K. B. Gido**. 2006. Effects of artificial lighting and presence of *Menidia beryllina* on growth and diet of *Labidesthes sicculus*. *Southwestern Naturalist* 51:510-513.
38. Franssen*, N.R., **K.B. Gido**. 2006. Use of stable isotopes to test literature-based trophic classifications of small-bodied stream fishes. *American Midland Naturalist* 156:1-10.

37. **Gido, K.B.**, N.R. Franssen*, and D.L. Propst. 2006. Spatial Variation in $\delta^{15}N$ and $\delta^{13}C$ Isotopes in the San Juan River, New Mexico and Utah: Implications for the Conservation of Native Fishes. *Environmental Biology of Fishes* 75:197-207.
36. Falke*, J.A. and **K. B. Gido**. 2006. Effects of reservoir connectivity on stream fish assemblages in the Great Plains. *Canadian Journal of Fisheries and Aquatic Sciences* 63:480-493.
35. **Gido, K.B.**, J.A. Falke*, R.M. Oakes*, and K.J. Hase. 2006. Fish-habitat relationships across spatial scales in prairie streams. Hughes, B., P. Seelbach, and L. Wang (eds.) *Influences of Landscapes on Stream Habitats and Biological Communities*, American Fisheries Society Symposium 48:265–285.
34. Falke*, J.A. and **K. B. Gido**. 2006. Spatial effects of reservoirs on stream fish assemblages in the Great Plains, U.S.A. *River Research and Applications* 22:55-68.
33. Oakes, R.M., **K. B. Gido,** J.A. Falke*, J.D. Olden, and B.L. Brock. 2005. Predictive modeling of stream fish assemblages in the Great Plains. *Ecology of Freshwater Fishes* 14:361-374.
32. Schaefer, J., **K. Gido** and M. Smith. 2005. A test for community change using a Monte-Carlo approach. *Ecological Applications*: 15:1761-1771
31. Strakosh*, T.R., J.L. Eitzmann, **K.B. Gido**, C.S.Guy. 2005. The response of water willow, *Justicia americana*, to different inundation and desiccation regimes. *North American Journal of Fisheries Management* 25:1476–1485
30. Matthews, W.L., **K. B. Gido**, C. Vaughn, and E. Marsh-Matthews. 2005. Southern Plains Rivers. Pages 283-325 In: *Rivers of North America* (Benke, A. C. and C. E. Cushing, eds.). Elsevier Inc., Amsterdam.
29. Haslouer, S. G., M.E. Eberle, D. R. Edds, **K.B. Gido**, C. S. Mammoliti, J.R. Triplett, J.T. Collins, D.A. Distler, D.G. Huggins, and W.J. Stark. 2005. Current Status of Native Fish Species in Kansas. *Transactions of the Kansas Academy of Sciences* 108:32-46.
28. Knight*, G. L. and K. B. Gido. 2005. Habitat use and susceptibility to predation of four prairie stream fishes: implications for conservation of the endangered Topeka shiner. *Copeia* 2005:38-47.
27. Eggleton, M. A., R. Ramirez, C. W. Hargrave, **K. B. Gido**, J. R. Masoner, G. D. Schnell and W. J. Matthews. 2005. Predictability of littoral-zone fish assemblages through ontogeny in Lake Texoma, Oklahoma-Texas, USA. *Environmental Biology of Fishes* 73:21-36
26. Propst, D.L. and **K. B. Gido**. 2004. Responses of Native and Nonnative Fishes to Natural Flow Regime Mimicry in the San Juan River. *Transactions of the American Fisheries Society* 133:922-931.
25. Matthews, W. J., **K. B. Gido**, and F. P. Gelwick. 2004. Fish Assemblages of Reservoirs, Illustrated by Lake Texoma (Oklahoma-Texas, U.S.A.). *Lake and Reservoir Management* 20:219-239.
24. Vaughn, C. C., **K. B. Gido**, and D. E. Spooner. 2004. Ecosystem processes performed by unionid mussels in stream mesocosms: species roles and effects of abundance. Hydrobiologia 527:35-47.
23. Eggleton, M. A., **K.B. Gido**, W. J. Matthews, and G.D. Schnell. 2004. Assessment of anthropogenic influences on littoral-zone aquatic communities of Lake Texoma, Oklahoma-Texas, USA. *Ecohydrology & Hydrobiology* 4:113-127.
22. Dodds, W. K., **K. B. Gido**, M. R. Whiles, K. M. Fritz and W. J. Matthwes. 2004. Life on the Edge: Ecology of Prairie Streams. *BioScience* 54:205-216.
21. Hargrave, C. W. and **K. B. Gido**. 2004. Evidence of reproduction by exotic grass carp in the

Red and Washita Rivers (Oklahoma). *Southwestern Association of Naturalists* 49:89-93.

20. **Gido, K. B.**, J. F. Schaefer, and J. Pigg. 2004. Patterns of fish invasions in the Great Plains. *Biological Conservation* 118:121-131.
19. **Gido**, **K. B.** 2003. Effects of gizzard shad (*Dorosoma cepedianum* LeSuer) and other large-bodied fishes on benthic communities in reservoirs. *Journal of Fish Biology* 62:1392-1404.
18. Schaefer, J. F., E. Marsh-Matthews, D. E. Spooner , **K. B. Gido**, and W. J. Matthews. 2003. Effects of barriers and thermal refugia on local movement of the threatened leopard darter, *Percina pantherina*. *Environmental Biology of Fishes*. 66:391-400.
17. Marsh-Matthews, E., Matthews, W. J., **K. B. Gido**, and R. L. Marsh. 2002. Reproduction by young-of-year red shiner (*Cyprinella lutrensis*) and its implications for invasion success. *Southwestern Association of Naturalists* 47:605-610.
16. **Gido, K. B.**, C. S. Guy, T. R. Strakosh*, R. J. Bernot, K. Hase, and M. Shaw. 2002. Long-term changes in the fish assemblages of the Big Blue River basin 40 years after the construction of Tuttle Creek Reservoir. *Kansas Academy of Sciences Transactions* (Frank Cross Memorial Issue) 105(3-4):193-208.
15. **Gido, K. B.** 2002. Interspecific comparisons and the potential importance of nutrient excretion by benthic fishes in a large reservoir. *Transactions of the American Fisheries Society* 131:260-270.
14. **Gido, K. B.**, Chad W. Hargrave, William J. Matthews, Gary D. Schnell, Darrell W. Pogue, and Guy Sewell. 2002. Structure of littoral-zone fish communities in relation to habitat, physical, and chemical gradients in a southern reservoir. *Environmental Biology of Fishes* 63:253-263.
13. Pratt, K. E., C. W. Hargrave, and **K. B. Gido**. 2002. Rediscovery of *Labidesthes sicculus* (Atherinidae) in Lake Texoma (Oklahoma-Texas). *The Southwestern Naturalist*. 47:142-147.
12. Matthews, W. J., **K. B. Gido**, and E. Marsh-Matthews. 2001. Density-dependent overwinter survival and growth of a minnow from harsh stream environments. *Transactions of the American Fisheries Society* 130:478-488.
11. **Gido, K. B.** and W. J. Matthews. 2001. Ecosystem effects of water column minnows in experimental streams. *Oecologia* 126:247-253.
10. **Gido, K. B.** 2001. Feeding ecology of three omnivorous fishes in Lake Texoma (Oklahoma-Texas). *The Southwestern Naturalist* 46:23-33.
9. **Gido, K. B.** and W. J. Matthews. 2000. Dynamics of the offshore fish assemblage in a southwestern reservoir (Lake Texoma, Oklahoma-Texas). *Copeia* 2000:917-930.
8. **Gido, K. B.**, W. J. Matthews, and W. C. Wolfinbarger. 2000. Long-term changes in a fish assemblage of an artificial reservoir: stability in an unpredictable environment. *Ecological Applications* 10:1517-1529.
7. **Gido, K. B.**, R. D. Larson, and L. A. Ahlm. 2000. Stream-channel position of adult rainbow trout downstream of Navajo Reservoir, New Mexico, following changes in reservoir release. *North American Journal of Fisheries Management* 20:250-258.
6. **Gido, K. B.** and J. H. Brown. 1999. Invasion of alien fish species in North American drainages. *Freshwater Biology* 42:387-398.
5. **Gido, K. B.**, J. F. Schaefer, K. Work, P. W. Lienesch, E. Marsh-Matthews, and W. J. Matthews. 1999. Effects of red shiner (*Cyprinella lutrensis*) on Red River pupfish (*Cyprinodon rubrofluviatilis*). *The Southwestern Naturalist* 44:287-295.

4. Brandenburg, W. H. and **K. B. Gido**. 1999. Nonnative predation on native ichthyofauna in the San Juan River, New Mexico and Utah. *The Southwestern Naturalist* 44:392-394.
3. **Gido, K. B.** and D. L. Propst. 1999. Habitat use and association of native and nonnative fishes in the San Juan River, New Mexico and Utah. *Copeia* 1999:321-333.
2. Pigg, J., M. S. Coleman, J. Wright, R. Gibbs, **K. B. Gido**., and R. Lemmons. 1998. An ecological investigation of the ichthyofauna in Deep Fork River, central Oklahoma: 1976 to 1996. *Proceedings of the Oklahoma Academy of Science* 78:67-110.
1. **Gido, K. B.**, D. L. Propst, and M. C. Molles, Jr. 1997. Spatial and temporal variation of fish communities in secondary channels of the San Juan River, New Mexico and Utah. *Environmental Biology of Fishes* 49:417-434.

BOOKS:

Kansas Fishes Committee (D.A. Distler, M.E. Eberle, D.R. Edds, **K.B. Gido**, S.G. Haslouer, D.G. Huggins, T.D. Mosher, W.J. Stark, J.R. Tomelleri, J.R. Triplett, E.O. Wiley). 2014. *Kansas Fishes*. University Press of Kansas, Lawrence.

Gido, K.B. and D.A. Jackson (eds.). 2010. *Community Ecology of Stream Fishes: Concepts, Techniques and Approaches*. American Fisheries Society Symposium Series 73, Bethesda, MD. 684 pp.

BOOK REVIEWS:

K.B. Gido and G.W. Hopper. 2018. Beautifully Grotesque Fish of the American West. *Great Plains Research* 28:222-222.

K.B. Gido. 2014. Ecology of North American Freshwater Fishes (Ross, S). *Transactions of the American Fisheries Society*

K. B. Gido. 2006. Fishes of Oklahoma, 2nd edition. (Miller, R. and H. Robison). *Great Plains Research* 16:102.

K. B. Gido. 2003. Management and Ecology of Lake and Reservoir Fisheries (Edited by I.G. Cowx). *Journal of Environmental Quality* 32:1150.

INVITED PRESENTATIONS:

Drought legacies and challenges for native fish conservation. Wichita State University, March 2023.

Megadroughts pose mega-risk to native fish in the American Southwest. Plenary Speaker. Colorado/Wyoming Chapter of the American Fisheries Society, March 2023

What do we/don't we know about sediment and Kansas River ecology? Turbidity needs and issues relating to Kansas River reservoir sediment releases. Army Corps of Engineers, Kansas City District. August 2022.

Prairie Stream Conservation: Get the Rejuvenation Started. Keynote address for Prairie Stream Fish Conservation Symposium, American Fisheries Society Annual Meeting, Baltimore, MD. November 2021.

Predatory Fish Invasions: The Good, the Bad and the Ugly. Texas A&M University, June 2021.

Alien predators in streams: scaling the ecology of fear from mesocosms to field surveys. Michigan State University, Department of Fisheries and Wildlife. February 2021.

What do we/don't we know about sediment, the effect of sediment trapping or releases, and Kansas River ecology? U.S. Army Corps of Engineers workshop "Turbidity needs and issues relating to Kansas River reservoir sediment releases". August, 2020.

Predatory Fish Invasions: The Good, the Bad and the Ugly. Iowa State University, June 2020.

Managing aquatic resources in the Anthropocene. Plenary Speaker. Western Association of Fish and Wildlife Agencies 2019 Summer Meeting. Manhattan, KS, July 2019.

Pockets of resistance: response of arid-land stream communities to climate, hydrology, and wildfire. Department of Natural Resources, Ecology and Management. Iowa State University, November 2018.

Flint Hills Streams. Symphony on the Flint Hills: Prairie Pavilion Talk. Butler County, KS, June 2018.

Vanishing rivers in the Great Plains: what can be done to halt the decline in aquatic biodiversity? 10th Symposium for European Freshwater Sciences, Olomouc, Czech Republic, July 2017.

Vanishing rivers in the Great Plains: what can be done to halt the decline in aquatic biodiversity? Auburn University, Department of Biology, November 2016.

Vanishing groundwater in the Great Plains: what can be done to halt the rapid decline in aquatic biodiversity? University of New Mexico, Department of Biology, March 2016.

Vanishing groundwater in the Great Plains: what can be done to halt the rapid decline in aquatic biodiversity? University of Georgia, Odum School of Ecology, February 2016.

Groundwater loss, dams, and drought ratchet down Great Plains stream fish communities. School of Natural Resources, University of Nebraska-Lincoln, May 2015.

Groundwater loss, dams, and drought ratchet down Great Plains stream fish communities. Department of Zoology, University of Oklahoma, October 2014.

Meta-community dynamics of desert fishes. Department of Zoology (Ecomunch seminar), University of Oklahoma, October 2014.

Structural and functional connectivity of stream fishes in an unregulated desert stream. Joint Meeting of Aquatic Scientists. Portland, Oregon, May 2014.

Metacommunity dynamics in the Gila River. Department of Zoology, University of Wisconsin, October 2013.

Conservation of Freshwater Fishes. Special Session: The Future of Freshwater Science: an educational session for undergraduates. Society of Freshwater Science Annual Meeting, Jacksonville, Florida, May 2013.

A metacommunity framework for conservation of Great Plains fishes. Department of Biology, University of North Texas, March 2013.

A metacommunity framework for conservation of Great Plains fishes. Department of Wildlife and Fisheries Sciences, South Dakota State University, November 2012.

A metacommunity framework for conservation of Great Plains fishes. Department of Biology, Truman State University, March 2012.

Connecting the dots: integrating metacommunity and life history theories to enhance native fish conservation. Department of Wildlife and Fisheries Sciences, South Dakota State University, November 2012.

Conservation of Great Plains Fishes. Plenary Talk. Oklahoma-Texas Aquatic Research Group/Great Plains Limnology Conference, University of Oklahoma Biological Station, October 2011.

A Metacommunity Framework for Conservation of Great Plains Fishes. University of Missouri, Department of Fisheries and Wildlife Sciences, October 2011.

Stream Fragmentation Thresholds for a Reproductive Guild of Great Plains Fishes, Great Plains Landscape Conservation Cooperative Webinar. July 2011.

Long-Term Effects of Natural Flow Regime Mimicry on Native and Nonnative Fishes in the San Juan River, New Mexico and Utah. Keynote speaker. 32nd Annual Indiana Water Resources Association Conference, Muncie Illinois. June 2011.

Response of arid river fish assemblages to environmental flow regulation. Southern Illinois University. April 2011.

Recruitment dynamics of fishes in the San Juan River. U.S. Fish and Wildlife Fisheries Service, Fisheries Assistant Office. March 2011

Quantity versus quality: response of arid river fish assemblages to environmental flow regulation. Keynote speaker, NSERC HydroNet Networking Symposium, Winnipeg, Canada. March 2011.

Interactions of native and nonnative fishes under natural and modified flow regimes. Australian Rivers Institute, Griffith University, Brisbane, Australia. August 2010

Context dependency of consumer effects in North American prairie streams. Charles Darwin University, Darwin, Australia. July 2010

Scaling consumer effects across a riverscape: effects of disturbance, nutrient subsides and trophic complexity on stream ecosystem function. University of Toronto. December 2008

Scaling consumer effects across a riverscape: effects of disturbance, nutrient subsides and trophic complexity on stream ecosystem function. University of Southern Mississippi. September 2008

Scaling consumer effects across a riverscape: effects of disturbance, nutrient subsides and trophic complexity on stream ecosystem function. Tulane University. September 2008

Scaling consumer effects across a riverscape: effects of disturbance, nutrient subsides and trophic complexity on stream ecosystem function. Sam Houston State University. April 2008

Distrubance mediated effects of stream fishes. University of Arkansas. November 2007.

Ecosystem services in prairie streams. Western Kentucky University. April 2007.

Interactive effects of disturbance and species composition on stream ecosystem processes. Oklahoma State University. November 2006.

Invasive species decouple predator-prey relations: implications for the survival of Colorado pikeminnow. University of Kansas. October 2006

Conservation of non-coevolved fish assemblages. Emporia State University. January 2006.

Conservation of non-coevolved fish assemblages. Colorado State University. December 2005.

Platte-Kansas Partnership Planning Meeting. Kansas Aquatic GAP Overview. 2005. J. Falke, K. Gido, R. Oakes, W. Dodds

Fish-habitat relationships across spatial scales in prairie streams. August 2004. Symposium: "Influences of Landscapes on Stream Habitats and Biological Communities". American Fisheries Society Annual Meeting, Madison, WI.

Large-scale factors influencing fish assemblages in the Great Plains. February 2004. Ft. Hays State University, Hays, KS.

Conservation of prairie stream fishes. December 2003. William Jewel College, Liberty, MO.

Effects of hydrological processes on the ecology of intermittent prairie streams. September 2003. LTER All Scientist Meeting Workshop on Eco-hydrology, Seattle, WA.

The use of ecohydrological models to classify conservation priority areas in the Great Plains, U.S.A. August 2003. International Long-term Research Conference, Warsaw, Poland.

Patterns of Introduced Species in the Great Plains. February 2003. Kansas Aquaculture Association, McPherson, KS.

Functional Role of Fishes in Ecosystems: How Important is Diversity? October 2002. Creighton University, Omaha, NE.

Progress and Future Direction of Aquatic GAP in Kansas. August 2002. National Gap Analysis Program Annual Meeting, Sheepardstown, WV.

Development of an Aquatic GAP program in Kansas. February 2002. Kansas Department of Wildlife and Parks Annual Meeting. Witchita, KS.

Functional Role of Fishes in Ecosystems: How Important is Diversity? November 2001. Emporia State University.

Environmental correlates to littoral-zone fish distributions in a large southern reservoir (Lake Texoma, Oklahoma-Texas). February 2001. Kansas Department of Wildlife and Parks Annual Meeting. Pittsburg, KS.

Effects of large-bodied omnivorous fishes on benthic communities in reservoirs. 2000. North American Benthological Society Special Symposium: Wanted Dead or Alive: the role of fishes in benthic food webs.

Ecosystem effects of omnivorous fishes in Lake Texoma, Oklahoma-Texas. 1999. University of Oklahoma, Zoology Departmental Seminar.

Fish assemblages in reservoirs. 1997. North American Lake Management Society annual meeting (Reservoir Ecology Symposium).

Movements of rainbow trout, *Oncorhynchus mykiss*, in response to experimental flows from Navajo Reservoir, New Mexico. 1993 AZ-NM AFS annual meeting (San Juan River Fisheries Symposium).

PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM (PRRIP -or- Program)
EXHIBIT A: PRRIP Conflict of Interest Form – ISAC Members

The PRRIP developed guidance regarding the avoidance of conflicts of interest in accordance with the ISAC Charter (Attachment 6, Appendix I) and the Peer Review Guidelines (Adaptive Management Plan, Appendix A) contained in the PRRIP Final Program Document. As stated in the ISAC Charter: "The ISAC must retain as much independence from the adaptive management program as possible. This independence requires that their role focus on reviewing products produced by the Program."

Potential conflicts of interest include but are not limited to:

- Financial interest in the restoration and management activities associated with the PRRIP.
- Familial relationship with any of the scientists conducting research and/or monitoring associated with the PRRIP.
- Bias, for personal reason for or against the scientists mentioned above and/or the entities involved in the implementation of the PRRIP.
- Professional connection with any entities involved with PRRIP implementation.
- Impacts of lobbying or political pressure exerted by person(s) looking for a particular result or more work with the PRRIP.
- Has conducted, is conducting, or intends to conduct work for or on behalf of the Program, or work that directly overlaps with Program scientific and technical priorities, which could result in an ISAC member reviewing and commenting on her/his own work product(s).

As a candidate proposed for participation on the ISAC, I hereby state that I do not have any conflicts of interest with the Platte River Recovery Implementation Program as outlined above and (if necessary) explained on the following page. I can serve effectively on the ISAC without any financial, familial, personal, or professional bias in order to further the goals and objectives of the PRRIP and the implementation and evaluation of the Extension Science Plan and associated scientific and technical activities, analyses, and syntheses.

FOR THE CONSULTANT:

_____ 26 February 2024

NAME DATE

PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM (PRRIP -or- Program)
EXHIBIT B – Certification Regarding Lobbying

The undersigned certifies, on behalf of the Consultant, that to the best of his or her knowledge and belief:

1. No federal appropriated funds have been paid or will be paid, by or on behalf of the Consultant, to any person for influencing or attempting to influence an officer or employee of any federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, or the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement.

2. No registrant under the Lobbying Disclosure Act of 1995 has made any lobbying contacts on behalf of the Consultant with respect to the federal grant or cooperative agreement under which the Consultant is receiving monies.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who makes an expenditure prohibited by Section 1 above or who fails to file or amend the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

FOR THE CONSULTANT:

Keith Gide

_____ 26 February 2024

NAME DATE

February 28, 2024
Chadwin Smith, Ph.D.
Science Policy Coordinator
Platte River Recovery Implementation Program
4111 4th Ave., Suite 6
Kearney, NE 68845

Dear Chad,

Please find attached my application materials for consideration for the PRRIP Independent Scientific Advisory Committee. I am trained as a river ecologist and in that context, I have experience in aquatic and terrestrial food web ecology, biodiversity in riparian zones including the context of non-native tree management, endangered species management including population viability analysis and experience measuring components of both the carbon and water cycles in these contexts. I was born and raised in Colorado and the foundation of my career was flyfishing on the South Platte River in that state, so I have a personal connection to the Platte River. My research in river and riparian ecology spans rivers of diverse size, from small tributaries to the Colorado River in Arizona, to large river ecosystems in the Mekong and Amazon river basin. Much of my recent work in the Mekong includes deep engagement of local and transboundary river management organizations like the Mekong River Commission and the Cambodian Inland Fisheries Research and Development Institute. This work was supported by the Department of State and the National Science Foundation and I work with the MRC to date.

In my early faculty career at ASU, I began to appreciate more strongly the role of water as a driver of population dynamics and community structure and began integrating aspects of hydrology into my research. This synthesis of hydrology and ecology spans two important domains of inquiry. First, I have developed time series methods for analyzing flow variability in ecological contexts and applied these methods to understand how climate change and hydrology affect biodiversity, invasion by non-native species and food security (from freshwater fisheries) in river ecosystems like the Colorado and Mekong rivers. Second, in riparian ecosystems I have used stable isotopes of hydrogen, oxygen, carbon and nitrogen to understand the connection between groundwater and food web dynamics in riparian ecosystem of aridland ecosystems. This package of hydroecology in river and riparian ecosystems has been published in top journals including Ecology, Ecological Monographs, Frontiers in Ecology & the Environment, Proceedings of the National Academy of Sciences and Science. More important than all of these academic articles was the opportunity to engage with IFReDI and the MRC in the Mekong via Department of State. My group developed the first hydro-fisheries model for the MRC to evaluate the connection between flow variation and fisheries harvest in the Tonle Sap Lake in Cambodia. This lake and its fishery delivers a majority of the animal protein and vitamin A to more 40M people in the region. This model is now part of an effort that I am working on to date to help the MRC optimize operations of dams across the basin to deliver their strategic goals to member countries Thailand, Lao, Viet Nam and Cambodia. Hence, I have deep experience with science in a stakeholder and co-production setting.

I was an Aldo Leopold Leadership Program fellow in 2010 and through this program developed knowledge and skills in private sector engagement. Through collaboration with NGO's including the Earth Genome, WWF, TNC and WRI I began to work to translate water resources science into actionable outcomes with Fortune 500 companies. In a nutshell, I supplied actionable science from land surface models to build decision support tools for these companies to strategize their water stewardship project

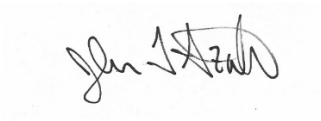
portfolios. These companies included Intel (Arizona), Dow (Texas), Levi Straus & Co (Indus, Pakistan), The Coca Cola Company (Texas), General Mills Inc. (California), Suntory Holdings (Spain and Guatemala), and PepsiCo (global). In 2020 I founded a public benefit C-Corps called Future H2O-B (futureh2ob.com) to facilitate more efficient and effective science translation to this private sector set of clients. Under the Future H2O-B umbrella, my team provided science support and piloted this science for the Science Based Targets Network water hub led by the SBTN and WWF. The goal of the SBTN is to create a science-driven framework for companies to set water stewardship goals—enterprise wide. Finally, through this work I was chosen by PepsiCo to create content for a global water stewardship program which now has been deployed globally to hundreds of PepsiCo employees working on the ground to improve how Pepsi approaches water stewardship. This course is now available for free via Coursera as the Global Water Academy.

In 2021, I was recruited and accepted an offer to direct the Tulane ByWater Institute for Climate Adaptation. The goal of this institute is to create traction, attract funding and build the human resource infrastructure for a National Laboratory focused on the Mississippi River (and its tributaries) and the science necessary for creating true climate adaptation in this basin. Under the ByWater umbrella we work in three multidisciplinary areas: 1) designing and implementing better climate adaptation with coupled built and natural infrastructure, but with a focus on building back nature, 2) water equity and drinking water access in the rural southern US, and 3) climate change and human health. Hence, I now have a headwaters and delta connection to the Platte River and its conservation and restoration.

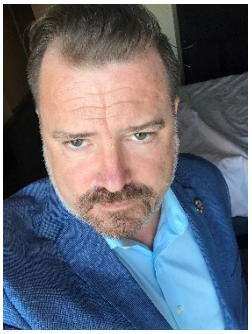
As a member of the PRRIP ISAC I would bring to the table several valuable skill sets. First, I am a systems thinker and I apply this multidisciplinary systems approach to understand the connection between basin scale change (climate and land use) to solution sets for local challenges in water resources. **Second**, I have a MS in Fisheries and experience with migratory salmonids and large-bodied migratory fishes in both the Mekong and Amazon river basins. Conservation of rare, migratory and large bodied fishes in large river ecosystems is challenging; the solution sets require tradeoffs and careful analysis of these tradeoffs in a systems context. **Third**, I understand the pressure points in the human-natural water system of the Platte and the connection between groundwater and surface water in this context. **Fourth**, I have deep experience with knowledge co-production and stakeholder engagement in US and international (and transboundary) settings. The transboundary experience is important because water in the Platte is from three states and this transboundary context is likely just as delicate as the context for four countries in the lower Mekong.

Thank you for considering me, I am very enthusiastic about the opportunity to serve in this important endeavor.

Sincerely,



John Sabo



John L. Sabo

Professor, School of River & Coastal Sciences and Engineering
School of Science and Engineering
Tulane University
Director, ByWater Institute
jsabo1@tulane.edu

Google scholar: https://scholar.google.com/citations?user=aEzCBh4AAAAJ&hl=en

BIOGRAPHY

John Sabo is a Professor in the Department of Coastal & River Science and Engineering in the School of Science and Engineering at Tulane University. In the academic realm he directs Tulane's ByWater Institute, a research institute dedicated to creating transdisciplinary and transformative research that advances resilience of water resources in New Orleans, the Mississippi River Basin and in tropical river basins in the developing world where lessons from home are relevant. By training, Sabo is a river food web ecologist and has designed and implemented large scale field experiments to understand the role of aquatic-terrestrial energy flow on terrestrial food web dynamics as well as the dynamic effects of ground water on surface water food webs. This research has been published in top journals including, *Ecology, Ecological Monographs, Ecology Letters, Global Change Biology, Frontiers in Ecology and the Environment, PNAS, and Science*. This work has been supported by over 14 M in research grants from the US National Science Foundation, US Department of Defense, US Geological Survey, MacArthur Foundation, The Cynthia and George Mitchell Family Foundation and private sector companies like Intel Corporation and Levi Strauss & Co. With degrees in Fisheries (University of Washington), and Ecology (UC Berkeley) Sabo has developed quantitative, data-driven methods to connect hydrology to freshwater fisheries and aspects of riverine biodiversity. His work in this realm is driven by a desire to understand how to better manage basin scale flows in rivers ranging from the Colorado in Arizona's Grand Canyon, the Mekong River in SE Asia and the Amazon River in South America. In all of this work Sabo leverages relationships with transboundary agencies and multilaterals to co-develop action-oriented science and tools.

I am <u>not</u> disbarred from doing work for the Federal Government and can provide my EIN for Future H2O-B and/or SSN (as a private consultant) to verify this.

JOHN LOUIS SABO
Department of River and Coastal Science & Engineering
School of Science and Engineering, Tulane University
Tel (480.734.7120) jsabo1@tulane.edu

RESEARCH INTERESTS

Water resources, interfaces between stochastic hydrology and ecology, ecological risk assessment, freshwater sustainability and food web ecology.

Google Scholar:
https://scholar.google.com/citations?user=aEzCBh4AAAAJ&hl=en
H-Index: 41; i-10 Index: 74

ACADEMIC TRAINING

Ph.D. 2000	University of California, Berkeley, Integrative Biology
M.S. 1995	University of Washington, Fisheries
B.S. 1992	University of Notre Dame, with Honors

FULL-TIME UNIVERSITY TEACHING/RESEARCH POSITIONS HELD

Current	**Director,** ByWater Institute, and **Professor** Department of River and Coastal Science & Engineering, Tulane University
2015-2021	**Director, Future H_2O,** Knowledge Enterprise Development & Julie Ann Wrigley Global Institute of Sustainability, Arizona State University
2014-	**Professor**. School of Life Sciences, Arizona State University. Tempe
2012-2015	**Director of Research Development**, Global Institute of Sustainability, Arizona State University
2009-	**Senior Sustainability Scholar**, Global Institute of Sustainability, Arizona State University
2008-2014	**Associate Professor**. School of Life Sciences, Arizona State University. Tempe.
2003-2008	**Assistant Professor**. School of Life Sciences, Arizona State University. Tempe.
2002-2003	**Assistant Professor**. Department of Biology, Arizona State University. Tempe.
2001-2002	**Postdoctoral Research Fellow.** National Research Council and Northwest Fisheries Science Center, National Marine Fisheries Service.
2000-2001	**Postdoctoral Research Fellow.** National Center for Ecological Analysis and Synthesis, University of California, Santa Barbara.

1995- 1999	**Graduate Research Assistant.** Department of Integrative Biology, University of California, Berkeley.
1995-1999	**Graduate Teaching Assistant.** Department of Integrative Biology, University of California, Berkeley.
1993-1995	**Graduate Research Assistant.** Washington Cooperative Fish and Wildlife Research Unit, School of Fisheries, University of Washington. Seattle, WA.
1992-1993	**Egtvedt Graduate Fellow.** Washington Cooperative Fish and Wildlife Research Unit, School of Fisheries, University of Washington. Seattle, WA.
1990-1992	**Undergraduate Research Assistant.** University of Notre Dame Environmental Research Center, Land of Lakes, WI.

PRIVATE SECTOR COMPANY EXPERIENCE

Current	**CEO and Founder,** Future H2O-B, a public benefit corporation dedicated to providing science-based strategy to Fortune 500 companies on **climate adaptation** and corporate water stewardship
Current	**Senior Vice President and Co-Founder,** GELF-Energy, a C-Corps dedicated to developing and commercializing nature-based wastewater treatment technologies that enhance **climate mitigation** in the wastewater and food waste sectors

HONORS & AWARDS

2019	Nominated and approved as candidate for Special Envoy on Water Data by the US Department of State (Position Funding Pending)
2017-2018	Fullbright Fellow: 10-Month Research Grant: Optimizing dam siting and operations to minimize impacts on downstream fisheries (Ecuador).
2013	Fellow, Aldo Leopold Leadership Program.
2012	Fellow, Lightworks-Global Institute of Sustainability (ASU) Leadership Academy
2009	Sabbatical Fellowship, National Center for Ecological Analysis & Synthesis, UCSB, Santa Barbara, CA. Title: 'Dams, river networks and the distribution of native and non-native freshwater fauna in the United States'. Award Period: 2009-2010.
2005	Nominated by students for *Centennial Professorship Award* offered by the Associated Students of ASU.
2003	Hynes Award for New Investigators, *Honorable Mention* for outstanding research article. North American Benthological Society.
2000	Stoye Award for Best Student Oral Presentation in Ecology and Ethology, American Society of Ichthyologists and Herpetologists, La Paz, Mexico
1995	Outstanding Grad Student Performance, UW Coop. Fish & Wildlife Res. Unit
1994	Best M.S. Paper, School of Fisheries Graduate Student Symposium, UW
1992	Department of Biological Sciences Service Award, University of Notre Dame

CURRENT EXTRAMURAL GRANT SUPPORT

2021 **Principal Investigator:** ***Army Corps of Engineers,*** *Network for Engineering with Nature* **(4.5M)**
Contract is renewable annually.

2020 **Co-Principal Investigator:** ***National Science Foundation HDR: AI Institute:*** **Planning:** A Gap-Based Approach to Frame and Develop Robust AI for Sustainable Agriculture. Lead: David Ebert (U of Oklahoma). **500K** (Institute if funded: **10M)**

2020 **Co-Principal Investigator & Internal PI:** ***National Science Foundation*** GCR: Coevolution of social and physical infrastructure and improved access to clean water in informal water sharing systems. Sponsor PI: Amber Wutich (ASU) **Total: 3.6 M.**

2019 **Co-Principal Investigator:** ***US Department of State*** Nexview: Water data and groundwater futures in the Mekong River basin. , Co-Investigator: The Decision Theater. Total: **1.1M, 700K** to ASU**.**
Contract is renewable annually.

2018 **Co-Principal Investigator:** ***Consortium funding*****.** Texas water transactions. Consortium funding partners: Dow Chemical, The Coca Cola Corporation, The Brazos River Authority and the Cynthia and George Mitchell Family Foundation (75K).

2017 **Principal Investigator:** ***National Science Foundation.*** INFEWS/T1: Linking Current and Future Hydrologic Change to Hydropower, Human Nutrition, and Livelihoods in the Lower Mekong. (Co-PI: Gordon Hotgrieve, University of Washington; 2.7M, 1.35M to ASU)

2017 **Principal Investigator:** ***National Science Foundation.*** Collaborative Research: CRISP Type 2: Design and control of coordinated green and gray water infrastructure to improve resiliency in chemical and agricultural sectors. (Co-PI: Tushar Sinha, Texas A&M Kingsville; 3M, 1.875M to ASU)

2017 **Co-Principal Investigator:** ***USAID-National Academy of Sciences PEER Program.*** Connecting climate change, hydrology and fisheries for energy and food security in Lower Mekong Basin. 300K (PI: Sangam Shrestha, Asian Institute of Technology).

2017 **Co-Principal Investigator.** ***Cynthia & George Mitchell Family Foundation.*** Data-driven decision support to transform Texas water systems. (PI: The Earth Genome; 100K, 12K to ASU)

2017 **Principal Investigator:** ***The Earth Genome and Levi Strauss & Co.*** BASIT: Data driven water sustsainability targets in the River Ravi Basin, Pakistan. (60K)

2016 **Co-Principal Investigator:** ***National Science Foundation.*** INFEWS/T1: Mesoscale Data Fusion to Map and Model the U.S. FEW system (INFEWSion). (PI: Ben Ruddell, Northern Arizona University; 3M, 590K to ASU)

2016 **Principal Investigator:** ***MacArthur Foundation*****.** STEM capacity building in quantitative sustainability in the Lower Mekong River basin. (Sub-Award to larger grant to Conservation International; 200K ASU)

2016 **Co-Principal Investigator: BIGDATA:Collaborative Research: F: Discovering Context-Sensitive Impact in Complex Systems (**PI: Selcuk Candan, 1M**)**

2015 **Principal Investigator:** ***Earth Genome Foundation.*** Decision support tools for private sector water solutions. (100K; Co-PI Leah Gerber).

2015 **Principal Investigator:** ***National Science Foundation.*** Frontiers in food-energy-water systems. **INFEWS Workshop Grant (96K ASU).**

2015 **Principal Investigator:** ***National Science Foundation.*** Division of Environmental Biology, Ecosystems Panel: "Collaborative Research: Effects of Flow Regime Shifts, Antecedent Hydrology, Nitrogen Pulses and Resource Quantity and Quality on Food Chain Length in Rivers". **CO-PI: T.K. HARMS, UNIVERSITY OF ALASKA, FAIRBANKS. (1.3 M;** 844K **ASU).**

2014 **Co-PI:** ***National Science Foundation.*** Division of Environmental Biology. "LTREB Renewal: Multiscale effects of climate variability and change on hydrologic regimes, ecosystem function, and community structure in a desert stream and its catchment" (**PHASE 2 Renewal: 450K, PI: Nancy Grimm**).

2012 **Principal Investigator:** ***National Science Foundation.*** Science, Engineering and Education for Sustainability Program. "Water Sustainability and Climate Category 3: Collaborative Research: Water Sustainability under Near -term Climate Change:A cross-regional analysis incorporating socio-ecological feedbacks and adaptations **(1.5M, collaborative with North Carolina State University and University of Georgia, ASU portion: 505K)**

2012 **Workshop Organizer:** ***National Science Foundation,*** Division of Environmental Biology. "Workshop: Ecohydrology and food web ecology on the Tonle Sap Lake- Lower Mekong River". (18K; Co-I: Lee Hannah, Conservation International)

2012 **Co-PI, National Academy of Sciences & US Agency for International Development,** "PEER: Modeling the Tonle Sap ecosystem under global change" **(166K; PI: Veasna Kum)**

2012 **Co-PI:** ***MacArthur Foundation*****,** Food Webs of the Tonle Sap Lake: Establishing Ecological Resources Flows that Support Biodiversity, Fisheries, and People. **(350K, PI: Gordon Holtgrieve, University of Washington)**

2010 **Co-PI:** ***National Science Foundation,*** Division of Behavioral and Cognitive Sciences. "CAP3: Urban Sustainability in the Dynamic Environment of Central Arizona, USA" (**5.9 M**; PI: Daniel Childers)

2009 **Principal Investigator:** ***National Science Foundation.*** Division of Environmental Biology. "Evaluating the effects of groundwater and hydrology on trophic structure in desert riparian ecosystems" {**894K**; Senior Personnel: Jon Harrison (ASU)}

2009 **Co-PI:** ***National Science Foundation.*** Division of Environmental Biology. "LTREB: Multi-scale effects of climate variability and change on hydrologic regimes, ecosystem function and community structure in a desert stream and its catchment." (**499K, PI: Nancy Grimm**).

2009 **Co-PI:** ***US Department of Defense*****.** Strategic Environmental Research and Development Program. "Structure and Function of Ephemeral Streams in the Arid and Semiarid Southwest: Implications for Conservation and Management." {**880K**; PI: Julie Stromberg (ASU)}

2009 **Workshop Organizer: National Center for Ecological Analysis and Synthesis.** "Freshwater sustainability in the Cadillac Desert". {**80K;** Co-Is: Laura Bowling (Purdue University) and Gerrit Schoups (Delft Technical University, the Netherlands)}

EXTRAMURAL GRANT SUPPORT (PAST AWARDS)

2008 **Workshop Organizer:** ***National Science Foundation.*** Division of Earth Sciences. Hydrologic Sciences Program. "Preliminary Workshop: The Cadillac Desert 25 Years Later" {**42K**; Senior Personnel: Charles Perrings (ASU), Ellen Wohl (Colorado State University), Laura Bowling (Purdue University)}.

2006 **Project Director:** ***USGS*****,** Grand Canyon Monitoring and Research Center. Elucidating aquatic and terrestrial contributions of organic carbon to the Colorado River Ecosystem using stable hydrogen isotopes Co-PI: Richard Doucett, Colorado Plateau Stable Isotope Laboratory, Norhtern Arizona University. (**65K, Past Award**)

2004 **Co-PI**: ***National Science Foundation***. Division of Environmental Biology. Ecological Studies Panel. "Trophic Dynamics in Human-dominated Environments." PI: Stan Faeth, SoLS (**450** K**, Past Award**).

2004 **Principal Investigator:** ***National Science Foundation***. Division of Environmental Biology. Ecological Studies Panel—Small Grants for Exploratory Research (**SGER**): "Tracing surface and sub-surface sources of water through terrestrial food webs using stable isotopes of hydrogen and oxygen". (**27K, Past Award**).

2003 **Project Director:** ***National Science Foundation.*** Division of Environmental Biology. Ecological Studies Panel. "Collaborative Research: Food chain length in streams—Testing the role of ecosystem size, resource availability and disturbance". Co-PI's: D. M. Post, Yale University and J.C. Finlay, University of Minnesota. (465K; **275K** ASU, **Past Award**).

FUNDED RESEARCH EXPERIENCE FOR UNDERGRADUATES (REU) & SUPPLEMENT AWARDS

2017 **Project Director/Undergraduate mentor: National Science Foundation.** Division of Environmental Biology. Ecosystem Studies Panel. "***Research Experience for Undergraduates***. Collaborative Research: Effects of flow regime shifts, antecedent hydrology, nitrogen pulses and resource quantity and quality on food chain length in rivers (14 K)

2008 **Project Director/Undergraduate mentor: National Science Foundation.** Division of Environmental Biology. Ecological Studies Panel. "***Research Experience for Undergraduates***. Collaborative Research: Food chain length in streams—Testing the role of ecosystem size, resource availability and disturbance". Co-PI's: D. M. Post, Yale University and J.C. Finlay, University of Minnesota. (**6.5K**).

2008 **Co-PI/Undergraduate mentor**: **National Science Foundation**. Division of Environmental Biology. Ecological Studies Panel. "***Research Experience for Undergraduates***: Trophic Dynamics in Human-dominated Environments." PI: Stan Faeth, SoLS (**6.5** K**, End Date: January 2009**).

2007 **Project Director/Undergraduate mentor: National Science Foundation.** Division of Environmental Biology. Ecological Studies Panel. "***Research Experience for Undergraduates***. Collaborative Research: Food chain length in streams—Testing the role of ecosystem size, resource availability and disturbance". Co-PI's: D. M. Post, Yale University and J.C. Finlay, University of Minnesota. (**6.5K**).

2006 **Project Director/Undergraduate mentor: National Science Foundation.** Division of Environmental Biology. Ecological Studies Panel. "***Supplement***. Collaborative Research: Food chain length in streams—Testing the role of ecosystem size, resource availability and

disturbance". Co-PI's: D. M. Post, Yale University and J.C. Finlay, University of Minnesota. (**16K**).

2006 **Project Director/Undergraduate mentor: National Science Foundation.** Division of Environmental Biology. Ecological Studies Panel. "***Research Experience for Undergraduates***. Collaborative Research: Food chain length in streams—Testing the role of ecosystem size, resource availability and disturbance". Co-PI's: D. M. Post, Yale University and J.C. Finlay, University of Minnesota. (**6.5K**).

SYNERGISTIC ACTIVITIES

2019 Invited by Senator Martha McSally to give testimony to the Senate subcommittee on Water and Power (Committee on Energy and Natural Resources) on Western water.

2019 Co-Investigator on US Department of State project (NexView). This project will help me develop skills in scientific diplomacy. In my role in this project I will be working with the Mekong River Commission to develop a river operations model and visualization platform. This work will involve collaboration and diplomacy with China for water data.

2019 Co-sponsored workshop with the Mekong River Commission on hydrofisheries modeling, environmental flows and food security. Siem Reap, Cambodia.

2019 Working with Knowledge Enterprise federal relations team on water funding initiatives, including engagement with Senate Energy & Natural Resources, House Transportation & Infrastructure, US Bureau of Reclamation, the US Chamber of Commerce, and US Army Corps of Engineers.

2018 Sponsor and key note speaker: Business H2O, Arizona-Israel Water Summit, hosted by the US and Arizona Chamber of Commerce. Biltmore Hotel, Phoenix, Arizona.

2018 World Water Week

2018 Infrastructure development in the Peruvian Amazon: Multinational workshop hosted by the USGS and US State Department, Iquitos, Peru.

2016-current Organizer of working group on Replenish 2.0: A North America strategy for freshwater conservation and restoration projects undertaken by The Coca Cola Company. Partners: The Nature Conservancy, American Rivers. Inaugural Meeting: NCEAS, Santa Barbara CA, July 19-20; 2016. Follow up meeting at TCCC HQ in Atlanta; January 19, 2017.

2016 Co-Organizer of convener of workshop on data driven solutions to Environmental Flows in Texas at the Meadows Center, San Carlos Texas; hosted by the George & Cynthia Mitchell Foundation

2016 Co-Presenter: *Greenbiz—The Green Infrastructure Support Tool*

2015 Co-Presenter: *World Business Council for Sustainable Development (CEO Meeting, Paris, France)—The Green Infrastructure Support Tool*

2015 PI and Co-Organizer of NSF sponsored Innovations at the Nexus of Food Energy Water Systems (INFEWS) workshop for ~50 national participants

	at ASU. (Co-Organizers: Martin Doyle, Duke University; Upmanu Lall, Columbia University and Newsha Agami, Stanford University)
2015	Invited participant in DOE-University of California Water-Energy Nexus workshop, Irvine California.http://www.energy.gov/epsa/articles/water-energy-nexus-capturing-benefits-integrated-resource-management-water-electricity
2014-2015	**Fisheries and hydrology consultant to Mekong River Commission.** Developing predictive time series models of hydrology-fisheries interactions in the context of food security in SE Asia.
2014	Invited participant to Aspen-Nicolas Water Forum at the Aspen Institute. http://www.aspeninstitute.org/policy-work/energy-environment/aspen-nicholas-water-forum
2012-2015	**Invited Workshop Participant**: Sustainable ecosystem for fisheries in the Tonle Sap, Mekong River, Cambodia. Organized by Conservation International.
2011-2013	**Workshop organizer:** Human impacts on freshwater ecosystems. Working group at the National Center for Ecological Analysis and Synthesis. Co-Organizers: L. Bowling (Purdue), G. Schoups (Delft Technical Universtiy, the Netherlands) http://www.nceas.ucsb.edu/projects/12444
2013	**Organizer:** Forum on water reuse in the western US. Delivered a 2-day forum to 45 stakeholders including representatives from the private sector, municipal water utilities, NGOs and government agencies from Arizona, California, Colorado, Nevada and New Mexico. http://dcdc.asu.edu/outreach/workshops/water-reuse-forum/
2013	**Invited Participant**: Working group on riverine landscapes (organizers: Stuart Bunn, Grifiths University, Australia Quanfa Zhang, Chinese Academy of Sciences. http://isorl.csp.escience.cn/dct/page/1
2013	**Invited Participant:** Third annual conference on sustainability science. Marseilles, France. http://icss2013.univ-amu.fr/
2009	**Workshop organizer:** The Cadillac Desert 25 Years Later. A transdisciplinary workshop devoted to quantifying geographic patterns of freshwater sustainability to be held at the National Center for Ecological Analysis and Synthesis. Funding sources: NSF, ASU.
2009	**Invited Working Group Participant**: Detrital Dynamics. Organized by John Moore and Quan Dong. National Center for Ecological Analysis and Synthesis.
2004	**Invited Symposium Participant**: Monitoring in conservation science, Brisbane, Australia. Organized by Dr. Hugh Possingham, The Ecology Centre. Department of Biology, University of Queensland, Australia.
2003	**Invited Symposium Participant**: International symposium on food web ecology sponsored by EU. Schloß Rauischolzhausen. Justus Liebig University. Gießen , Germany.
2003	**Symposium Organizer**: "Body Size, Biophysincs and Biological Stoichiometry" Co-Organizer: B. Enquist. Ecological Society of America. Savannah, GA.

PEER REVIEWED RESEARCH ARTICLES

† INDICATES GRADUATE STUDENT CO-AUTHOR

‡ INDICATES UNDERGRADUATE STUDENT CO-AUTHOR

1. Deng, Q. J.L. Sabo, G. W. Holtgrieve, B.N. Peng and J. Holway. In press. Fish migration traits filtered responses to hydrologic variation in a flood pulse fishery system. Journal of Applied Ecology,

2. Baruch, E.M., A. Ruhi, T.K. Harms, J.L. Sabo. 2022. Flow variation at multiple scales filters fish life histories and constrains community diversity in desert streams. Ecosphere 13 (6), e4086.

3. Baruch, E.M., H.L. Bateman, D.A. Lytle, D.M. Merritt and J.L. Sabo. 2021. Integrated ecosystems: linking food webs through reciprocal resource reliance. Ecology e03450 (Concepts & Synthesis)

4. Patrick, CJ, KE McCluney A Ruhi A Gregory JL Sabo JH Thorp. 2021. Multi-scale biodiversity drives temporal variability in macrosystems. Frontiers in Ecology and the Environment https://doi.org/10.1002/fee.2297

5. George, R. R. McManamay, D. Perry, J. Sabo, B.L. Ruddell. 2021. Indicators of hydro-ecological alteration for the rivers of the United States. Ecological Indicators 120, 106908

6. Stampoulis, D., H.G. Damavandi, D Boscovic, J Sabo. 2020. Using Satellite Remote Sensing and Machine Learning Techniques Towards Precipitation Prediction and Vegetation Classification. Journal of Environmental Informatics **37** (1), 1-15.

7. Sabo, John L.; Holtgrieve, Gordon W.; Ruhi, Albert; Arias, Mauricio E.; Ngor, Peng Bun; Elliott, Vittoria; Rasanen, Timo; Nam, So. 2019. Response to Comment on "Designing river flows to improve food security futures in the Lower Mekong Basin" Science 364 (6444): SI. DOI: 10.1126/science.aav9887

8. Stampoulis, Dimitrios; Reager, John T.; David, Cedric H.; Andreadis, Konstantinos M.; Famiglietti, James S.; Farr, Tom G.; Trangsrud, Amy R.; Basilio, Ralph R.; Sabo, John L.; Osterman, Gregory B.; Lundgren, Paul R.; Liu, Zhen. 2019. Model-data fusion of hydrologic simulations and GRACE terrestrial water storage observations to estimate changes in water table depth. Advances in Water Resources128: 13-17.

9. Leinbach, Israel L.; McCluney, Kevin E.; Sabo, John L. 2019. Predator water balance alters intraguild predation in a streamside food web. Ecology 100 (4): DOI: 10.1002/ecy.2635

10. Hondula, David M.; Sabo, John L.; Quay, Ray; Chester, Mikhail; Georgescu, Matei; Grimm, Nancy B.; Harlan, Sharon L.; Middel, Ariane; Porter, Sarah; Redman, Charles L.; Rittmann, Bruce; Ruddell, Benjamin L.; White, Dave D. 2019. Cities of the Southwest are testbeds for urban resilience. Frontiers in Ecology and the Environment 17 (2):79-80.

11. Lant, Christopher; Baggio, Jacopo; Konar, Megan; Mejia, Alfonso; Ruddell, Benjamin; Rushforth, Richard; Sabo, John L.; Troy, Tara J. 2019. The US food-energy-water system: A blueprint to fill the mesoscale gap for science and decision-making. Ambio 48 (3): 251-263.

12. Damavandi, H.G., Stampoulis, D., Shah, R., Wei, Y., Boscovic, D., Sabo, J.L. (2019). "Machine Learning: An Efficient Alternative to the Variable Infiltration Capacity

Model for an Accurate Simulation of Runoff Rates," International Journal of Environmental Science and Development (IJESD).

13. Damavandi, H.G., Shah, R., Stampoulis, D., Wei, Y., Boscovic, D., Sabo, J.L. (2019). "Accurate Prediction of Streamflow Using Long Short-term Memory Network: A Case Study in the Brazos River Basin in Texas," International Journal of Environmental Science and Development (IJESD).
14. Stampoulis, D, H. G. Damavandi, D. Boscovic, and J. L. Sabo. 2019. Using Satellite Remote Sensing and Machine Learning Techniques Towards Precipitation Prediction and Vegetation Classification. Journal of Environmental Informatics. doi:10.3808/jei.202000427
15. Gao, HK; JL Sabo; XH Chen; ZY Liu; ZJ Yang; Z Ren and M Liu. 2018. Landscape heterogeneity and hydrological processes: a review of landscape-based hydrological models. Landscape Ecology **33** (9): 1461-1480.
16. Ruhi, A., X. Dong, C. H. McDaniel, D.P. Batzer and **J.L. Sabo**. *2018* Detrimental effects of a novel flow regime on the functional trajectory of an aquatic invertebrate metacommunity. *Global Change Biology*. **24**(8)**:** 3749-3765.
17. Holtgrieve, GW; ME Arias; A Ruhi; V. Elliott; S. Nam; PB Ngor; TA Rasanen and JL Sabo. 2018. Response to Comments on "Designing river flows to improve food security futures in the Lower Mekong Basin". *Science* **361**(6398): eaat1477.
18. Moody, EK; EW Carson,; JR Corman; H. Espinosa-Perez; J Ramos; JL Sabo and JJ Elser. 2018. Consumption explains intraspecific variation in nutrient recycling stoichiometry in a desert fish. *Ecology* **99**(7): 1552-1561.
19. **Sabo, J.L.**, Caron, M., Doucett, R., Dibble, K.L., Ruhi, A., Marks, J.C., Hungate, B.A., and Kennedy, T.A. *2018*. Pulsed flows, tributary inputs and food web structure in a highly regulated river. Journal of Applied Ecology 55(4): 1884-1895 DOI: 10.1111/1365-2664.13109.
20. Kominoski, J.E., A. Ruhi, M. Hagler, K.N. Petersen, T. Sinha, A. Sankarasubramanian, J. Olden and **J.L. Sabo**. *2018*. Patterns and drivers of fish extirpations in rivers of the American Southwest and Southeast. *Global Change Biology*. **24(3):** 1175-1185. DOI: 10.1111/gcb.13940
21. **Sabo, J.L.**, A. Ruhi, M. Arias, V. Elliot, S Nam and G. Holtgrieve. *2017*. Designing flows that improve food security futures in the Lower Mekong Basin. *Science* (8000-word online research article with Print Summary): http://science.sciencemag.org/content/358/6368/eaao1053
22. Moody, E.K., A.T. Rugenski, **J.L. Sabo**, B.L. Turner and J.E. Elser. *2017.* Does the growth rate hypothesis apply across temperatures? Variation in the growth rate and body phosphorus content of Neotropical benthic grazers? *Frontiers in Environmental Science* **5(14)**. https://doi.org/10.3389/fenvs.2017.00014
23. Ruhi, A., T. Daltry and **J.L. Sabo**. *2017*. Interpreting beta diversity components over time to conserve metacommunities in highly dynamic ecosystems. *Conservation Biology* **31(6):** 1459-1468. DOI: 10.1111/cobi.12906
24. Sankarasubramanian, A., J. L. Sabo, K. Larson, S. Seo1, T. Sinha, R. Bhowmik, A. Ruhi Vidal, K. Kunkel, G. Mahinthakumar, E. Berglund and J Kominoski. ***2017***. Public Water Supply Trends in the U.S.: Spatial Patterns, Socio-Economic Controls and Adaptation to Climate. *Earth's Future* 5(7): 771-788. DOI: 10.1002/2016EF000511

25. Moody, E.K. and **J.L. Sabo**. *2017.* Dissimilarity in the riparian arthropod communities along surface water permanence gradients in aridland streams. *Ecohydrology*. **10 (4)**:e1819. DOI: 10.1002/eco.1819

26. Ruhi, A. J.D. Olden and **J.L.Sabo**. 2016. Declining streamflow induces collapse and replacement of native fishes in the American Southwest. *Frontiers in Ecology and the Environment* **14**(9): 465–472.

27. †McCluney, K.E. and **J.L. Sabo**. 2016. Animal water balance drives top-down effects in a riparian forest—implications for terrestrial trophic cascades. *Proceedings of the Royal Society B* **238**: 20160881.

28. Ruhi, A., E.E Holmes , J.N. Rinne, and **J.L. Sabo**. 2015. Anomalous droughts, not invasion, decrease persistence of native fishes in a desert river. *Global Change Biology*. 21: 1482-1496. DOI: 10.1111/gcb.12780

29. *‡Moody E.K., ‡J.R. Corman, J.J. Elser, and **J.L. Sabo**.* 2015. *Diet composition affects the rate and N:P ratio of fish excretion.* Freshwater Biology. *60: 456-465.*

30. †McCluney, K.E. and **J.L. Sabo** 2014.. Sensitivity and Tolerance of Riparian Arthropod Communities to Altered Water Resources along a Drying River. PLoS ONE 9(10): e109276. doi: 10.1371/journal.pone.0109276.

31. Sabo, J.L. 2014. Predicting the river's blue line for fish conservation. *Proceedings of the National Academy of Sciences* USA **38**: 13686-13687.

32. †Hagen, E.M. and **J.L. Sabo**. 2014. Temporal variability in insectivorous bat activity along two desert streams with contrasting patterns of prey availability. *Journal of Arid Environments* **102:** 104-112.

33. Allen, DC, K.E. McCluney, S Elser and J.L. Sabo. 2014. Water as a trophic currency in dryland food webs. *Frontiers in Ecology and the Environment* **12(3)**:156-160.

34. †Moody, E.K. and J.L. Sabo. 2013. Crayfish impact desert river ecosystem function and community structure through a novel consumer-resource association. *PLoS ONE* **8(5)**: e63274.

35. Cooper, S.D., P.S. Lake, S. Sabater, J.M. Melack and J.L. Sabo. 2013. The effects of land use changes on streams and rivers in Mediterranean climates. Hydrobiologia. **719(1):** 383-425. DOI 10.1007/s10750-012-1333-4

36. Staudt, A., Leidner, AK, Howard, J. , Brauman, KA, Dukes, JS, Hansen, L, Paukert, C, Sabo, JL, and Solórzano, LA. 2013. The Added Complications of Climate Change: Understanding and Managing Biodiversity, Ecosystems, and Ecosystem Services under Multiple Stressors. Frontiers in Ecology and the Environment **11(1):** 494-501. **{Special Issue summarizing work by the Biodiversity, Ecosystems, and Ecosystem Services Team for the US National Climate Assessment}**

37. J.L. Sabo and R. Glennon. 2013. Financing water reform in the western United States. *The Solutions Journal*. http://www.thesolutionsjournal.com/node/23922 **{Covered by The Phoenix Business Journal and NPR}**

38. Cooperman, M.J., N. So, M. Arias, T.A. Cochrane, V. Elliot, T. Hand, L. Hannah, G.W. Holtgrieve, L. Kaufman, A.A. Koning, J. Koponen, V. Kum, K.S. McCann, P.B. Mcintyre, B. Min, C. Ou, N. Rooney, K.A. Rose, J.L.Sabo, K.O. Winemiller. 2012. A watershed moment for the Mekong: newly announced community use and conservation areas for the Tonle Sap Lake may boost sustainability of the world's largest inland fishery. Cambodian Journal of Natural History 2:101-106.

39. Deviche, P, Sharp, PJ, Dawson, A, Sabo, J, Fokidis, B, Davies, S, Hurley, LAF. 2012. Up to the challenge? Hormonal and behavioral responses of free-ranging male Cassin's Sparrows, Peucaea cassinii, to conspecific song playback. Hormones and Behavior **61**: 741-749. {**JLS** assisted with statistical analysis}

40. †Hagen, E.M. and J.L. Sabo. 2012. Influence of river drying and insect availability on bat activity along the San Pedro River, Arizona (USA). *The Journal of Arid Environments* **84:** 1-8.

41. † Hagen, E.M., † K.E. McCluney, † K.A. Wyant, † A.K. Keller, † C.U. Soykan, K.C. Wilson, ‡E. Holmes, J.C. Moore, **J.L. Sabo**. 2012. Effects of detritus on food chains in marine, freshwater and terrestrial ecosystems. *Oikos.* **121:** 1507-1515. DOI: 10.1111/j.1600-0706.2011.19666.x

42. Sabo, J.L. and †E.M. Hagen. 2012. A Network theory for resource exchange between rivers and their watersheds. *Water Resources Research*. VOL. 48, W04515, 17 PP., 2012 doi:10.1029/2011WR010703

43. Bang, C., Faeth, S.H. and **J.L. Sabo**. 2012. Control of arthropod abundance, richness, and composition in a heterogeneous desert city. *Ecological Monographs*. **82**(1): 85–100.

44. Sabo, **J.L.,** K. Bestgen, W. Graf, T. Sinha, and E.E. Wohl. Dams in the Cadillac Desert--Downstream Effects in a Geomorphic Context. 2012. The Year in Ecology and Conservation Biology (Proceedings of the New York Academy of Sciences) 1249: 227–246.

45. † McCluney, K.E. and **J.L. Sabo**. 2012. River drying lowers the diversity of desert riparian arthropod communities. *Freshwater Biology* **57**, 91–103.

46. †Soykan, Candan U., Juliet C. Stromberg, Leslie Ries, Christine Hass, Arriana Brand, ‡David A. Simmons Jr., ‡William J.D. Patterson and **John L. Sabo.** 2012. Multitaxonomic Diversity Patterns along a Desert Riparian–Upland Gradient: Is the community more than the sum of its parts? *PLoS ONE* 7(1): e28235. doi:10.1371/journal.pone.0028235.

47. † Hagen, E.M. and J.L.Sabo. 2011. A landscape perspective on bat foraging ecology along rivers: Does channel confinement influence the response of bats to aquatic resources in riverine landscapes? *Oecologia* 166: 751-760 DOI 10.1007/s00442-011-1913-4

48. †McCluney K.E. and **Sabo J.L.** 2010. Tracing Water Sources of Terrestrial Animal Populations with Stable Isotopes: Laboratory Tests with Crickets and Spiders. PLoS ONE 5(12): e15696. doi:10.1371/journal.pone.0015696

49. Graf, W.L., Wohl, EE, Sinha T and **J.L. Sabo**. *2010.* Sedimentation and sustainability of western American reservoirs. *Water Resources Research* **46:** W12535. **{Appeared as a featured article}**

50. Sabo, J.S., T. Sinha, L.C. Bowling, G.H.W. Schoups, W.W. Wallender, M.E. Campana, K.A. Cherkauer, P. Fuller, W.L. Graf, J.W. Hopmans, J.S. Kominoski, C. Taylor, S.W. Trimble, R.H. Webb, E.E. Wohl. 2010. Reclaiming freshwater sustainability in the Cadillac Desert. *Proceedings of the National Academy of Sciences* (USA) **107** (50) 21256-21262. **{Appeared as a Perspective piece in a special feature on drought in western North America. Article was covered**

online: by NY Times, Scientific American, Miller-McCune, and on the air by NPR (KCLU, KNAU, KJZZ)}

51. **Sabo, J.L**., J.C. Finlay, D.M. Post, T. Kennedy. 2010. The role of discharge variation in scaling between drainage area and food chain length in rivers. *Science* 330: 965-967. **{Article was covered by the UPI and AP and major newspapers and online news services in Canada, US, Spain, India, Pakistan and China}**

52. Deviche, P. J., L. Hurley, B. Fokidis, B. Lerbour, Bengt Silverin, Bjorg Silverin, **J.L. Sabo**, and P. J. Sharp. 2010. Acute stress rapidly decreases plasma testosterone but not luteinizing hormone in a free-ranging male songbird: Potential site of action and mechanism. *Gen. Comp. Endocrin.* 169(1):82-90. {**JLS** assisted with statistical analysis}

53. Gerber LR, González-Suárez M, Hernández-Camacho CJ, Young JK, **Sabo JL**. 2010. The Cost of Male Aggression and Polygyny in California Sea Lions (Zalophus californianus). PLoS ONE 5 **8**: e12230. doi:10.1371/journal.pone.0012230 {**JLS** assisted with statistical analysis}

54. †Bang C, **Sabo JL**, Faeth SH (2010) Reduced Wind Speed Improves Plant Growth in a Desert City. PLoS ONE 5(6): e11061. doi:10.1371/journal.pone.0011061

55. Sponseller, RA., N.B. Grimm, A.J Boulton and **J.L. Sabo**. 2010. Responses of macroinvertebrate communities to long-term flow variability in a Sonoran Desert stream. Global Change Biology. 16: 2891-2900.

56. †Soykan, C.U. and **J.L. Sabo**. 2009. Spatio-temporal food-web dynamics along a desert riparian-upland transition. *Ecography.* **32**(2): 354-368.

57. †McCluney, K.E. and **J.L. Sabo**. 2009. Water availability directly determines interaction strength between riparian predators and prey. *Ecology*. **90**(6): 1463–1469. {**Highlighted as a *Science Editor's Choice, Science* VOL 324, JUNE 19, 2009 p. 1493.}**

58. **Sabo, J.L.**, J.C. Finlay and D.M. Post. 2009**.** Controls of food chain length in freshwater ecosystems. *The Year in Ecology & Conservation Biology*. *Ann. N.Y. Acad. Sci.* **1162**: 187–220.

59. **Sabo, J.L.,** †K.E. McCluney, ‡Y.Y. Marusenko, †A.C. Keller and †C.U. Soykan. 2008. Greenfall links aquifers to floodplain food webs. *Ecological Monographs* 78: 3-18.

60. P. Deviche, **J.L. Sabo** and P.J. Sharp. 2008. Glutamatergic Stimulation of Luteinising Hormone Secretion in Relatively Refractory Male Songbirds. *Journal of Neuroendrocrinology*. **20**, 1191–1202. {**JLS** assisted with statistical analysis}

61. **Sabo, J.L.** 2008. Population viability and species interactions: Life outside the single-species vacuum. *Biological Conservation.***141**: 276-286.

62. Baxter, P, **J.L. Sabo**, C. Wilcox, M.A. McCarthy and H. Possingham. 2008. Cost effective management of an invasive predator. *Conservation Biology* **22**:89-98.

63. **Sabo, J.L.** and D.M. Post. 2008. Quantifying periodic, stochastic and catastrophic variation in the environment. *Ecological Monographs* **78(1)**: 19-40. **{Appeared as a Concepts & Synthesis article}**

64. Holmes, E.E., **Sabo, J.L.,** Viscido, S. and W.M. Fagan. 2007. A statistical approach to quasi-extinction forecasting. *Ecology Letters.* **10**: 1182–1198. **{Appeared as a Review & Synthesis article}**

65. Sabo, J.L. and L.R. Gerber. 2007. Predicting extinction risk in spite of predator–prey oscillations. *Ecological Applicatio*ns **17**:1543–1554.

66. Post, D.M., M.W. Doyle, **J.L. Sabo**, and J.C. Finlay. 2007. The problem of boundaries in defining ecosystems: a potential landmine for unifying geomorphology and ecology. Invited special feature article in *Geomorphology* **89**: 11-126.

67. Sabo, J.L. and †C.U. Soykan. 2006. Riparian zones increase regional richness by harboring different, not more species: Reply. *Ecology* **87**(8): 2128-2134.

68. Sabo, J . L. 2005. Stochasticity, predator-prey dynamics and the management of native species threatened by non-native predators. *Ecology* **86**(9): 2329-2343. **{Appeared as a Concepts & Synthesis article}**

69. Gerber, L.R. H. McCallum, K.D. Lafferty **J.L. Sabo**, and A. Dobson. 2005. Exposing extinction risk analysis to pathogens: Is disease just another form of density dependence? *Ecological Applications* **15**(4):1402-1414**.**

70. Sabo, J.L., †R. Sponseller, M. Dixon, †K. Gade, †T. Harms, †J. Hefernan, †A. Jani, G. Katz, †C. Soykan, †J. Watts, †J. Welter. 2005. Riparian zones increase regional richness by harboring different, not more species. *Ecology* **86**(1): 56-62.

71. Sabo, J. L. ‡M. Ku. 2004. *Sceloporus occidentalis* (Western Fence Lizard)*:* Failed predation by a snake. *Herpetological Review* **35**(4): 396-397.

72. Sabo, J. L., E. E. Holmes and P. Kareiva. 2004. Efficacy of simple viability models in ecological risk assessment: Does density dependence matter? *Ecology* 85(2) 328-341.

73. Moore, J.C., D. Callaway, D.C. Coleman, P. de Ruiter, Q. Dong, R. Diaz, A. Hastings, H. W. Hunt, N. Johnson, K. McCann, K. Melville, P. Morin, K. Nadelhoffer, A. Rosemond, D. Post, **J. L. Sabo**, K. Scow, D. Strong, M. Vanni, and D. Wall. 2004. Detritus, food web dynamics and biodiversity. *Ecology Letters* **7**(7): 584-600.

74. Sabo, J. L. 2003. Hot rocks or no hot rocks: Overnight retreat availability and selection by a diurnal lizard. *Oecologia* **136**:329-335.

75. Sabo, J. L. and M. E. Power. 2002b. Aggregation of lizards in near-river habitats: Aquatic resource tracking and short-term indirect effects on *in situ* resources. *Ecology* **83**(11): 3023-3036.

76. Sabo, J. L. and M. E. Power. 2002a. River-watershed exchange: Effects of riverine subsidies on riparian lizards and their terrestrial prey. *Ecology* **83** (7): 1860-1869.

77. ‡Bastow, J., **J. L. Sabo,** J.C. Finlay and M. E. Power. 2002. The effects of river derived algal and water resources on the spatial distribution of riparian pygmy grasshoppers. *Oecologia* **131**(2): 261-268.

78. Sabo, J. L. , ‡J. Bastow and M. E. Power. 2002. Length-weight relationships for adult aquatic insects from a northern California stream. *Journal of the North American Benthological Society*. **21**(2): 336-343.

79. Porter, W. P., **J. L. Sabo**, C. R. Tracy, O. J. Reichman and N. Ramankutty. 2002. Physiology on a landscape scale: Plant-animal interactions. *Integrative and Comparative Biology* **42**(3):431-453.

80. Sabo, J. L. and G. B. Pauley. 1997. Competition between stream-dwelling cutthroat trout and coho salmon: the evolution of competitive ability. *Canadian Journal of Fisheries and Aquatic Sciences* **54**: 2609 - 2617.

PEER REVIEWED BOOK CHAPTERS AND BOOK REVIEWS

81. Ruddell, BL; H Gao, O Pala, R Rushforth, JL Sabo. Infrastructure. *In:* Saundry P., Ruddell B. (eds) The Food-Energy-Water Nexus. AESS Interdisciplinary Environmental Studies and Sciences Series. Springer, Cham. *https://doi.org/10.1007/978-3-030-29914-9_10*

82. Sabo, J.L., and D. Hoekman. 2015. Dynamic systems of exchange between food webs on land and in freshwater. In: La Pierre, KJ and Hanley, T. (Eds.) Trophic Ecology: Bottom-Up and Top-Down Interactions across Aquatic and Terrestrial Systems. Cambridge University Press.

83. Grossman, G.D. and **J.L. Sabo**. 2010. Structure and dynamics of stream fish assemblages – a commentary. *In: Gido, K.B. and D.A. Jackson Eds. Community Ecology of Stream Fishes: Concepts, Approaches, and Techniques*. Special Publication of the American Fisheries Society.

84. Grossman, G.D. and **J.L. Sabo**. 2010. Incorporating environmental variation into models of community stability: examples from stream fish assemblages. *In: Gido, K.B. and D.A. Jackson Eds. Community Ecology of Stream Fishes: Concepts, Approaches, and Techniques*. Special Publication of the American Fisheries Society.

85. †Soykan, C.U. A. Brand, and **J.L. Sabo**. 2009. Causes and Consequences of Mammal Species Richness. *In*: J. Stromberg and B. Tellmann, Eds. Ecology of Desert Riparian Ecosystems: The San Pedro River Example. University of Arizona Press.

86. Paetzold, A., **J.L.Sabo**, J.P.Sadler, S.E.G. Findlay and K. Tockner. 2007. Aquatic-terrestrial subsidies along river corridors. *In:* Wood, P.J., D.M. Hannah and J.P. Sadler ***Eds.*** Hydroecology and Ecohydrology: Past, Present and Future. John Wiley & Sons.

87. Sabo, J. L., †C. U. Soykan, and †A. Keller. 2005. Functional roles of leaf litter detritus in terrestrial food webs. ***In:*** P. C. deRuiter, J. C. Moore, and V. Wolters, ***Eds***. Multispecies assemblages, ecosystem development, and environmental change**.** Academic Press, San Diego, CA.

88. Sabo, J. L., B. Beisner, E. Berlow, K. Cuddington, A. Hastings, M. Koen-Alonso, G. Kokkoris, K. McCann, C. Melian and J. Moore. 2005. Population dynamics and food web structure—Predicting measurable food web properties with minimal detail and resolution. ***In:*** P. C. deRuiter, J. C. Moore, and V. Wolters, ***Eds***. Multispecies assemblages, ecosystem development, and environmental change**.** Academic Press, San Diego, CA.

89. Power, M. E., M. S. Parker, W. E. Rainey, **J. L. Sabo**, A. Smyth, C. McNeely, J. C. Finlay, G. Cabana, E. D. Pierson, W. E. Dietrich, S. Khandwala and K. Marsee. 2004. Consequences of trophic exchange from a river to its watershed. ***In*:** Polis, G. A., M. E. Power, and G. R. Huxel, ***Eds.*** *Food webs at the landscape level*. University of Chicago Press, Chicago, IL

90. Sabo, J. L. 2003. ***Book Review****:* Morris, W. F., and D. F. Doak. 2003. Quantitative Conservation Biology: Theory and Practice of Population Viability Analysis. Sinauer Associates, Sunderland, Massachusetts, USA. *Conservation Ecology* 7(2): 2. [online] URL: http://www.consecol.org/vol7/iss2/art2.

91. Sabo, J. L. 2002. Food web dynamics. *In:*McGraw-Hill 2002 Yearbook of Science and Technology, McGraw-Hill Book Co., New York.

92. Sabo, J.L. and L. R. Gerber. 2002. Trophic dynamics. *In*: McGraw-Hill Encyclopedia of Science and Technology, 9th Edition. McGraw-Hill Book Co., New York.

POPULAR PRESS ARTICLES AND PRESS COVERAGE

- Jaspers, B. 2018. KJZZ Interview: Intel promises to restore 100 percent of its global water use—what does it mean? URL: https://kjzz.org/content/698445/intel-promises-restore-100-percent-its-global-water-use-what-does-mean
- Sabo, J.L. 2016. My Turn: 7 new ideas that will change how we look at water. Arizona Republic (Op-Ed). March 22, 2016 (Covered on KJZZ: http://kjzz.org/content/283041/asu-launches-initiative-flip-water-conversation-scarcity-abundance)
- Sabo, J.L. 2016. ASU Now: Balancing conservation and commerce. https://asunow.asu.edu/20160122-entrepreneurship-asu-water-analytics-tool-corporations Covered on KJZZ: http://kjzz.org/content/269217/new-tool-helps-corporations-use-data-analyze-water-use
- Sabo, J.L. 2015. Can cash and cooperation save the Colorado River? Zocalo Public Square: http://www.zocalopublicsquare.org/2015/01/20/cash-cooperation-colorado-river/ideas/up-for-discussion/#John+Sabo
- Sabo, J.L. 2013. The second moment of climate change: drought, fire and floods. Thought Leader Series (Blog). Global Institute of Sustainability. http://sustainability.asu.edu/news/archive/the-second-moment-of-climate-change-fire-flood-and-drought
- Sabo, J.L. 2011. California's water wars present difficult lifestyle choices. Op-Ed (Blowback response forum) Los Angeles Times. http://opinion.latimes.com/opinionla/2011/09/californias-water-wars-present-difficult-lifestyle-choices-blowback.html
- Appeared on Discovery Channel as part of NBC Learn-Discovery Changing Planet Town Hall on water scarcity and climate change. http://www.nbclearn.com/portal/site/learn/press-room/e3e1dade22702310VgnVCM10000075c1d240RCRD

Press coverage from J.L. Sabo and R. Glennon. 2013. Financing water reform in the western United States. *The Solutions Journal*

- http://www.bizjournals.com/phoenix/news/2013/09/13/experts-warn-of-water-rationing-in.html?page=all
- http://kjzz.org/content/5087/lessening-impact-southwests-drought-colorado-river

Press coverage from: Sabo, J.S., T. Sinha, L.C. Bowling, G.H.W. Schoups, W.W. Wallender, M.E. Campana, K.A. Cherkauer, P. Fuller, W.L. Graf, J.W. Hopmans, J.S. Kominoski, C. Taylor, S.W. Trimble, R.H. Webb, E.E. Wohl. 2010. Reclaiming

freshwater sustainability in the Cadillac Desert. *Proceedings of the National Academy of Sciences* (USA) **107** (50) 21256-21262.

- Appeared in *The Worth of Water,* which aired on KAET PBS 8. See: http://researchmatters.asu.edu/videos/worth-water
- **New York Times**: http://www.nytimes.com/cwire/2010/12/14/14climatewire-scientists-see-the-southwest-as-first-major-78170.html
- **Scientific American**: http://www.scientificamerican.com/article.cfm?id=desert-southwest-may-be-first
- **NPR (KNAU, Flagstaff, AZ)**: http://www.publicbroadcasting.net/knau/news.newsmain/article/0/13/1739232/KNAU.and.Arizona..News/%E2%80%99Cadillac.Desert%E2%80%99.claims.put.to.the.test/
- **NPR (KCLU, Thousand Oaks, CA)**: http://www.kclu.org/news/local/story.php?story_id=840
- **Climate Central**: http://www.climatecentral.org/news/25-year-old-prediction-of-water-scarcity-in-the-southwest-holds-true/
- **Miller-McCune**: Lead story in a three part series.
  Part 1: http://www.miller-mccune.com/environment/greening-the-desert-not-so-fast-30957/
  Part 2: http://www.miller-mccune.com/environment/water-shortages-threaten-the-american-west-lifestyle-31150/
  Part 3: http://www.miller-mccune.com/environment/solutions-to-water-supply-woes-surface-in-the-west-31371/
- **Horizon Eight** (TV Broadcast): http://www.azpbs.org/horizon/detail.php?id=1582#%20Water%20in%20the%20West
- **Arizona Republic**: http://www.azcentral.com/arizonarepublic/news/articles/2011/03/19/20110319arizona-water-issue-from-growing-cities.html
- **Reno News and Review**: http://www.newsreview.com/reno/cadillac-desert-revisited/content?oid=3811526

Press coverage from: Sabo, J.L., J.C. Finlay, D.M. Post, T. Kennedy. 2010. The role of discharge variation in scaling between drainage area and food chain length in rivers. *Science* 330: 965-967.

- **National Science Foundation**: http://www.nsf.gov/news/news_summ.jsp?cntn_id=117867
- **Conservation Magazine: http://www.conservationmagazine.org/2010/10/breaking-the-chain/**
- **WhyFiles**: http://whyfiles.org/2011/drying-rivers-dying-fish/
- Postmedia News (Canada): http://www2.canada.com/human+meddling+threatens+rivers+human+food+chain+study/3677165/story.html?id=3677165

- **Appeared in several major newspapers in Canada via Postmedia News including, the Montreal Gazette and Vancouver Sun.**
- **Zee News (India)**: http://zeenews.india.com/news/sci-tech/nature-and-humans-destroying-aquatic-food-webs_661882.html
- **DNA (India)**: http://www.dnaindia.com/scitech/report_nature-and-humans-destroying-aquatic-food-webs_1453705
- **OnePakistan**: http://www.onepakistan.com/.../68385-humans-nature-harming-rivers-food.html
- **Thaindia News** (Thailand): http://www.thaindian.com/newsportal/health/nature-and-humans-destroying-aquatic-food-webs_100445276.html

CONCISE SUMMARY OF SERVICE

International-National

Advisor to the Mekong River Commission, Fisheries Programme, Phnom Penh, Cambodia (2015-2016).

Editorial Board: Frontiers in Ecology and the Environment

Chair, Scientific Advisory Board, National Center for Ecological Analysis and Synthesis (2012).

***National Climate Assessment*-**Other Stressor Working Group Member

***Southwest Climate Assessment (NCA)*-**Editor & Contributor

Editorial Board: Journal of Environmental Studies and Sciences (2011)

Editorial Board: Ad hoc editor for Ecological Applications (2009-2015)

Member of the Scientific Advisory Board, National Center for Ecological Analysis and Synthesis (2010-2012).

***Reviewer for journals*:** Science, PNAS, Conservation Biology, Ecology, Ecology Letters, Ecological Applications, Freshwater Biology, Landscape Ecology, North American Benthological Society, Oecologia, National Science Foundation

NSF External reviewer: Have reviewed 2 proposals in 2015 and been a reviewer for three programs in since my arrival at ASU

***Faculty member for Faculty 1000 Biology*:** An online service provided by PubMed that enlists faculty from all over the world to write regular commentaries on recent publications of high impact in their field of interest. http://www.f1000biology.com/home). Faculty 1000 Membership by invitation only.

Local

ISEF Co-chair: Served on committee to find judges for projects in the Environmental Sciences category of the Intel International Science and Engineering Fair held in Phoenix, Spring 2005.

University

Founding Director of Future H2O

Following the close of my three year term as Research Director of GIOS, I was tasked by GIOS and ASU President Michael Crow to sketch the concept for a "Center for the Future of Water" and create a global water engagement plan for the university. Over the ensuing year and a half I wrote thought pieces, hosted internal summits, discussed the concept with deans of over 15 units at ASU and engaged over 60 faculty with research interests in water-related fields to build momentum and consensus. This effort led to my invitation to the White House Water Summit on World Water Day (March 22, 2016) and an ASU commitment to stand up Future H2O by the end of the calendar year. I am now the founding director of Future H2O and we are currently developing campus wide engagement in three program areas. Briefly these programs include 1) corporate engagement in conservation and watershed restoration, 2) sensor and data science to create data-driven water resource management, and 3) a global water leadership training program that includes a plan to create a campus wide Water 101 class co-instructed by faculty and their graduate students from disciplines ranging from economics to engineering and hydrology to the humanities. Funding for Future H2O is from the ASU office of research (Knowledge Enterprise Development), with an annual budget of 1M per year over five years.

Leading Water Initiatives for Global Institute of Sustainability, OKED

- **Created ASU's Global Water Engagement Task Force (20 faculty) and Plan by request of President Crow**
- **Assisted Stephen Feinson's team at ASU Global to create a response team for the ASU partnership with Engility Inc. on the 1B USD USAID Water For Development IDIQ.**
- **Crafted a white paper describing the vision for a center on the Future of Water by request of President Crow (co-authored by Ariel Anbar and Dan Sarewitz)**
- **Organized and executed ASU Water Summit, October 2015 (Key Note given by President Crow)**
- **Developing internal proposal to launch a new water initiative called FutureH2O which will be housed in the Office of the President**
- **Attended Phoenix business council roundtable on Water organized by the Phoenix Business Journal**
- **Organized and led NSF sponsored workshop on Frontiers in Food-Energy-Water Systems, co-sponsored by Columbia University, Duke University and Stanford University. Attended by 45 participants from 11 universities, 3 national labs, USGS, DOE and USBR.**
- **Secured invite to White House Roundtable on Water Innovation on behalf of ASU and FutureH2O (March 22, 2016)**

Director for Research Development, Global Institute of Sustainability (2012-2015):
Oversaw staff of seven research advancement specialists/ grant writers and proposal submissions for over 250 faculty across 4 campuses at ASU. This past year I accomplished four central tasks in addition to routine duties described above:

- Submitted NSF Science & Technology Center preproposal (50 M; Partners: 8 R1 Universities, National Renewable Energy Lab, Sandia National Lab, National Water Research Institute; US Bureau of Reclamation)
- Built team, prepared and submitted DOE US-China Bilateral Clean Energy Research Center Water-Energy Track proposal (50 M)

2014 Accomplishment Highlights

- ***Successfully competed in ASU internal Limited Submissions competition and submitted pre-proposal (Dec 11) for a Science and Technology Center Proposal (STC: 24 M for 5 years). The proposed center is called NetWEST (Networks for Water and Energy Security and Transformation. My team features ~20 ASU faculty, 9 universities, 3 national labs.***
- ***Oversaw submissions of three Sustainability Research Network proposals (36 M total), one team finished with high marks, had a site visit and the proposal is pending. I am not a PI on any of these three submissions, but did compete (unsuccessfully) as a sub in a fourth submission via Clemson University.***
- ***Led an initiative to create the Food Systems Transformation initiative (led by Chris Wharton) which will place GIOS in the national arena of food security research***
- ***Completely restructured my staff, replaced one writer, created a new program manager position and hired two other positions***

***Biology Committees*:** Undergraduate Programs Committee (2003)

***SoLS Committees*:** EEES Promotion & Tenure Committee (2010-current), Director Graduate Program in Environmental Life Sciences (2010-2011), IT committee (2004), **Graduate Programs Committee (2005-2013),** Life Sciences & the Environment Graduate Program Task Force (2005), Sierra Ancha Steering Committee (2002-2008)

***Graduate Program Director*—**Ph.D. Program in Environmental Life Sciences (2010-2011)

SoLS RTI Committee (2016- current)

***Postdoctoral associates*:** 4 placements of past Ph.D. Students/postdocs in faculty jobs
Hongkai Gao (2015-current); Started tenure track job at Sun Yat-sen University; Guangzhou, China
Albert Ruhi (2013-2016); Started tenure track job at UC Berkeley
Amanda Rugenski (2014-2015); Now Postdoc at University of Georgia
Kevin McCluney (2011- 2012), current position: Assistant Professor, Bowling Green State University, Bowling Green OH.
Daniel Allen (2011-2012), current position: Assistant Professor, University of Oklahoma
Corneilius Klok (2010-2012), current position: Sable Systems Ltd, Las Vegas NV
Tushar Sinha (2008-2010), current position: Assistant Professor, Texas A&M University, Kinsgville TX.
Theodore Kennedy (2004-2006, now at USGS), current position Grand Canyon Monitoring and Research Center, USGS.

Graduate & undergraduate students advised (Degrees completed): Ruby Sainz (2021), Christina Lupoli, PhD (2021), Ethan Baruch (2021) postdoc at UC Davis, Srinivasan Jaishri, Ph.D. (2021), Eric Moody, Ph.D. (2017), Now postdoc at University of Iowa; Israel Leinbach, M.S. 2015 (ASU); Robin Greene M.S. 2015 (ASU); Michael McCartin, Barrett Honors College 2014 (ASU); Erin Brechibel, Barrett Honors College, 2013; Derek Somo, Barrett Honors College, 2012; Patrick Dockens, M.S., 2012; Eric Moody, M.S. 2012; Christofer Bang, Ph.D., 2010 (ASU); Elizabeth Hagen, Ph.D., 2010 (ASU); Kevin McCluney, Ph.D. 2010 (ASU); Lowell Thompson, SOLUR & Barrett Honors College, B.S. 2009; Candan Soykan, Ph.D., 2007 (ASU); Andy Keller, M.S., 2006 (ASU); Yevgeniy Marusenko, B.S., 2007 (NSF REU Program); Will Patterson, B.S. 2005. SOLUR Program and Barrett Honors College (ASU); Jerome Clark, B.S. 2005. UMEB Program (ASU); Kate Buenau, B.S. 2004. BREU Program and Barrett Honors College (ASU); David Simmons, B.S. 2003. BREU Program (ASU)

Current graduate & undergraduate students:
Mengdi Lu, MS (ELS), began Fall 2015
Qi Deng, PhD (ELS), began Fall 2014
Joseph Holway, PhD (ELS), began Fall 2018

***Advisees*:** (I serve on the graduate committee of these students, * indicates that these students have finished): Yaiyr Astudillo-Scalia, Ph.D., George Brusch, Ph.D.; Amanda Suchy, *Ph.D., Stephanie Bittner, Ph.D., Karla Moeller, *Ph.D., Xiaoli Dong, *Ph.D., Arianne Cease, *Ph.D., Melissa Meadows, *Ph.D., Tammy Harms, *M.S., *Ph.D., ASU, *James Watts, Ph.D., ASU,*Jon Davis, Ph.D., ASU, Chen Lai, Ph.D., ASU, *Claudia Hernandez, Ph.D., ASU, *Manuela Gonzales, Ph.D., ASU, Laura-Taylor Taft, Ph.D., ASU, *Rich Fredrickson, Ph.D., ASU, *Chris McGlaughlin, M.S., ASU, *Leticia Gallardo, M.S., ASU, *Erik Harvey, Ph.D., ASU, *Root Gorelick, Ph.D., ASU, *Emily Taylor, Ph.D., ASU, *Paul Hamilton, Ph.D., ASU, *Jennifer Harden, M.S., ASU, *Carolyn Christel Ph.D., ASU, *Jenny Rambo, M.S., ASU, *Sam Norlin, M.S., ASU

INVITED SEMINARS

2020	Aquarium Lecture. Aquarium of the Pacific, Long Beach, California https://www.aquariumofpacific.org/multimedia/player/lecture_archive_john_sabo
2017	Department of Biology, University of San Francisco de Quito, Quito Ecuador
2013	Fourth International Symposium on Riverine Landscapes, Wuhan, China
2013	Department of Hydrology and Water Resources, University of Arizona
2011	Department of Biology, University of North Carolina, Chapel Hill, NC
2011	Nicholas School of the Environment, Duke University
2011	Department of Biology, University of California, Riverside
2009	Department of Ecology and Marine Biology. University of California, Santa Barbara. Hydroecology in desert riparian zones—water as currency for trophic dynamics and a catalyst of turnover in species pools.
2009	Graduate Degree Program in Ecology. Colorado State University. Visiting Rising Star Ecologist. Delivered two lectures on links between

groundwater and surface water hydrology and ecology. URL: http://www.ecology.colostate.edu/news/seminars_video.php

2008 School of Fisheries, University of Washington. Young Investigators Seminar Series. Hydroecology in desert riparian zones—water as currency for trophic dynamics and a catalyst of turnover in species pools. Seattle, WA. URL: http://fish.washington.edu/seminars/fall_08/index.html

2008 Oregon Institue for Marine Biology, Charleston, OR.

2007 Institute of Ecology, University of Georgia. Athens, GA.

2006 Department of Ecology and Evolutionary Biology, UCSC, Santa Cruz, CA.

2005 Symposium speaker: "Ecosystem ecology at the watershed scale: Linking biogeochemical cycles across the terrestrial - aquatic divide" organized by E. Bernhardt and M. Valett. Ecological Society of America in Montreal, Canada.

2005 Department of Ecology and Evolutionary Biology, UCLA, Los Angeles, CA.

2005 Department of Biology, University of South Carolina, Columbia, SC.

2004 Swiss Federal Institute for Environmental Science and Technology. Dübendorf, Switzerland.

2003 Symposium speaker: "Extending river food webs to terrestrial ecosystems" organized by J. Steinmetz. North American Benthological Society, Athens, GA.

2002 Northwest Fisheries Science Center, National Marine Fisheries Service. Seattle, WA.

2002 University of Arizona. Hexapodium 2002: Symposium on insect science. Tucson, AZ.

2001 Department of Fisheries and Aquatic Sciences, University of Idaho, Moscow,ID

2001 Department of Biology, Arizona State University, Tempe, AZ

2001 School of Renewable Natural Resources, University of Arizona, Tuscon, AZ

2000 Southwest Fisheries Science Center, National Marine Fisheries Service, Santa Cruz, CA

2000 Symposium speaker: "Aquatic-terrestrial subsidies" organized by G. Polis and D. Sanzone. Ecological Society of America, Snowbird, UT

1999 Department of Environmental Science and Policy, UC Davis

SELECTED PRESENTATIONS AT CONFERENCES (Up to 2009)

Hagen, E.M. and **J. L. Sabo.** 2009. Temporal variability in insectivorous bat distributions along desert streams . 94th Annual Meeting of Ecological Society of America, Albuquerque, NM.

Nalley, S.L. , E.M. Hagen, and **J. L. Sabo**. 2009. Temporal and spatial patterns in bat activity along two desert streams. 94th Annual Meeting of Ecological Society of America, Albuquerque, NM.

Bang, C. , **J. L. Sabo**, and S.H. Faeth. 2009. Arthropod diversity and trophic dynamics \ in urban and desert areas in Phoenix: Long term monitoring and field experiments. 94th Annual Meeting of Ecological Society of America , Albuquerque, NM.

McCluney, K.E. and **J. L. Sabo**. 2009. The effects of river drying on a terrestrial arthropod community. 94th Annual Meeting of Ecological Society of America, Albuquerque, NM.

Hagen, E.M. and **J.L. Sabo**. 2008. Spatial variability in insectivorous bat distributions within a desert riverine landscape. Ecological Society of America Annual Meeting. Milwaukee, Wisconsin. August 2008.

McCluney, K.E. and **J.L. Sabo**. 2008. The water:organic material threshold resource ratio for consumption of crickets by spiders. Annual Meeting of the Ecological Society of America, 2008 Milwaukie WI

McCluney, K.E. and **J.L. Sabo**. 2008. The water:organic material threshold resource ratio for consumption of crickets by spiders. Gordon Research Conference Invited Poster

McCluney, K.E. and **J.L. Sabo**. 2008. A possible method of correcting for fractionation of animal body water isotope ratios. Isoscapes: NSF sponsored conference on isotopes.

Caron, M., Doucett, R.R., **Sabo, J.L**. and T. Kennedy. 2008. Longitudinal and seasonal partitioning of trophic linkages in the Colorado River food web using stable hydrogen isotopes (dD). Annual Meeting of North American Benthological Society, Salt Lake City, UT.

Sponseller, R.A., Nancy B. Grimm, **John L. Sabo**, Andrew J. Boulton. 2008. Relationships between long-term climate variability and community composition in a desert stream ecosystem. Annual Meeting of the North American Benthological Society, Salt Lake City, UT.

Sabo, J.L. 2007. Noise color scales with watershed area in streams driven by rain but not snow-melt. Ecological Society of America, San Jose, CA.

K.E. McCluney and **J.L. Sabo.** 2007. Water as an ecological currency: Water-mediated interactions between crickets and wolf spiders. Ecological Society of America, San Jose, CA.

E.M. Hagen and **J.L. Sabo**. 2007. Effects of landscape structure and prey availability on insectivorous bat foraging ecology. Ecological Society of America, San Jose, CA.

C. Bang, **J.L. Sabo**, J.M. Anderies, S.H. Faeth. 2007. Trophic dynamics and effects of urbanization: A complex field experiment compared to a simple mathematical model. Ecological Society of America, San Jose, CA.

C.U. Soykan, , **J.L. Sabo**, and L. Ries. 2006. Taxonomic variation in □-diversity along a desert riparian-upland gradient. Ecological Society of America. Memphis TN.

K.E. McCluney and **J.L. Sabo.** 2006. The *water web*: a new approach to community ecology – preliminary results from stable water isotopes and lab experiments. Ecological Society of America. Memphis TN.

E.E. Holmes, **J.L. Sabo**, S. Viscido and W.M. Fagan. 2006. Parsimonious stochastic models for first-passage and extinction dynamics. Ecological Society of America. Memphis TN.

E.M. Hagen and **J.L. Sabo**. 2006. Aquatic insect emergence and lateral dispersal from a perennial desert river. North American Benthological Society. Anchorage, AK.

J.L. Sabo and L.R. Gerber. 2006. Species interactions bias complex but not simple PVA models. Society for Conservation Biology, San Jose, CA.

J.L. Sabo. 2005**.** Fighting gravity: exchange of water and nutrients between rivers and watersheds. Invited Speaker for Symposium entitled: "Ecosystem ecology at the watershed scale: Linking biogeochemical cycles across the terrestrial - aquatic divide" organized by E. Bernhardt and M. Valett. Ecological Society of America in Montreal, Canada.

C.U. Soykan and **J.L. Sabo**. 2005. Spatio-temporal variation in top-down forces along a riparian-upland gradient.. Invited speaker in Organized Session entitled: "Complex consequences of spatial subsidies to food webs". Ecological Society of America in Montreal, Canada.

P. Baxter, **J.L. Sabo**, C. Wilcox, M. McCarthy and H. Possingham. 2005. Using decision theory in invasive predator management: Optimal decisions for control versus eradication. Society for Conservation Biology. Brasilia, Brazil..

C. Wilcox, P. Baxter, J. Donlan, B. Keitt and **J. L. Sabo**. 2005. Efficient eradication of invasive species in a fluctuating environment: An application to rabbits on Mediterranean islands. Society for Conservation Biology. Brasilia, Brazil..

J.L. Sabo and L.R. Gerber. 2004. Trigger harvest of non-native predators enhances native prey viability. Ecological Society of America in Portland, OR.

C.U. Soykan and **J.L. Sabo**. 2004. Diet and spatial distribution of riparian omnivores: Implications for spillover predation. Ecological Society of America in Portland, OR.

J.L. Sabo and L.R. Gerber. 2003. Reducing predator variability enhances prey viability. Society for Conservation Biology in Duluth, MN.

J.L. Sabo, W.P. Porter and O.J. Reichman. 2003. Thermal context dependency in trophic dynamics. Ecological Society of America in Savannah, GA

J.L. Sabo and L.R. Gerber. 2002. Species interactions and population viability analysis. Society for Conservation Biology in Canterbury UK.

J.L. Sabo and L.R. Gerber. 2002. Species interactions and population viability analysis. Ecological Society of America in Tucson, AZ.

MEMBERSHIP

Ecological Society of America; American Geophysical Union; Society of American Naturalists, Society for Conservation Biologists

ADVISORS

M.S.: Gilbert Pauley, Ph.D.: Mary E. Power, Postdoc: Peter Kareiva, Jim Reichman, Warren Porter

TEACHING EXPERIENCE (all at ASU)

BIO 394 The Global Water Classroom (3 credits, ASU Online)

BIO 514	Biometry (4 credits with lab, Fall 2012, 2013)
BIO 182	General Biology (Fall 2010, 2011, two sections each term)
BIO 423	Community Ecology (Spring 2009)
BIO 321	Ecology Lab (aka 'Field Ecology', Fall 2006, Spring 2008, Spring 2009)
BIO 345	Organic Evolution (3 credits, Fall 2002, Spring 2003)
BIO 415	Biometry (4 credits with lab, Fall 2003, 2004, Spring 2006, Fall 2008)
BIO 591	Complex experimental design in R (Fall 2010, 2012, 2013)
BIO 591	Riparian Ecology (2 credits, Fall 2002)
BIO 591	Practical Applications of Statistics in Ecology: Meta-analysis (2 credits, Spring 2003)
BIO 591	Practical Applications of Statistics in Ecology: Time Series Analysis (4 credits, Fall 2004, Spring 2005)
BIO 591	Graduate seminar in food web ecology (Fall 2008)

PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM (PRRIP -or- Program)
EXHIBIT A: PRRIP Conflict of Interest Form – ISAC Members

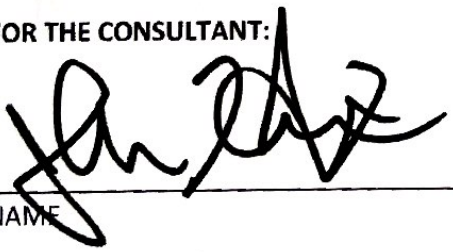
The PRRIP developed guidance regarding the avoidance of conflicts of interest in accordance with the ISAC Charter (Attachment 6, Appendix I) and the Peer Review Guidelines (Adaptive Management Plan, Appendix A) contained in the PRRIP Final Program Document. As stated in the ISAC Charter: "The ISAC must retain as much independence from the adaptive management program as possible. This independence requires that their role focus on reviewing products produced by the Program."

Potential conflicts of interest include but are not limited to:

- Financial interest in the restoration and management activities associated with the PRRIP.
- Familial relationship with any of the scientists conducting research and/or monitoring associated with the PRRIP.
- Bias, for personal reason for or against the scientists mentioned above and/or the entities involved in the implementation of the PRRIP.
- Professional connection with any entities involved with PRRIP implementation.
- Impacts of lobbying or political pressure exerted by person(s) looking for a particular result or more work with the PRRIP.
- Has conducted, is conducting, or intends to conduct work for or on behalf of the Program, or work that directly overlaps with Program scientific and technical priorities, which could result in an ISAC member reviewing and commenting on her/his own work product(s).

As a candidate proposed for participation on the ISAC, I hereby state that I do not have any conflicts of interest with the Platte River Recovery Implementation Program as outlined above and (if necessary) explained on the following page. I can serve effectively on the ISAC without any financial, familial, personal, or professional bias in order to further the goals and objectives of the PRRIP and the implementation and evaluation of the Extension Science Plan and associated scientific and technical activities, analyses, and syntheses.

FOR THE CONSULTANT:



NAME

02/28/24

DATE

PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM (PRRIP -or- Program)
EXHIBIT B – Certification Regarding Lobbying

The undersigned certifies, on behalf of the Consultant, that to the best of his or her knowledge and belief:

1. No federal appropriated funds have been paid or will be paid, by or on behalf of the Consultant, to any person for influencing or attempting to influence an officer or employee of any federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, or the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement.

2. No registrant under the Lobbying Disclosure Act of 1995 has made any lobbying contacts on behalf of the Consultant with respect to the federal grant or cooperative agreement under which the Consultant is receiving monies.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who makes an expenditure prohibited by Section 1 above or who fails to file or amend the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

FOR THE CONSULTANT:

NAME

02/28/24
DATE

February 29, 2024.

Dr Chadwin Smith
Science Policy Coordinator,
Platte River Recovery Implementation Program,
4111 4th Ave, Suite 6,
Kearny, NE, 68845.

Re: Solicitation for ISAC member, large river ecology, restoration, and management.

Dear Dr. Smith

Please find this letter and associated materials as an expression of my interest in the above-mentioned position. When I learned about the program and ISAC, and the opportunity to participate in a successful ecosystem management process, I found myself thinking that I would be a good fit for the position based on my past experience and interest in applying science to real world, complex management situations.

As outlined in my CV, I have nearly 40 years of experience working on managed fish populations in freshwater habitats, water management in small and large watersheds, adaptive management, and research and management of imperilled populations, primarily with Fisheries and Oceans Canada. In the following text, the numbers in parentheses refer to contributions from my CV associated with my achievements and experience (P: Primary, S: Secondary publication).

Scientific achievement is indicated by the more than 70 primary scientific publications I have authored or co-authored. I have also written or contributed to a similar number of technical or scientific advisory reports on a wide variety of topics, many of which are aimed at regulators, managers, or practitioners of aquatic ecosystem management or restoration. I was Associate Editor for the North American Journal of Fisheries Management and the Canadian Journal of Fisheries and Aquatic Sciences for nearly 20 years, and have served on a number of grant review processes in Canada and the US. I have recently been appointed as co-chair for one of the committees tasked with assessing endangered aquatic species in Canada.

I have been asked to provide independent, objective, science advice on a number of occasions. I have given testimony in formal processes, including three environmental assessments, two public inquiries, and a Fisheries Act prosecution. I have been regularly called on to provide expert advice on fisheries and habitat issues for the NOAA-based Centre for Independent Experts. More recently I have participated in expert panels on the decline of salmon populations in BC and Alaska, and have assisted in the development of recovery plans (S1-4,S26,S26,S41).

I have been recognized for my ability to synthesize complex scientific information and develop sound, but practical advice for managers and stakeholders. Notably, in 2011, I was selected to

be part of a committee charged with the development of policy and associated processes for a new national program for the management and restoration of fish habitat in Canada (P16); I received the highest recognition award from Fisheries and Oceans Canada for that work. I have participated in a number of scientific processes to provide advice on fish habitat restoration and management in Canada. This incudes the development of methods and standards for monitoring and evaluation at both the project and ecosystem scale (P31, P35, S8,S13,S17,S20).

I gained expertise in adaptive management (AM) of large ecosystems through involvement in the design and review of AM programs addressing flow management issues in British Columbia and Alberta, Canada, and have served as Chair of two expert panels on aquatic science programs that are part of the Grand Canyon Adaptive Management Program in Arizona (S43,S58). I was the lead researcher on a long-term AM program for a regulated river in British Columbia, and have published a number of papers on the results of this 26 year, 5 treatment flow regime experiment (P2, P19, P25). My experiences with the management of effects of large hydro projects on aquatic ecosystems, including the application of AM were summarized in a recent review article (P10).

Research and management of large river ecosystems has been significant element in my professional life. I have published primary research on the ecology of salmonids in the Fraser and Yukon Rivers and their tributaries, based on results of large-scale field studies I have led, or analytical or modelling studies that I led or participated in (P1,P26,P23,P57). I have also participated in science panels reviewing the effects of water management and other activities on the Klamath/Trinity and Columbia Rivers in the Pacific Northwest, reviewed and advised on environmental impact assessments for major hydroelectric projects in Canada, and served as an expert in litigations over water management.

The Canadian Science Advisory Secretariat is a rigorous peer review process that Fisheries and Oceans Canada uses to deliver science to managers and clients. I have been regularly called on to chair national and regional advisory processes which entail managing complex information and diverse groups of participants to deliver consensus-based advice (e.g., S3,4). I have also participated in endangered species recovery planning, and water-use planning processes, that also involve working with stakeholders, regulators and Indigenous groups to seek solutions to difficult problems. I have come to view AM as an important catalyst for learning in these settings, and the value of working together to review information, set objectives and plan out an AM approach can often be as valuable as the AM trial itself.

I have some experience with sturgeon, having served on science advisory and legal processes for endangered White Sturgeon in BC, and Lake Sturgeon in Saskatchewan and Manitoba. I have a background in fish population dynamics that enabled me to review age-structured population models for sturgeon and evaluate hypotheses of recruitment failure due to environmental conditions. I have also come to appreciated the challenges of working with sturgeon, from the difficulties in sampling early life stages in large rivers, and the long time lags between changes in the environment and population trends.

In summary, I believe I have the expertise and experience to contribute to the ISAC, and to the successful continuation of the Platte River program. I trust you will find this information useful for your deliberations and look forward to hearing from you.

Sincerely

Dr. Mike Bradford
West Vancouver, BC.

Biographical Statement, Dr Mike Bradford

Dr Bradford has a Master's degree in juvenile salmon ecology from Simon Fraser University in Vancouver, and a PhD in evolutionary ecology from McGill University in Montreal. He had a successful 30 year career as a Research Scientist with Fisheries and Oceans Canada in Vancouver , as part of the freshwater ecosystems research group. He published over 70 journal articles, and a similar number of technical reports on the ecology of salmon in freshwater, water management and hydropower-fish interactions, methods and approaches for fish habitat management, monitoring and assessment, and imperilled species. Dr Bradford and colleagues completed the successful implementation of a multiple-treatment adaptive management experiment for river flows. He is frequently called on to assist in the development of science advice for managers, stakeholders and indigenous groups, and has extensive experience in multiparty processes seeking solutions to environmental issues, both as participant and chair. He is currently co-chair of a fish subcommittee for COSEWIC, the agency responsible for the assessment of endangered biota in Canada.

MICHAEL JAMES BRADFORD

email : mbradfor@sfu.ca
mobile : 778-877-4859

EXPERTISE

Dr Bradford's expertise is science support for the management of aquatic habitats in Canada, and the conservation and management of Pacific salmon and their habitats.

Education

1987-1991	Doctor of Philosophy, McGill University, Montreal, QC. Thesis: 'The role of environmental heterogeneity in the evolution of life history strategies of the striped ground cricket.'
1982-1985	Master of Science, Biology, Simon Fraser University. Thesis: 'The use of otolith microstructure to estimate the size and growth of juvenile chinook salmon'.
1975-1980	Bachelor of Science, Biology, Simon Fraser University, Vancouver, B.C.

Awards

2014	DFO Prix d'excellence award
2011	DFO Deputy Minister's commendation
1991	NSERC and FCAR (Quebec) Post-doctoral fellowship (both declined)
1990-1991	Max Bell fellowship, McGill University
1987-1990	NSERC Post-graduate scholarship
1979-1984	Science subvention grant, CDFO; B.C. Packers fisheries scholarship

Recent Professional Experience

2023-Present Co-chair, Marine Fish Subcommittee of the Committee on the Status of Endangered Wildlife in Canada.

2022-Present Scientist Emeritus, Fisheries and Oceans Canada

2003-2020 Associate Editor: N. American Journal of Fisheries Management; Canadian Journal of Fisheries and Aquatic Science.

1992- 2022 Research Scientist, Fisheries and Oceans Canada, Freshwater Ecosystems Section.
Major Areas of Responsibility:
- Freshwater habitat science
- Effects of flow regulation on stream ecosystems and salmonid fishes.
- Conservation of threatened salmon populations.
- Ecology of juvenile chinook salmon in the Fraser and Yukon rivers.
- Status of endangered freshwater fish

1996-Present Visiting Assistant (1996-1998) and Adjunct Professor, School of Environment and Resource Management, Simon Fraser University. Instructor for REM 612: 'Simulation Modeling in Resource Management', graduate student advisor.

Significant Science Review or Expert Panel Contributions

Grand Canyon Management and Research Center Protocol Evaluation Program

- 2009 Chair: Protocol Evaluation Panel for Fish Monitoring Programs of the Grand Canyon Monitoring and Research Center.
- 2001 Chair: Aquatic Protocol Evaluation Program Panel.

Centre for Independent Experts (NOAA) Reviews

- 2024 Puget Sound Calculator report
- 2012 Upper Yuba River salmon assessment
- 2010 Chinook salmon ocean harvest BiOp
- 2009 South Oregon coho salmon recovery plan
- 2008 Central valley chinook salmon recovery plan
- 2008 California coast salmon recovery plan
- 2008 Russian River BiOp report
- 2006 Klamath River salmon assessment
- 2005 Auke Bay salmon research lab review
- 2001 Salmon Habitat Matrix

Salmon Recovery Expert Panels

- 2013 Arctic-Yukon-Kuskokwim Chinook Salmon research action plan
- 2013 Assessment of Status and Factors for Decline of Southern BC Chinook Salmon: Independent Panel's Report.
- 2010 Synthesis of evidence from a workshop on the decline of Fraser River sockeye.
- 2013 Science Panel review of "Independent Review of Run-of-River Hydroelectric Projects and their impacts on Salmon Species in British Columbia".

Refereed Publications

1. **Bradford, M.J.** and Taylor, G.C. 2023. Diversity in freshwater life history in spring and summer Chinook Salmon from the Fraser River, Canada. Transactions of the American Fisheries Society 152:129-144.
2. **Bradford, M.J.**, Korman, J., and Sneep, J. 2023. Adaptive management of flows in a regulated river: flow-ecology relationships revealed by a 26-year, five-treatment flow experiment. Environmental Management 71:439-450.
3. Rytwinski T, Lin H-Y, Harper M, Smokorowski KE, Smith A, Reid JL, Taylor JJ, Birnie-Gauvin K, **Bradford MJ**, Crossman JA, Kavanagh R, Lapointe NWR, Turgeon K, Cooke SJ. 2023. How do natural changes in flow magnitude affect fish abundance and biomass in temperate regions? A systematic review. Ecological Solutions and Evidence (in press).
4. Connors, B.M., Siegle, M.R., Harding, J., Rossi, S., Station, B., Jones, M.L., **Bradford, M.J.,** Brown, R., Bechtol, B., Dogherty, B., Cox, S., and Sutherland, B.J.G., 2022. Chinook salmon diversity contributes to fishery stability and trade-offs with mixed-stock harvest. Ecological Applications 32:e2709.
5. Dey, C.J., Rego, A.I., **Bradford, M.J**....Koops, M.A. 2022. Research priorities for the management of freshwater fish habitat in Canada. Canadian Journal of Fisheries and Aquatic Sciences 78:1744-1754.
6. Chalifour, L., Holt, C., Camaclang, A.E., **Bradford M.J**. …. Martin, T.G. 2022. Identifying a pathway towards recovery for depleted wild Pacific salmon populations in a large watershed under multiple stressors. Journal of Applied Ecology 59:2212-2226.
7. **Bradford, M.J.** and Braun, D.C. 2021. Regional and local effects drive changes in spawning stream occupancy in a sockeye salmon metapopulation. Canadian Journal of Fisheries and Aquatic Sciences 78:1084-1095.
8. Birnie-Gauvin, K. Rytwinski, T., Harper, M., Taylor, J.J., Smith, A., Smokorowski, K.E., Turgeon, K., **Bradford, M.J.**, Cooke, S.J. 2021. How do natural changes in flow magnitude affect fish abundance and diversity in temperate regions? A systematic review protocol. Ecological solutions and evidence 2:e12079.
9. Gibeau, P., **Bradford, M.J.** and Palen, W.J. 2020. Can the creation on new habitat demographically offset losses of Pacific salmon from anthropogenic mortality? PLOS ONE 15(12).
10. **Bradford, M.J.**, 2020. Assessment of management of effects of large hydropower on aquatic ecosystems in British Columbia, Canada. Hydrobiologica 10.1007/s10750-020-04362-3
11. Walsh, J.C., Connors, B., Hertz, E., Kehoe, L., Martin, T.G., Connors, B., **Bradford, M.J**., Freshwater, C., Frid, A., Halverson, J., Moore, J.W., Price, M.H.H., Reynolds, J.D. 2020. Prioritizing conservation actions for Pacific salmon in Canada. Journal of Applied Ecology 57:1688-1699.
12. Rytwinski, T., Harper, M., Taylor, J.J., Bennett, J.R., Donaldson, L.A., Smokorowski, K.E., Clarke, K., **Bradford, M.J.**, Ghamry, H., Olden, J.D., Boisclair, D., Cooke, S.J. 2020. What are the effects of flow-regime changes on fish productivity in temperate regions? A systematic map. Environmental Evidence 9:7
13. Sutherland, T.F., Sterling, A.M., Shaw, K.L., Blasco, N.N.J. and **Bradford, M.J.** 2019. Detecting indicator taxa associated with benthic organic enrichment using different video camera orientations. Journal of Coastal Research 35:467-479.

14. **Bradford, M.J.** 2017. Accounting for uncertainty and time lags in equivalency calculations for offsetting in aquatic resources management programs. Environmental Management 60:588-597.
15. Turner, D., **Bradford, M.J.**, Venditti, J.G., and Peterman, R.M. 2015. Evaluating uncertainty in physical habitat modelling in a high-gradient mountain stream. Rivers Research and Applications. DOI: 10.1002/rra.2915
16. Rice, J., **Bradford, M.J**., Clarke, K.D., Koops, M.A., Randall, R.G. and R. Wysocki. 2015. The science framework for implementing the fisheries protection provisions of Canada's Fisheries Act. Fisheries 36(6) 268-275.
17. de Mestral, L. and **Bradford, M.J**. 2014. Evaluation of IUCN spatial distribution metrics for a migratory species, Fraser River Sockeye salmon. Biological Conservation 173:53-59
18. Cleary, J.S., **Bradford, M.J.**, D.M. Janz. 2012 Seasonal and spatial variation in lipid and triacylglycerol levels in juvenile chinook salmon (*Oncorhynchus tshawytscha*) from the Bridge River, British Columbia. Limnologica 42:144-50.
19. **Bradford, M.J**., Korman, J., Higgins, P.S. and J. Sneep. 2011. Does more water mean more fish? An evaluation of an experimental flow release in the Bridge River, British Columbia. Freshwater Biology 53:2119-2134.
20. Holt, C.A., and **M.J. Bradford**. 2011. Evaluating benchmarks of population status for Pacific salmon. N. Am. J. Fish. Manage. 31:353-378.
21. **Bradford, M.J**., Lovy, J. and D.A. Patterson. 2010. Infection of gill and kidney of Fraser River sockeye salmon, *Oncorhynchus nerka* (Walbaum), by *Parvicapsula minibicornis* and its effect on host physiology. J. Fish Diseases 33:769-779.
22. **Bradford, M.J**., Lovy, J., Patterson, D.A., Speare, D.P., Bennett, W.R., Stobbart, A.R. and Tovey C.P. 2010. *Parvicapsula minibicornis* infections in gill and kidney and the premature mortality of adult sockeye salmon *Oncorhynchus nerka* from Cultus Lake, British Columbia. Can. J. Fish. Aquat. Sci. 67:673-683.
23. **Bradford, M.J.,** A. von Finster and P., Milligan. 2009. Freshwater life history, habitat, and the production of chinook salmon from the upper Yukon basin. In C. Kruger and C Zimmerman (eds) Sustainability of the Arctic-Yukon-Kuskokwim salmon fisheries. Amer. Fish. Soc. Symp.70.
24. **Bradford, M.J.** and Heinonen J.S. 2008 Low flows, instream flow needs and fish ecology. Canadian Water Resources Journal 33:165-180.
25. Decker, A.S., **Bradford M.J.** and P.S. Higgins. 2008. Rate of biotic colonization following flow restoration below a diversion dam in the Bridge River, British Columbia. Rivers: Research and Management 24:876-883.
26. **Bradford, M.J**., Duncan, J. and J.W. Jang. 2008. Downstream migrations of juvenile salmon and other fishes in the upper Yukon River. Arctic 6:255-264.
27. Pestes, L.R., R.M. Peterman, **M.J. Bradford** and C.C. Wood. 2008. Bayesian decision analysis for evaluating management options to promote recovery of a depleted salmon population. Conservation Biology 22:351-361.
28. Bodtker, K.M., R.M. Peterman and **M.J. Bradford**. 2007. Accounting for uncertainty in estimates of escapement goals for Fraser River sockeye salmon based on productivity of nursery lakes in British Columbia, Canada. N. Amer. J. Fish. Management 27(1):286-302.
29. Mossop, B. and **M.J. Bradford**. 2006. Using thalweg profiling to assess and monitor juvenile salmon (*Oncorhynchus spp.*) habitat in small streams. Can. J. Fish. Aquat. Sci. 63:1515-1525.

30. Maxwell, M.R, Peterman, R.M., **Bradford, M.J.** and E.A. MacIsaac. 2006. A Bayesian analysis of biological uncertainty for a whole-lake fertilization experiment for sockeye salmon in Chilko Lake, British Columbia, and implications for the benefit-cost ratio. N. Am. J. Fish. Manage. 26(2):418-430

31. **Bradford, M.J**., J. Korman and P.S. Higgins. 2005. Using confidence intervals to estimate the response of salmon populations to experimental habitat alterations. Can. J. Fish. Aquat. Sci. 62:2716-2726.

32. Mossop, B. and **M.J. Bradford**. 2004. Importance of large woody debris for juvenile chinook salmon habitat in small boreal forest streams in the upper Yukon River basin, Canada. Can. J. For. Res. 34:1955-1936.

33. Perry, R.W., **M.J. Bradford** and J.A. Grout. 2003. Effects of disturbance on contribution of energy sources to growth of juvenile chinook salmon (*Oncorhynchus tshawytscha*) in boreal streams. Can. J. Fish. Aquat. Sci. 60:390-400.

34. Knowler, D.J., B.W. Macgregor, **M.J. Bradford** and R.M. Peterman. 2003. Valuing freshwater salmon habitat on the west coast of Canada. J. Environmental Management. 69:261-273.

35. MacGregor, B.W., R.M. Peterman, B.J. Pyper, and **M.J. Bradford**. 2002. A decision analysis framework for comparing designs of projects to enhance Pacific salmon. N. Am. J. Fish. Management 22:509-527.

36. **Bradford, M.J.,** S. Moodie, J. Grout. 2001. Use of a small non-natal stream of the Yukon River by juvenile chinook salmon, and the role of ice conditions in their survival. Can. J. Zool. 2043-2054.

37. **Bradford, M.J.** and P.S. Higgins. 2001. Habitat, season, and size-specific variation in daily activity patterns of juvenile chinook salmon (*Oncorhynchus tshawytscha*) and steelhead trout (*O. mykiss*). Can. J. Fish. Aquat. Sci. 58:365-374

38. **Bradford, M.J**., B. J. Pyper and K.S. Shortreed. 2000. Biological responses of sockeye salmon to the fertilization of Chilko Lake, British Columbia. N. Am. J. Fish. Manage. 20:661-671.

39. Roff, D.A. and **M.J. Bradford**, 2000. A quantitative genetic analysis of phenotypic plasticity of diapause induction in the cricket *Allonemobius socius*. Heredity 84:193-200

40. Powles, H., **M.J. Bradford**, R.G. Bradford, W.G. Doubleday, S. Innes, C.D. Levings. 2000. Assessing and protecting endangered marine species. ICES J. Marine. Sci. 57:669-676.

41. **Bradford, M.J**., R.A. Myers and J.R. Irvine. 2000. Reference points for coho salmon harvest rates and escapement goals based on freshwater production. Can J. Fish. Aquat. Sci. 57:677-686.

42. **Bradford, M.J.** and J.R. Irvine. 2000. Land use, fishing, climate change, and the decline of Thompson River, British Columbia, coho salmon. Can. J. Fish. Aquat. Sci. 57:13-16.

43. **Bradford, M.J.** 1999. Temporal and spatial trends in the abundance of coho salmon smolts from western North America. Trans. Am. Fish. Soc. 128:840-846.

44. Roff, D.A. and **M.J. Bradford**. 1998. The evolution of shape variation in the dimorphic cricket, *Allonemobius socius*. Heredity 80:446-455

45. Myers, R.A., G. Mertz, J.M. Bridson and **M.J. Bradford**. 1998. Simple dynamics underlie sockeye salmon (Oncorhynchus nerka) cycles. Can. J. Fish. Aquat. Sci. 55:2355-2364

46. Myers, R.A., **M.J. Bradford**, G. Mertz and J.M. Bridson. 1997. Estimating delayed density-dependent mortality in sockeye salmon, *Oncorhynchus nerka*: a meta-analytic approach. Can. J. Fish. Aquat. Sci. 54:2449-2462

47. **Bradford, M.J.** and G.C. Taylor. 1997. Variation in dispersal behaviour of newly emerged chinook salmon (*Oncorhynchus tshawytscha*) from the upper Fraser River system, British Columbia. Can. J. Fish. Aquat. Sci. 54:1585-1592.

48. **Bradford, M.J.** 1997. Experimental study of stranding of juvenile salmonids on gravel bars and in sidechannels during rapid flow decreases. Regulated Rivers: Research and Management 13:395-401

49. **Bradford, M.J**., G.C. Taylor and J.A. Allan. 1997. Empirical review of coho salmon smolt abundance and the prediction of smolt production at the regional level. Transactions of the American Fisheries Society 126:49-64

50. **Bradford, M.J.** and D.A. Roff. 1997. Seasonality, uncertainty and insect dormancy: an empirical model of diapause strategies in the cricket *Allonemobius socius*. Ecology 78:441-452.

51. **Bradford, M.J.** and G. Cabana. 1997. Interannual variation in stage-specific survival rates and the causes of recruitment variation. *In* R.C. Chambers and E.A. Trippel (eds.) Early life history and recruitment in fish populations. Chapman and Hall, New York.

52. Higgins. P.S. and **M.J. Bradford**. 1996 Evaluation of a large-scale fish salvage to reduce the impacts of a controlled flow reduction in a regulated river. North American Journal of Fisheries Management 16:666-673.

53. Roff, D.A. and **M.J. Bradford**. 1996. The quantitative genetics of fecundity and wing dimorphism in the cricket *Allonemobius socius.* Heredity 76:178-185.

54. **Bradford, M.J.** 1995. Comparative analysis of Pacific salmon survival rates. Can. J. Fish. Aquat. Sci. 52:1327-1338.

55. **Bradford, M.J.** and D.A. Roff. 1995. Genetic and phenotypic sources of life history variation along a cline in voltinism in the cricket *Allonemobius socius*. Oecologia 103:319-326.

56. **Bradford, M.J**., G.C. Taylor, J.A.Allan and P.S. Higgins. 1995. Stranding of juvenile coho salmon and rainbow trout during rapid flow decreases in simulated winter conditions. North American Journal of Fisheries Management 15:473-479.

57. **Bradford, M.J.** 1994. Trends in the abundance of chinook salmon from the Nechako River, British Columbia. Can. J. Fish. Aquat. Sci. 51:965-973.

58. **Bradford, M.J**. and D.A. Roff. 1993. Bet-hedging and phenotypic plasticity in the diapause strategies of the cricket *Allonemobius fasciatus*. Ecology 74:1129-1135.

59. **Bradford, M.J.**, P.A. Guerette and D.A. Roff. 1992 Testing adaptive hypotheses of cricket ovipositor length. Oecologia 93:263-267.

60. **Bradford, M.J.** 1992. Strength and precision of recruitment predictions from the early life stages of marine fishes. Fishery Bulletin 90:439-453.

61. **Bradford, M.J**. and G.H. Geen. 1992. Growth estimates from otolith increment widths of juvenile chinook salmon (*Oncorhynchus tshawytscha*) reared in varying environments. Journal of Fish Biology 41:825-832.

62. **Bradford, M.J. 1991**. Effects of ageing errors on recruitment time series reconstructed from sequential population analysis. Can. J. Fish. Aquat. Sci. 47:555-559.

63. **Bradford, M.J.** and R.M. Peterman. 1989. Incorrect parameter estimates used in virtual population analysis (VPA) generate spurious trends in reconstructed abundances. In R.J. Beamish and G.A. McFarlane (eds.) Effects of ocean variability on recruitment and an evaluation of parameters used in stock assessment models. Can. Spec. Publ. Aquat. Sci. 108.

64. Peterman, R.M., **M.J. Bradford**, N.C.H. Lo and R.D. Methot. 1988. Contribution of early life stages to interannual variability in recruitment of northern anchovy (*Engraulis mordax*). Can. J. Fish. Aquat. Sci. 45:8-16.

65. Peterman, R.M. and **M.J. Bradford**. 1987. Wind index and mortality index of a marine fish, the northern anchovy, (*Engraulis mordax*). Science 235:354-356.

66. **Bradford, M.J.** and R.M. Peterman. 1987. Maternal size may explain positive correlations between age at maturity of parent and offspring sockeye salmon (*Oncorhynchus nerka*), p. 90-100. In H.D. Smith, L. Margolis and C.C. Wood (eds.). Sockeye salmon, population biology and management. Can. Spec. Publ. Fish. Aquat. Sci. 96.

67. Peterman, R.M., **M.J. Bradford** and G.H. Kruse. 1987. Simulation model of English sole (*Parophrys vetulus*) in Washington and Oregon coastal waters. Can. J. Fish. Aquat. Sci. 44:1870-1878.

68. Peterman, M.J. and M.J. **Bradford.** 1987. Statistical power of trends in fish abundance. Can. J. Fish. Aquat. Sci. 44:1879-1889.

69. Peterman, R.M., **M.J. Bradford**. 1987. Density-dependent growth of English sole (*Parophrys vetulus*) in Washington and Oregon coastal waters. Can. J. Fish. Aquat. Sci. 43:48-53.

70. Peterman, R.M., **M.J. Bradford** and J.L. Anderson. 1986. Environmental and parental influences on age at maturity in sockeye salmon (*Oncorhynchus nerka*) from the Fraser River, British Columbia. Can. J. Fish. Aquat. Sci. 42:269-274.

71. **Bradford, M.J**. and G.H. Geen. 1987. Size and growth of juvenile chinook salmon back-calculated from otolith growth increments. P 453-461 in R.C. Sommerfelt and G.E. Hall (eds.). The age and growth of fish. Iowa State Univ. Press. Ames, IA.

72. Shardlow, T., R. Hilborn, R.M. Peterman, G.J. Steer and **M.J. Bradford**. 1985. Density dependent catchability coefficients. Trans. Amer. Fish. Soc. 114:436-440.

73. Geen G.H., J.D. Neilson and **M.J. Bradford**. 1985. Effects of pH on the early development and growth and otolith microstructure of chinook salmon. Can. J. Zool. 63:22-27

OTHER PUBLICATIONS (Note: publications authored by "DFO" are agency reports that were written or co-authored by Bradford).

1. Selbie, D.T., Korman, J., Pon, L.B., **Bradford, M.J**. 2022. Recovery Potential Assessment for the Endangered Cultus Lake Sockeye Salmon (*Oncorhynchus nerka*) (2019). DFO Can. Sci. Advis. Sec. Res. Doc. 2022/051. vii + 99 p.

2. DFO. 2022. Proceedings of the Pacific regional peer review on the Recovery Potential Assessment – Fraser River Chinook Salmon (*Oncorhynchus tshawytscha*) – Eleven Designatable Units; July 7-9, 2020; October 1, 2020; and March 11-12, 2021. DFO Can. Sci.Advis. Sec. Proceed. Ser. 2022/024.

3. DFO. 2021. Recovery Potential Assessment for 11 Designatable Units of Fraser River Chinook Salmon, *Oncorhynchus tshawytscha*, Part 2: Elements 12 to 22. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2021/030.

4. DFO. 2020. Recovery Potential Assessment for 11 Designatable Units of Fraser River Chinook Salmon, Oncorhynchus tshawytscha, Part 1: Elements 1 to 11. DFO Can. Sci. Advis. Sec.Sci. Advis. Rep. 2020/023.

5. Dey, C.J., Rego, A.I., **Bradford, M.J.**, Clarke, K., McKercher, K. Mochnacz, N.J., de Paiva, A., Ponader, K., Robichaud, L., Winegardner, A.K., Midwood, J.D., and Koops, M.A. 2022. A method for the collaborative prioritization of freshwater fish habitat research questions. Can. Tech. Rep. Fish. Aquat. Sci. 3423: vii + 119 p.

6. Rego, A., Dey, C.J., **Bradford, M.J.**, Clarke, K., McKercher, K., Mochnacz, N.J., de Paiva, A., Ponader, K., Robichaud, L., Winegardner, A.K., Midwood, J.D., Koops, M.A. 2022. Researcher and practitioner ratings of priority research questions in freshwater fish habitat science. Can. Data Rep.Fish. Aquat. Sci. 1336: iv + 22 p.

7. **Bradford, M.J.**, Thompson, A.S., and Taylor, G.C. 2021. Migration and distribution of juvenile Chinook Salmon in the Nechako River, British Columbia, 1996. Can. Manuscr. Rep. Fish. Aquat. Sci. 3216: iv + 70 p.

8. Braun, D.C., Smokorowski, K.E., **Bradford, M.J.,** and Glover, L. 2019. A review of functional monitoring methods to assess mitigation, restoration, and offsetting activities in Canada. DFO Can. Sci. Advis. Sec. Res. Doc. 2019/057. vii + 75 p.

9. DFO. 2019. Evaluation of the reference condition approach for Yukon placer mining monitoring.DFO Can. Sci. Advis. Sec. Sci. Resp. 2018/053.

10. Korman, J., Sawada, J., **Bradford, M.J.** 2019. Evaluation framework for assessing potential Pacific Salmon Commission reference points for population status and associated allowable exploitation rates for Strait of Georgia and Fraser River Coho Salmon Management Units. DFO Can. Sci. Advis. Sec. Res. Doc. 2019/001. vii + 81 p.

11. Withler, R.E., **Bradford, M.J.,** Willis, D.M., and Holt, C. 2018. Genetically Based Targets for Enhanced Contributions to Canadian Pacific Chinook Salmon Populations. DFO Can. Sci. Advis. Sec. Res. Doc. 2018/019. xii + 88 p.

12. DFO. 2018. Science Response Process of July 18, 2018 on the Review of Science Information to Inform Consideration of Risks to Cultus Lake Sockeye Salmon in 2018. DFO Can. Sci. Advis. Sec. Sci. Resp. 2018/052.

13. **Bradford, M.J.**, Macdonald, J.S., and Levings, C.D. 2017. Monitoring fish habitat compensation in the Pacific region: lessons from the past 30 years. DFO Can. Sci. Advis. Sec. Res. Doc. 2017/033. vi + 26 p.

14. Randall, R.G., **Bradford, M.J.**, Koops, M.A., and van der Lee, A. 2017. Potential for measuring production forgone as a metric for assessing project impacts to habitat on fisheries productivity. DFO Can. Sci. Advis. Sec. Res. Doc. 2017/020. iv + 15 p.

15. Randall, R.G., **Bradford, M.J**., de Kerckhove, D.T., and van der Lee, A. 2017. Determining regional benchmarks of fish productivity using existing electrofishing data from rivers: proof of concept. DFO Can. Sci. Advis. Sec. Res. Doc. 2017/018. v + 50 p.

16. DFO 2017. Evaluation of the Pipelines and Associated Watercourse Crossings Fisheries Self-Assessment Tool DFO Can. Sci. Advis. Sec.Sci. Resp. 2017/0xx.

17. DFO. 2016. Review of long term monitoring results from small hydro projects to verify impacts of instream flow diversion on fish and fish habitat. DFO Can. Sci. Advis. Sec.Sci. Resp. 2016/048.

18. **Bradford, M.J.,** Smokorowski, K.E. Clarke, K.D., Keatley, B.E. and Wong, M.C. 2016. Equivalency metrics for the determination of offset requirements for the Fisheries Protection Program. DFO Can. Sci. Advis. Sec. Res. Doc. 2016/046. vi+32 p.

19. DFO. 2015. Science Guidance for Fisheries Protection Policy: Advice on Equivalent Adult Calculation. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2015/011.

20. Smokorowski, K.E**., Bradford, M.J**., Clarke, K.D., Clément, M., Gregory, R.S., Randall, R.G. 2015. Assessing the effectiveness of habitat offset activities in Canada: Monitoring design and metrics. Can. Tech. Rep. Fish. Aquat. Sci. 3132: vi + 48 p.

21. **Bradford, MJ,** Koops, MA and Randall RG. 2015. Science advice on a decision framework for managing residual impacts to fish and fish habitat. DFO Can. Sci. Advis. Sec. Res. Doc. 2014/112. v + 31 p.

22. DFO. 2015. Review of the applicability of Habitat Suitability Index (HSI) Model and Habitat Assessment Tool (HAT) for assessment of Westslope Cutthroat Trout habitat characteristics and associated productivity. DFO Can. Sci. Advis. Sec. Sci. Resp.2015/034.

23. DFO. 2015. Review of proposed Intra-basin Transfers as part of the Environmental Impact Statement for the Blackwater Mine project. DFO Can. Sci. Advis. Sec. Sci. Resp.2015/031.

24. Clarke, K.D. and **Bradford, M.J.** 2014. A Review of Equivalency in Offsetting Policies. DFO Can. Sci. Advis. Sec. Res. Doc. 2014/109. v + 18 p.

25. DFO. 2014. Technical Review of the Effects of the Site C Clean Energy Project on Fish and Fish Habitat of the Peace River, British Columbia. DFO Can. Sci. Advis. Sec. Sci. Resp.2014/011.

26. Riddell, B., **M. Bradford**, R. Carmichael, D. Hankin, R. Peterman, and A. Wertheimer.2013. Assessment of Status and Factors for Decline of Southern BC Chinook Salmon:Independent Panel's Report. Prepared with the assistance of D.R. Marmorek and A.W.Hall, ESSA Technologies Ltd., Vancouver, B.C. for Fisheries and Oceans Canada(Vancouver. BC) and Fraser River Aboriginal Fisheries Secretariat (Merritt, BC). xxix +165 pp. + Appendices.

27. Schindler, D., Krueger, C., Bisson, P., **Bradford, M.,** Clark, B., Conitz, J., Howard, K., Jones,

M., Murphy, J., Myers, K. Scheuerell, M., Volk, E. and Winton, J. 2013. Arctic-Yukon-Kuskokwim Chinook Salmon research action plan: evidence of decline of Chinook Salmon populations and recommendations for future research. Prepared for the AYK Sustainable Salmon Initiative (Anchorage, AK). v + 70 pp

28. DFO. 2013. Technical review of the Proposed water recirculation scheme of the new Prosperity gold-copper mine project on predicted effects on fish and fish habitat of the fish lake watershed. DFO Can. Sci. Advis. Sec. Sci. Resp. 2013/019.

29. DFO. 2013. Science response to information requests submitted to the Enbridge pipeline project environmental impact assessment hearings respecting water extraction for hydrostatic testing. DFO Can. Sci. Advis. Sec. Sci. Resp. 2012/026.

30. **Bradford, M.J**., R.G. Randall, K.S. Smokorowski, B. Keatley and K. D. Clarke. 2013. A framework for assessing fisheries productivity for the Fisheries Protection Program. DFO Can. Sci. Advis. Sec. Res. Doc. 2013/067. v+44p

31. Koops, M.A., **M.J. Bradford**, K.D. Clarke, S.E. Doka, E.C. Enders, R.G. Randall, K.E. Smokorowski, D.A. Watkinson. 2013. A Review of Scientific Evidence Supporting Generic Productivity-State Response Curves DFO Can. Sci. Advis. Sec. Res. Doc. 2013/nnn.

32. Randall, R.G., **Bradford, M.J**., Clarke, K.D., and Rice, J.C. 2013. A science-based interpretation of ongoing productivity of commercial, recreational or Aboriginal fisheries. DFO Can. Sci. Advis. Sec. Res. Doc. 2012/112 iv + 26 p.

33. **Bradford, M.J**., Lewis, A., Ptolemy, R., Rosenfeld, J., Popescu, V., Orr, C., and Gower, T. 2013. Science Panel review of "Independent Review of Run-of-River Hydroelectric Projects and their impacts on Salmon Species in British Columbia" Draft Final Report by ESSA et al. November 2013. Report to the Pacific Salmon Foundation.

34. DFO. 2013. Science response to information requests submitted to the Enbridge pipeline project environmental impact assessment hearings respecting water extraction for hydrostatic testing. DFO Can. Sci. Advis. Sec. Sci. Resp. 2012/026

35. de Mestral Bezanson, L., **Bradford, M.J**., Casley, S., Benner, K., Pankratz, T., Porter, M. 2012. Evaluation of Fraser River Sockeye salmon (*Oncorhynchus nerka*) spawning distribution following COSEWIC and IUCN Redlist guidelines. DFO Can. Sci. Advis. Sec. Res. Doc. 2012/064. v + 103 p.

36. DFO. 2012. Review of downstream spatial boundaries for fish and fish habitat assessment areas, Site C Hydroelectric project. DFO Can. Sci. Advis. Sec.Sci. Resp.2012/017

37. Brown, T., Harvey, B. and **Bradford, M.J.** 2012. Information in support of the identification of critical habitat for speckled dace (*Rhinichtys osculus*). DFO Can. Sci. Advis. Sec. Res. Doc. 2012/065. iv + 29p.

38. **Bradford, M.J.,** Hume, J.M.B., Withler, R.E., Lofthouse, D., Barnetson, S. Grant, S., Folkes, M., Schubert, N., Huang, A-M. 2011. Status of Cultus Lake sockeye salmon. DFO Can. Sci. Advis. Sec. Res. Doc. 2010/123. vi + 44 p.

39. Pon, L.B., Tovey, C.P., **Bradford, M.J**., MacLellan, S.G., and Hume, J.M.B. 2010. Depth and thermal histories of adult sockeye salmon (*Oncorhynchus nerka*) in Cultus Lake in 2006 and 2007. Can. Tech. Rep. Fish. Aquat. Sci. 2867: iii + 39 p.

40. DFO. 2010. Assessment of Cultus Lake Sockeye Salmon in British Columbia in 2009 and Evaluation of Recent Recovery Activities. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2010/056.

41. Peterman R.M., D. Marmorek, B. Beckman, **M. Bradford**, N. Mantua, B.E. Riddell, M. Scheuerell, M. Staley, K. Wieckowski, J.R. Winton, C.C. Wood. 2010. Synthesis of evidence from a workshop on the decline of Fraser River sockeye. June 15-17, 2010. A Report to the Pacific Salmon Commission, Vancouver, B.C.

42. Selbie, D.T., **Bradford, M.J.**, Hague, M.J., Hume, J.M.B., MacIsaac, E.A., and D.A. Patterson. 2010. Are freshwater habitat conditions in the Fraser River watershed an important contributor to the Fraser sockeye salmon situation? Pacific Salmon Commission Workshop to Examine the Decline in Survival of Fraser River Sockeye

43. **Bradford, M.J.**, M. Bevelheimer, M. Hansen, G. Mueller, D. Osmundson, J. Rice and D. Winkelman. 2009. Report of the 2009 Protocol Evaluation Panel for Fish Monitoring Programs of the Grand Canyon Monitoring and Research Center. Report to the Grand Canyon Monitoring and Research Center, Flagstaff.

44. Brown, T.G., Runciman, B., **Bradford, M.J**. and Pollard, S. 2009. A biological synopsis of yellow perch (*Perca flavescens*). Can. Man. Rept. Fish. Aquat. Sci. 2887.

45. Brown, T.G., Runciman, B., Pollard, S., Grant, A.D.A., and **M.J. Bradford**. 2008. Biological synopsis of smallmouth bass (*Micropterus dolomieu*). Can. Man. Rept. Fish. Aquat. Sci. 2887.

46. **Bradford, M.J.**, C.P. Tovey and Herborg, L.M. 2008. Biological Risk Assessment for Yellow Perch (*Perca flavescens*) in British Columbia. Canadian Science Advice Secretariat Res. Doc 2008:073.

47. **Bradford, M.J.,** C.P. Tovey and Herborg, L.M. 2008. Biological Risk Assessment for Northern Pike (*Esox lucius*), Pumpkinseed (*Lepomis gibbosus*), and Walleye (*Sander vitreus*) in British Columbia. Canadian Science Advice Secretariat Res. Doc 2008:074.

48. Tovey, C.P., **M.J. Bradford** and Herborg, L.M. 2008. Biological Risk Assessment for Smallmouth Bass (*Micropterus dolomieu*) and Largemouth bass (*Micropterus salmoides*) in British Columbia. Canadian Science Advice Secretariat Res. Doc 2008:075.

49. **Bradford, M.J.**,J. Amos, C.P. Tovey, J.M.B. Hume, S. Grant, and B. Mossop. 2007. Abundance and migratory behaviour of northern pikeminnow (*Ptychocheilus oregonensis*) in Cultus Lake, British Columbia and implications for predator control. Can. Tech. Rept. Fish. Aquat. Sci. 2723.

50. **Bradford, M.J.** 2005. Monitoring for assessment and learning? Pp. 103-105 in Stoneman, M.G. ed. Canadian Electricity Association/Fisheries and Oceans Canada Science Workshop Proceedings: Setting Research Priorities on Hydroelectricity and Fish or Fish Habitat St John's NF, June 2004. Can. Tech. Rept. Fish. Aquat. Sci. 2614.

51. **Bradford, M.J.** 2006. An allowable harm assessment for the specked dace in British Columbia using Population Viability Analysis. P 26-28 In C.A. Rose (ed.) National Science – Habitat Management Workshop on Allowable Harm Assessment for Aquatic Species with Habitat Related Threats. CSAS Proceedings Series 2006/034

52. **Bradford, M.J.** and C.C. Wood. 2004. A review of biological principles and methods involved in setting minimum population sizes and recovery objectives for the September 2004 drafts of the Cultus and Sakinaw Lake sockeye salmon and Interior Fraser coho salmon recovery plans.

Canadian Scientific Advisory Secretariat Res. Doc. 2004/128

53. Hatfield, T, Lewis, A., Ohlsen, D. and **M.J. Bradford** 2004. Development of instream flow thresholds as guidelines for reviewing proposed water uses. Report to the Province of British Columbia.

54. Cultus Sockeye Recovery Team. 2004. National recovery strategy for sockeye salmon (*Oncorhynchus nerka*), Cultus Lake population, in British Columbia. National Recovery Strategy No. XXX. Recovery of Nationally Endangered Wildlife (RENEW). Ottawa, Ontario, 57 pp.

55. Interior Fraser Coho Recovery Team. (2004). National recovery strategy for coho salmon (*Oncorhynchus kisutch*) in the Interior Fraser River watershed, British Columbia, Consultative Draft. 124 pp

56. **Bradford, M.J.** and T. Hatfield. 2004. Development of instream flow screening tool and guidelines for small hydro in the Pacific Region. Pp 71-72 in Randall, R.G. et al. eds. Science technology transfer workshop- science contributions towards improving fish habitat management. CSAS Proceedings Series 2004/10.

57. Jang, J. and **M.J. Bradford**. 2003. Yukon River Juvenile Chinook and Chum Salmon Out-Migration Timing and Sampling Characteristics as Determined Using a Rotary Auger Trap, 2002. Contract report to the Yukon River Panel. Whitehorse YT.

58. **Bradford, M.J**., and five coauthors. 2001. Report of the Aquatic Protocol Evaluation Program Panel. For: Grand Canyon Monitoring And Research Center, Protocols Evaluation Program. 43pp.

59. Irvine, J.R. and **M.J. Bradford**. 2000. Declines in the abundance of Thompson River coho salmon in the interior of southern British Columbia, and Canada's coho recovery plan In L. Darling (editor). Proceedings Biology and Management of Species and Habitats At Risk conference, 15 – 19 February, 1999, University College of the Cariboo, Kamloops, B.C. B.C. Environment, Wildlife Branch, Victoria, B.C. and University College of the Cariboo, Kamloops. B.C.

60. Irvine, J.R., R. E. Bailey, **M. J. Bradford**, R. K. Kadowaki, and W. S. Shaw. 1999 Assessment of Thompson River/Upper Fraser River Coho Salmon. Can. Stock Assess. Secretariat Res. Doc. 99/128.

61. **Bradford. M.J.** 1998. A risk assessment for Thompson River coho salmon. Canadian Stock Assessment Secretariat Report 98/92.

62. **Bradford, M.J.** 1997. Partitioning mortality in Pacific salmon. In RL Emmett and MH Schiewe (eds.). Estuarine and ocean survival of Northeastern Pacific Ocean. NOAA/NMFS-NWFSC-29.

63. Taylor, G.C., J. A. Allan and **M.J. Bradford**. 1996. Juvenile chinook sampling data, Slim Creek, and Bowron River, British Columbia, 1995. Can. Data Rept. Fish. Aquat. Sci. 979:30 pp.

64. Taylor, G.C., J. A. Allan and **M.J. Bradford**. 1995. Juvenile chinook sampling data, Slim Creek, and Fraser River mainstem, British Columbia, 1994. Can. Data Rept. Fish. Aquat. Sci. 964

65. Allan, J.A., Taylor, G.C., and **M.J. Bradford**. 1995. Juvenile chinook sampling data, Chilcotin watershed, British Columbia, 1994. Can. Data Rept. Fish. Aquat. Sci. 942

66. **Bradford, M.J.** and G.C. Taylor. 1995. An update on methods for measuring the intragravel

environment of incubating salmon eggs and larvae. Can. Tech. Rept. Fish. Aquat. Sci. 2025.

67. Taylor, G.C., J. A. Allan and **M.J. Bradford**. 1994. Juvenile chinook sampling data, Slim Creek, British Columbia, 1993. Can. Data Rept. Fish. Aquat. Sci. 942

68. Taylor, G.C. and **M.J. Bradford**. 1993. Results of rotary auger trap sampling, lower Stuart River, in April and May, 1992. Canadian Manuscript Report of Fisheries and Aquatic Sciences 2211.

PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM (PRRIP -or- Program)
EXHIBIT A: PRRIP Conflict of Interest Form – ISAC Members

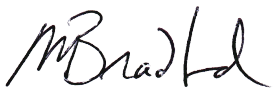
The PRRIP developed guidance regarding the avoidance of conflicts of interest in accordance with the ISAC Charter (Attachment 6, Appendix I) and the Peer Review Guidelines (Adaptive Management Plan, Appendix A) contained in the PRRIP Final Program Document. As stated in the ISAC Charter: "The ISAC must retain as much independence from the adaptive management program as possible. This independence requires that their role focus on reviewing products produced by the Program."

Potential conflicts of interest include but are not limited to:

- Financial interest in the restoration and management activities associated with the PRRIP.
- Familial relationship with any of the scientists conducting research and/or monitoring associated with the PRRIP.
- Bias, for personal reason for or against the scientists mentioned above and/or the entities involved in the implementation of the PRRIP.
- Professional connection with any entities involved with PRRIP implementation.
- Impacts of lobbying or political pressure exerted by person(s) looking for a particular result or more work with the PRRIP.
- Has conducted, is conducting, or intends to conduct work for or on behalf of the Program, or work that directly overlaps with Program scientific and technical priorities, which could result in an ISAC member reviewing and commenting on her/his own work product(s).

As a candidate proposed for participation on the ISAC, I hereby state that I do not have any conflicts of interest with the Platte River Recovery Implementation Program as outlined above and (if necessary) explained on the following page. I can serve effectively on the ISAC without any financial, familial, personal, or professional bias in order to further the goals and objectives of the PRRIP and the implementation and evaluation of the Extension Science Plan and associated scientific and technical activities, analyses, and syntheses.

FOR THE CONSULTANT:



29 Feb 2024

_____ _____

NAME DATE

PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM (PRRIP -or- Program)
EXHIBIT B – Certification Regarding Lobbying

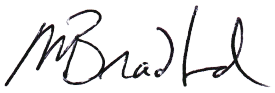
The undersigned certifies, on behalf of the Consultant, that to the best of his or her knowledge and belief:

1. No federal appropriated funds have been paid or will be paid, by or on behalf of the Consultant, to any person for influencing or attempting to influence an officer or employee of any federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, or the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement.

2. No registrant under the Lobbying Disclosure Act of 1995 has made any lobbying contacts on behalf of the Consultant with respect to the federal grant or cooperative agreement under which the Consultant is receiving monies.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who makes an expenditure prohibited by Section 1 above or who fails to file or amend the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

FOR THE CONSULTANT:



29 Feb 2024

_____ _____

NAME DATE

UNIVERSITY OF
NOTRE DAME

DEPARTMENT OF BIOLOGICAL SCIENCES

290D Galvin Life Sciences
Notre Dame, Indiana
46556-0369 USA

Gary A. Lamberti
The Rev. Julius A. Nieuwland C.S.C. Professor of Aquatic Science

tel (574) 631-8075
fax (574) 631-7413
email glambert@nd.edu

February 27, 2024

Dr. Chadwin Smith, Ph.D.
Science Policy Coordinator
Platte River Recovery Implementation Program
4111 4th Ave., Suite 6
Kearney, NE 68845

Dear Dr. Smith,

Please accept this letter of interest in an appointment as a member of the Independent Scientific Advisory Committee (ISAC) to the Platte River Recovery Implementation Program (PRRIP). I am a chaired full professor at the University of Notre Dame where I have spent the majority of my professional career investigating aquatic ecosystems. I have attached a short biography to this letter along with my full curriculum vitae. The PRRIP has interest in the following major qualifications for membership on the ISAC:

The PRIPP seeks a new ISAC member who is an expert in large river ecology and management with specific expertise and experience as described below:
***Large river ecology, restoration, and management**. Expertise in and experience with science disciplines related to large river ecology and management. Prior experience with large-scale aquatic restoration programs and the implementation of adaptive management preferred. Expertise in the ecology, habitat use, and movement of large river fish (particularly Acipenseriformes) and/or specific experience with pallid sturgeon use of and behavior in Missouri River tributaries, including the lower Platte River in Nebraska and the Yellowstone River in Montana and North Dakota, would be beneficial but is not required.*

In response to those criteria, I consider myself an authority in aquatic biology and ecology with a particular expertise in flowing waters and wetlands. At the University of Notre Dame, I direct the *Stream and Wetland Ecology Laboratory* (SWEL), where we work on diverse systems ranging from the coastal wetlands and large tributaries to the Great Lakes, to salmon rivers and deltaic wetlands of Alaska. I and my laboratory have produced over 200 publications (see CV) and have garnered over $20 million in external funding to support our research. I consider myself to be have broad ecological interests ranging from emerging contaminants to invasive species to migratory fish biology. In the recent past (2015-2019), I served on the

Independent Science Advisory Panel (ISAP) of the Missouri River Recovery Implementation Committee (MRRIC) as their "riverine expert". This appointment provided me with a wealth of experience in adaptive management and in reviewing science related to listed species issues (e.g., pallid sturgeon) in the Missouri River. I also worked closely with multiple stakeholders and federal agencies (including the USFWS, USACE, and USGS), tribes, NGOs, and many state and municipal entities. I then rotated off the ISAP to join the National Science Foundation (NSF) as a rotating Program Officer for the period 2020-2022. At the NSF in the Division of Environmental Biology, I developed and managed grant programs for the foundation ranging from ecosystem science to integrated natural and social science research. After the NSF, I returned to my home institution as a Chaired Professor. A possible appointment as part of the PRRIP ISAC sounds exciting and well aligned with my interests in river systems and applied ecology. Thank you for your consideration, and I am happy to provide any additional information you may desire. I look forward to continued conversation about this unique opportunity to contribute to the efforts of the PRRIP.

Sincerely,

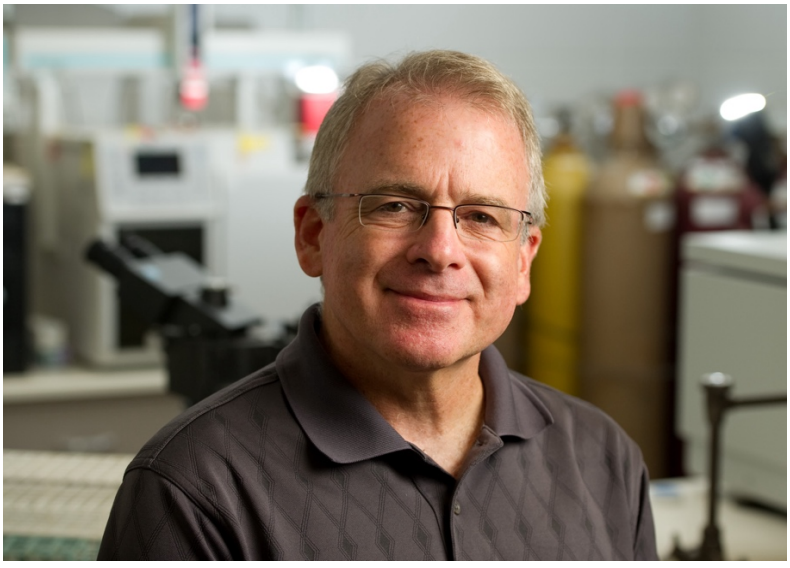
Gary A Lamberti

Gary A. Lamberti
Nieuwland Professor of Aquatic Science
Director, *Stream and Wetland Ecology Laboratory*

Note: Exhibits A and B are attached to this letter.
In addition, I affirm that, during the contract phase, I could sign a contract affirming that I am NOT disbarred from doing work for the federal government. Further, I would be able to provide a Dun & Bradstreet (DUNS) number, SAM registration ID, or federal tax ID to conduct work as an ISAC member as a private consultant.

Short Biography

Dr. Gary A. Lamberti is the Rev. Julius A. Nieuwland, C.S.C., Professor of Aquatic Science and Director of the Stream and Wetland Ecology Laboratory (SWEL) at the University of Notre Dame, where he teaches *Biostatistics*, *Stream Ecology*, *Restoration Ecology*, and *Galapagos Field Biology*, along with a variety of topical graduate courses. His major research interests include: (1) functional linkages among aquatic ecosystems including resource subsidies; (2) the effects of global perturbations such as invasive species and climate change on aquatic ecosystems and their food webs; and (3) the impacts of emerging organic contaminants on freshwater biota and humans. Dr. Lamberti conducts his research in the Pacific Northwest and around the Laurentian Great Lakes. In Alaska, he investigates freshwater ecosystem responses to climate change, land use, and biological invasions, with a particular interest in the impacts on Pacific salmon. He has a particular interest in marine-derived resources delivered by spawning salmon. In the Great Lakes, he studies the uptake and biotransport of contaminants by migratory fishes with a focus on emerging contaminants such as PFAS. His laboratory also investigates the ecology of deltaic wetlands in Alaska and coastal wetlands of the Great Lakes, with the objective of understanding the function of these crucial ecosystems under global change. He has successfully mentored 30 M.S. and Ph.D. students to completion and over 100 undergraduates have conducted research in his laboratory. Dr. Lamberti has over 200 publications dealing with various aspects of aquatic ecology and has co-edited the Elsevier book *Methods in Stream Ecology*, now in its 3rd edition. Dr. Lamberti is a Fellow of the American Association for the Advancement of Science and a Fellow and past-President of the Society for Freshwater Science, an international society of aquatic ecologists. In 2022, he received the Award of Excellence from the Society for Freshwater Science, the highest award bestowed by the society for scientific achievement. He advises various national and international entities and serves on the advisory boards of several research institutes and biological stations. He also routinely conducts external reviews of academic and governmental programs. Dr. Lamberti recently served as a Program Director in the Division of Environmental Biology at the National Science Foundation.



Contact: glambert@nd.edu or (574) 631-8075

GARY A. LAMBERTI

Curriculum Vitae

The Rev. Julius A. Nieuwland, C.S.C., Professor of Aquatic Science
Department of Biological Sciences
Director, *Stream and Wetland Ecology Laboratory* (SWEL)
University of Notre Dame
Notre Dame, IN 46556-0369
Phone: (574) 631-8075; Fax: (574) 631-7413
email: glambert@nd.edu
Faculty page: http://biology.nd.edu/people/faculty/lamberti/
Lab page: https://swel.nd.edu/

Education

B.S. 1975 University of California at Davis; Entomology (High Honors)

Ph.D. 1983 University of California at Berkeley; Entomological Sciences
Dissertation: *Interactions among herbivorous insects, algae, and bacteria in a geothermally influenced stream. Advisor:* Dr. Vincent H. Resh

Postdoctorate Oregon State University; Aquatic Ecology. *Advisor:* Dr. Stanley V. Gregory

Research Interests

Stream and river ecology; wetland ecology; ecotoxicology of emerging contaminants; biology of anadromous salmonids; food web ecology; fisheries ecology; ecology of invasive species; watershed ecology; nutrient cycling in aquatic ecosystems; restoration ecology; global change biology

Professional Experience

2022 - present	*Chaired Professor*, College of Science, University of Notre Dame
2020 - 2022	*Program Director*, National Science Foundation – Division of Environmental Biology
2019 - 2020	*Gillen Acting Director*, University of Notre Dame Environmental Research Center
2015 - 2020	*Director*, GLOBES Graduate Certificate Program in Environment and Society
2008 - 2014	*Chair*, Department of Biological Sciences, University of Notre Dame
2001 - 2008	*Assistant Chair* and *Director of Graduate Studies*, Department of Biological Sciences
2000 - present	*Professor*, Department of Biological Sciences, University of Notre Dame
1995 - 2000	*Associate Professor*, Department of Biological Sciences, University of Notre Dame
1989 - 1995	*Assistant Professor*, Department of Biological Sciences, University of Notre Dame
1986 - 1989	*Research Assistant Professor*, Dept. of Fisheries & Wildlife, Oregon State University
1984 - 1986	*Postdoctoral Associate*, Department of Fisheries & Wildlife, Oregon State University
1983 - 1984	*Postdoctoral Associate*, Department of Entomological Sciences, U.C. Berkeley

Other Academic Appointments

2018 - present	*Adjunct Professor,* Central Michigan University
2018 - present	*Graduate Faculty*, Western Michigan University

Major Administrative Experience

2020 – 2022 *Program Director*, National Science Foundation - Division of Environmental Biology. I served as a rotating program director for the Ecosystem Science cluster in NSF's Division of Environmental Biology, where I developed and managed funding programs, oversaw review panels, made funding decisions, managed awards, and communicated with the ecological community.

2019 – 2020 *Gillen Acting Director,* University of Notre Dame Environmental Research Center. I oversaw all operations for UNDERC, the major environmental field station for Notre Dame, including education, training, and research programs.

2015 – 2020 *Director*, GLOBES Graduate Certificate Program in Environment and Society, University of Notre Dame. GLOBES is an interdisciplinary graduate program that emphasizes scholarship on Environment and Society, and draws students from the Humanities, Sciences, Law, Business, and Engineering. Current size is 30 fellows.

2010 – 2012 *Director*, Linked Experimental Ecosystem Facility (ND-LEEF), University of Notre Dame Environmental Change Initiative. I developed the initial vision and design for a $1M environmental facility for research, teaching, and outreach near the ND campus.

2008 – 2014 *Chair,* Department of Biological Sciences, University of Notre Dame. I oversaw a department of some 50 faculty members, 80 staff, 140 graduate students, and 400 undergraduate students, with an annual budget of ~$10 million. Faculty size and external funding grew by 40%, graduate students by 30%, and undergraduate majors by 25% during this period.

2001 – 2008 *Director of Graduate Studies* and *Assistant Chair*, Department of Biological Sciences, University of Notre Dame. I provided oversight of the biology graduate program of 125 students, mostly Ph.D., spanning recruitment through graduation.

2001 – 2006 *Co-Director and Co-PI*, Graduate Training Program in 'Risk assessment of novel chemicals in the environment'. Sponsor: U.S. Department of Education - Graduate Assistance in Areas of National Need (GAANN). This program involved 10 faculty members in Engineering and Biology, and trained 10 Ph.D. students.

1997 – 1998 *President*, Society for Freshwater Science (named North American Benthological Society at the time). SFS/NABS is a society of ~1500 professional aquatic scientists. The President oversees all society operations, including finances, committees, publications, and annual meetings.

1994 – 2001 *Director and PI*, Graduate Research Training (GRT) Program in 'Environmental stress in ecosystems: linking ecology and engineering'. Sponsor: National Science Foundation – Education and Human Resources. This program engaged 10 faculty members and trained 20 Ph.D. students.

Teaching Experience (at the University of Notre Dame unless noted)

Undergraduate Courses	*Graduate Courses*	*Seminars*
Biostatistics	Stream Ecology†	Ecological Experimentation
Limnology*	Advanced Aquatic Ecology	Lentic-Lotic Linkages
Aquatic Entomology (team)	Ecological Methods	Advanced Ecological Statistics
Stream Ecology*	Restoration Ecology†	Current Theory in Community Ecology
Practicum in Aquatic Ecology (team)	Practicum in Environmental Biology	Aquatic Ecosystems & Global Change
Galapagos Islands Field Practicum	Science Communication	Fisheries Professions*
	Research Integrity	Environmental Law
	Navigating the NSF	Seminar Preparation and Presentation

*taught or co-taught at Oregon State University
†cross-listed graduate and undergraduate course

Professional Affiliations

American Association for the Advancement of Science; Ecological Society of America; Indiana Academy of Sciences; Society for Freshwater Science; Indiana Water Resources Association

Awards, Honors, and Elective Offices

- Award of Excellence, Society for Freshwater Science (2022) – One award annually for leadership in freshwater research, teaching, and service over a career
- Named The Rev. Julius A. Nieuwland, C.S.C., Professor of Aquatic Science, University of Notre Dame (2022)
- Faculty Award from the University of Notre Dame (2019) – One award annually to an outstanding faculty member for scholarship, leadership, and service to the university
- Elected Faculty Fellow, Pulte Institute for Global Development (2019)
- Albert Nelson Marquis Lifetime Achievement Award (2019)
- Elected Fellow, Society for Freshwater Science (2018)
- Visiting Scholar, Central Michigan University Biological Station, Summer 2018, 2019
- Speaker, Eminent Scholar Series, Florida Gulf Coast University, March 2-3, 2017
- Elected Faculty Fellow, John J. Reilly Center for Science, Technology, and Values (2015)
- Elected Fellow, American Association for the Advancement of Science (2011)
- Rev. Edmund P. Joyce, CSC, Award for Excellence in Undergraduate Teaching, University of Notre Dame (2009)
- Faculty Fellow, John A. Kaneb Center for Teaching and Learning, University of Notre Dame (2007-2008)
- Host and Lecturer, ND Alumni Association NDTravel (2014-2022)
- Distinguished Lecturer, Hesburgh Lecture Series, University of Notre Dame (2008, 2010, 2011, 2012, 2013, 2014, 2017)
- Invocation Speaker, Biological Sciences and Environmental Science Commencement, University of Notre Dame (2019)
- Commencement Speaker, Biological Sciences, University of Notre Dame (2009-2014)
- Commencement Speaker, Environmental Science, University of Notre Dame (2007)
- John A. Kaneb Award for Teaching Excellence, University of Notre Dame (2006)
- Commencement Speaker, Science-Business major, University of Notre Dame (2006)
- Reverend James A. Burns, C.S.C., Graduate School Award for Excellence in Graduate Education, University of Notre Dame (2004)
- Father James L. Shilts/Doris and Gene Leonard Teaching Award, College of Science, University of Notre Dame (2003)
- John A. Kaneb Award for Teaching Excellence, University of Notre Dame (2001)
- President (elected), North American Benthological Society (1997-1998) – NABS is a society of 2000 professional aquatic scientists
- Professor of the Term Award, Mortarboard Society, Oregon State University (1987)
- Best Student Paper Award; North American Benthological Society Annual Meeting, Ann Arbor MI (1982)
- Distinguished Teaching Assistant; University of California, Berkeley (1981)
- Outstanding Graduate Student Award; Department of Entomological Sciences, U.C. Berkeley (1981)
- Union Foundation Wildlife-Fisheries Fellowship, U.C. Berkeley (1976-1977)
- National Institutes of Health Predoctoral Fellowship, U.C. Berkeley (1975-1977)

Professional Service

- Member, Board of Directors, Fernwood Botanical Garden (Niles, MI) (2023 – present)
- Member, Science Advisory Board, USGS John Wesley Powell Center for Analysis and Synthesis (2021 – 2022 while on leave with NSF)

- Guest Editor, *Frontiers in Ecology and Evolution* (2018-2020)
- Chair, International Advisory Council for joint University of Calgary – City of Calgary ACWA program (Advancing Canada's Wastewater Assets) (2017 – 2018)
- Member, Independent Science Advisory Panel, Missouri River Recovery Implementation Committee (2014 – 2019)
- Panel Member for *Wisconsin Sea Grant* (2019, 2023)
- Member, Science Advisory Board for Central Michigan University Biological Station (2010 – present)
- Chair, Science Advisory Board for Central Michigan University Biological Station (2014)
- Member, Editorial Board, Aquatic Ecology Series, University of California Press (2010 – 2016)
- Member, External Review Committee, Department of Biology, Kent State University (2010)
- Member, Executive Board for *American Midland Naturalist* (2008 – present)
- Member, NEON-STEAC (Science, Technology, and Education Advisory Committee (2008 – 2010)
- Institutional Representative to Great Lakes – Northern Forest CESU (2007 – present)
- Invited Panelist, Educational Panel of Economic Summit organized by Congressman Joe Donnelly (August 7, 2007)
- Member, Science Advisory Board for the Annis Water Resources Institute, Grand Valley State University (2002 – present)
- Chair, Science Advisory Board for the Annis Water Resources Institute, Grand Valley State University (2009)
- Associate Editor, *Ecological Applications* (2001-2004)
- President, North American Benthological Society (1997-1998)
- President-Elect, North American Benthological Society (1996-1997)
- Invited Speaker and Dissertation Opponent, University of Uppsala, Sweden (December, 1993)
- Associate Editor, *Journal of the North American Benthological Society* (1991-1995)
- Chair, various committees of the North American Benthological Society: Hynes Award for New Investigators (1999-2000), Election and Place Committee (1998-1999), Constitutional Revision Committee (1993-1997), Award of Excellence Committee (1990-1991)
- Chair, Executive Committee of the North American Benthological Society (1986-1987)
- Member, Executive Committee of the North American Benthological Society (1987-1988, 1996-1999); International Issues Committee (2000-2002), Name Evaluation Committee (2003-2003), Hynes Young Investigator Award (1997-present)
- Co-Chair, Local Arrangements Committee for the North American Benthological Society Annual Meeting, Corvallis, Oregon (1985)
- Student Paper Judge: North American Benthological Society (continuous 1986-2018); Ecological Society of America (1988, 1993)
- Ad Hoc Reviewer for: *Ecology, Ecological Applications, Ecology Letters, Ecosystems, Oikos, The American Naturalist, American Midland Naturalist, Environmental Entomology, Hydrobiologia, Canadian Journal of Fisheries and Aquatic Sciences, Freshwater Biology, Canadian Journal of Zoology, Journal of the North American Benthological Society, Holarctic Ecology, Marine and Freshwater Research, Transactions of the American Fisheries Society, Archiv fur Hydrobiologie, Environmental Pollution, Oecologia, BioScience, Limnology and Oceanography, American Entomologist, Journal of Phycology, Environmental Toxicology & Chemistry, Water Quality Research Journal of Canada, Conservation Biology, Aquatic Sciences, International Review of Hydrobiology, Environmental Management, Restoration Ecology, Journal of Conservation Biology, Chemosphere, Environmental Science and Technology, Green Chemistry, Evolutionary Applications, Biological Invasions, Aquatic Ecology, PLoS One, River Research and Applications, Earth Surface Processes and Landforms, Ecosphere*
- Grant Referee for: *National Science Foundation (DEB Ecosystem Science & PCE Programs); NSF/EPA/USDA Joint Water and Watersheds Research Program; Swiss National Science Foundation; NOAA - Sea Grant, Ohio Sea Grant College Program, Michigan Sea Grant College Program, Minnesota Sea Grant College Program, NSERC of Canada; Great Lakes Fishery Trust; Wisconsin Sea Grant College Program*
- Panel Member for National Science Foundation: *NSF-EPA Water and Watershed Research (1995), Graduate Research Training Workshop (1997); Graduate Research Fellowships (1999, 2001, 2002); Science and Technology Centers (2003); Population and Community Ecology (2012)*

- Panel Member for *USDA Managed Ecosystems Program (2006)*
- Book Reviewer for: *Ecology, Journal of the North American Benthological Society*, *NABS Bulletin,* Oxford University Press, Prentice-Hall, Chapman & Hall, Academic Press, J. Ross Publishing
- Symposium Organizer: American Fisheries Society, Oregon Chapter (1989), North American Benthological Society (1992, 1993, 2000); Society for Freshwater Science (2016, 2018, 2023); Entomological Society of America (1993)
- Invited Speaker at Meetings of: Entomological Society of America (1983, 1989); Society for Freshwater Science / North American Benthological Society (1982, 1989, 1990, 1991, 1992, 1993, 1997, 1998, 2000, 2011, 2013; 2016; 2018; 2022); California Licensed Foresters Association (1987); American Society of Foresters (1986); California Salmon and Trout Restoration Association (1988); Zebra Mussel & Aquatic Nuisance Species Conference (1999); Illinois-Indiana Sea Grant Researchers' Meeting (2001; 2023); State of Lake Michigan Conference (2003); International Conference on Ionic Liquids (2005); Society for Chemical Engineering and Biotechnology (2007)

University Service

- Member (appointed): Faculty Senate (1992); Institutional Animal Care and Use Committee (1995-2001); Provost's Task Force on Strategic Directions in Science and Engineering -- Chair of Environmental Science subcommittee (1999); Provost's Task Force on Environmental Research and Education (2000-2001); UND Committee on Research Challenges and Opportunities (2001-2002); Fellowships Office Faculty Advisory Board (2004-2005); Vice President's Task Force on Graduate Student Academic Life (2005); Fulbright Scholarship Evaluation Committee (2006-2007); Provost's Task Force on Statistics (2006-2007); Provost's Task Force on the Environment (2006-2007); Office of Research Limited Submissions Committee (2007-2010); Shilts-Leonard Teaching Award Selection Committee (2004-2007); CEST Advisory Board (2007-present); College of Science Dean's Advisory Committee (2008-present); College of Science Council (2008-2014); Burns Award Selection Committee (2011); UNDERC Land O' Lakes Strategic Planning Committee (2012-2013); UNDERC Advisory Board (2012-2020); Notre Dame Haiti Program review committee (2013-2014); Water Sustainability Working Group (2017-2019)
- Member (elected): College of Science Council (1994-1997; 2001-2005); Graduate Council (1998-2001); Dept. of Biological Sciences Committee on Appointments and Promotions (CAP) (1999-2008); Chair of CAP (2008-2014); University Committee on Admissions, Scholarships, and Financial Aid (2018-present); Committee for 5-Year Review of Dean of Science (2019); University Committee on Research and Sponsored Programs (2022-present)
- Member or Chair: various departmental committees including over 40 graduate student thesis committees in three Colleges and chair or co-chair of 10 faculty search committees.
- Presenter for Junior Parents Weekend (2009-2014), Early Action Students (2009-2014), BIOS Graduate Student Recruitment (2009-2014)
- Urban Plunge Faculty Facilitator (2011)
- Faculty Mentor for Dr. Marie Denise Milord (2014), Dr. Kenneth Filchak (2020-2022)
- Institutional Lead, Great Lakes – Northern Forest Cooperative Ecosystem Studies Unit (2007 – present)

Community and Church Service

- Integration of BIOS 35506 (Galapagos) with students at Robinson Community Learning Center (2022)
- Integration of BIOS 35506 (Galapagos) with students at La Casa de Amistad, South Bend (2019)
- Integration of BIOS 35506 (Galapagos) with students at South Bend Center for the Homeless (2017)
- Integration of BIOS 35506 (Galapagos) with students at Robinson Community Learning Center (2016)
- Volunteer Soccer Manager and Assistant Coach of U12 Girls, Indiana Invaders (2013)
- Volunteer Girls' Soccer Coach, Christ the King Grade School (2011-2014; league champions 2014)
- Assistant Manager, Indiana Invaders Soccer Club U15 Boys (2011)
- Member, Corpus Christi Grade School Board of Education (2006 – 2008)
- Volunteer Speaker, UND College Mentors for Kids (2006)
- Outreach Educator, Young Naturalist Club, Shedd Aquarium, Chicago, IL (2003 – 2006)
- Volunteer Science Educator, Corpus Christi Catholic School, South Bend (2005)

- Volunteer Science Educator, Christ the King Catholic School, South Bend (2013 – 2014)
- Volunteer Reader, Montessori Preschool, South Bend Center for the Homeless (2003 – 2010)
- Volunteer Boys' Soccer Coach, Michiana Soccer Association (2004 – 2006)
- Volunteer Girls' Soccer Coach, Michiana Soccer Association (2006 – 2009)
- Volunteer Boys' Soccer Coach, Corpus Christi Catholic School, South Bend (2007)
- Mentor for Local High School Science Fair Projects (15 high school students to date)
- Chair, Junior Life Science Division, Northern Indiana Regional Science Fair (2002 – present)
- Judge, Northern Indiana Regional Science Fair (annually 1990 – present)

Other Recognitions and Selected Media Stories

- *NPR Story on PFAS in Lake Michigan fish:* https://radio.wcmu.org/local-regional-news/2022-12-12/study-finds-pfas-in-game-fish-can-accumulate-be-passed-down
- *South Bend Tribune Viewpoint: In Defense of Wetlands* https://www.southbendtribune.com/news/opinion/viewpoint/viewpoint-let-indiana-legislators-know-you-value-the-states-remaining-wetlands/article_8a67bebe-6a39-11eb-847b-ebf12a5aab5a.html
- *PBS Documentary*; Featured in widely distributed documentary film on Great Lakes coastal wetlands: https://www.pbs.org/video/linking-land-and-lakes-hdo22u/
- *EM&T paper* (publication #132) on heavy metals in wetland turtles featured in multiple radio (e.g., NPR), television (e.g., WSBT), and web stories; see for example: http://wsbt.com/news/local/notre-dame-researchers-doing-something-new-to-test-great-lakes-pollution
- *TAFS paper* (publication #127) on restoring stream connectivity following culvert replacement featured in numerous press and web stories following story reported in Capital News Service: http://news.jrn.msu.edu/capitalnewsservice/2015/11/06/fish-may-benefit-from-replacing-culverts-with-bridges/
- *ES&T paper* (publication #115) on contaminant biotransport by Great Lakes salmon featured in ND press release and picked up by over 20 internet sites, including phys.org, enn.com, scienceblog.com, etc.
- *Nature commentary* (publication #107) on internet trade of endangered plants featured in various print, radio, and internet media stories including the Los Angeles Times, BBC, and NPR
- Featured Researcher for Great Lakes Regional Research Information Network (October 2007)
- Salmon research featured in UND *Pathways* magazine (Fall 2005, Fall 2007)
- River restoration research featured in NDWorks – Notre Dame staff newspaper (November 1, 2007)
- Principal Investigator for research on invasive fish that was recognized as 1 of 162 U.S. "Scientific Breakthroughs" for 1998 cited in a report to Congress by *The Science Coalition*
- Senior author of paper (*Ecology* 64:1124-1135) recognized as one of "The 10 Most Cited Papers in Plant Herbivory, 1981-1993" by *The Scientist* (June 26, 1991) from review of *Science Citation Index*
- Research in invasive fishes featured in *The Helm* – popular publication of the Illinois-Indiana Sea Grant College Program.
- Listed in: Who's Who in Science and Technology; Who's Who in the Midwest; Who's Who in America; Who's Who in the World, Who's Who in American Education, American Men and Women of Science, Who's Who in Science Higher Education (1991-present)

Graduate Students and Postdoctorates

Graduate students advised:

Oregon State University:
Steven Hurley – M.S. 1994; Cynthia Tait (co-advised) – Ph.D. 1997

University of Notre Dame:
Patrice Charlebois – M.S. 1994; Thomas Horvath – Ph.D. 1997, Aimee Fullerton – M.S. 1998; Danielle Tillman – Ph.D. 1999; Robert Stelzer – Ph.D. 1999; Eric Strauss – Ph.D. 2000; Ashley Moerke – M.S. 2000; Nicole Mitchell – M.S. 2002; Candice Bauer – Ph.D. 2003; Ashley Moerke – Ph.D. 2004; Jean Miesbauer – M.S. 2004; Asako Yamamuro – M.S. 2004; Michelle Evans-White – Ph.D. 2005; Anthony

Cak – M.S. 2005; James Larson (co-advised) – Ph.D. 2006; Sally Entrekin (co-advised) – Ph.D. 2008; Konrad Kulacki – Ph.D. 2009; Angela Bobeldyk – Ph.D. 2009; David Costello – Ph.D. 2010; Andrea Fowler – M.S. 2010; Janine Rueegg – Ph.D. 2011; David Janetski – Ph.D. 2012; Patrick Shirey – Ph.D. 2013; Matthew Cooper – Ph.D. 2014; Nathan Evans – Ph.D. 2016; Brandon Gerig – Ph.D. 2017; Carmella Vizza (co-advised) – Ph.D. 2018; Katherine O'Reilly – Ph.D. 2022; Whitney Conard – Ph.D. 2022; Elise Snyder (co-advised) – Ph.D. in progress; Alison Zachritz – Ph.D. in progress; Amaryllis Adey – Ph.D. in progress

Postdoctorates advised: Jason Knouft 2001-2002; Emma Rosi (co-advised) 2002-2004; Dominic Chaloner 2000-2004; Paul Frost 2002-2005; Randall Bernot 2003-2005; Aline Matsuo 2005-2006; Scott Tiegs 2006-2008; Daniele Almeida Miranda 2021-2003; Katherine O'Reilly 2022

Research Assistant Professor supervised: Dominic Chaloner 2004-2007; Daniele Almeida Miranda 2023-present

Awards and Honors to Advised Students

Amaryllis Adey – REACT Scholarship, $500 (2023); GLOBES Mini-Grant Recipient, $3000 (2023)

Candice Bauer – Clair Booth Luce Graduate Fellowship (1998-2003); Best Oral Presentation in Applied Research, North American Benthological Society, LaCrosse, WI (2001)

Angela Bobeldyk – Best Poster Presentation in Basic or Applied Research at the Annual Meeting of the North American Benthological Society in Vancouver, BC (2004); Selected Participant in *Ecosystem Ecology* Course, Institute of Ecosystem Studies, NY (2004); Downes Travel Award (2004); Best Oral Presentation Award, Indiana Lakes Management Society (2006); UND Travel Award (2006); Best Student Paper Award (runner-up), NALMS, International Lakes Management Society Meeting (2006); Graduate Fellow - *Center for Aquatic Conservation* (2007); Kaneb Teaching Assistant Award (2007); NABS President's Award (2007); Knauss Policy Fellowship (2008-2009)

Whitney Conard – ND-LEEF Research Award, $1500 (2016); GLOBES Graduate Fellow; UND GLOBES Mini-Grant Recipient, $1716 (2017); IWRRC Research Grant $15,000 (2017); Kaneb Center Outstanding Graduate Student Teaching Award (2018); UND GLOBES Mini-Grant Recipient, $3000 (2018); UND GLOBES Mini-Grant Recipient, $2500 (2019); Best Student Oral Presentation, 40th Annual Indiana Water Resources Association Symposium (2019); University of Notre Dame Center for Environmental Science and Technology (CEST) Predoctoral Fellowship (2020, 2022)

Matthew Cooper – NSF IGERT-Globes Fellowship (2009-2012); University of Notre Dame Presidential Graduate Fellowship (2009-2014); Highly-cited paper award (co-author) – *Journal of Great Lakes Research* (2010); NSF-IGERT Student Meeting Best Poster Award (2012); Distinguished Alumnus Award at Annis Water Resources Institute, Grand Valley State University (2015)

David Costello – UNDERC Summer Research Fellowship (2005, 2006); UND Travel Award (2005); Selected Participant in *Ecosystem Ecology* Course, Institute of Ecosystem Studies, NY (2006); Downes Travel Grant (2006), Sigma Xi Grant-in-Aid of Research (2006-2007); Best Oral Presentation in Basic Research (runner-up) at the Annual Meeting of the North American Benthological Society in Columbia, SC (2007); NABS President's Award (2007); NSF Doctoral Dissertation Improvement Grant (2008); Bayer Predoctoral Fellowship (2008); UNDERC Summer Research Fellowship (2008); Award for Excellence in Teaching, Kaneb Center for Teaching and Learning (2009).

Sally Entrekin – Selected Participant in *Ecosystem Ecology* Course, Institute of Ecosystem Studies, NY (2005); NABS President's Award (2006); Sigma Xi Grant-in-Aid of Research (2006), Gordon Travel Grant (2006); NABS Best Oral Presentation Award in Applied Research (2008)

Michelle Evans-White – NSF Graduate Research Traineeship (2000-2001); Best Oral Presentation in Basic Research, North American Benthological Society, LaCrosse, WI (2001); Summer Grant-Writing Fellowship (2002); U.S. Dept. of Education GAANN Fellowship (2002-2005); Bayer Predoctoral Research Fellowship (2003-2004); UMBS Summer Research Scholarship (2003)); Sigma Xi Grant-in-Aid of Research (2004); NABS Student Travel Award (2004); The Eli J. and Helen Shaheen Graduate School Award in Science (2006)

Nathan Evans – University of Notre Dame Center for Environmental Science and Technology (CEST) Predoctoral Fellowship (2014-2015)

Andrea Fowler – Arthur J. Schmitt Presidential Fellowship (2005-2009); UNDERC Summer Research Fellowship (2006)

Aimee Fullerton - NSF Graduate Research Traineeship (1995-1998)

Brandon Gerig – USEPA STAR Fellowship (2015-2017); International Association of Great Lakes Research-Baldwin Scholarship Runner-Up (2016); Great Lakes Fishery Commission Travel Award (2016); UND REACT Fellowship, $1500 (2017); Dolan Award for Quantitative Research, International Association of Great Lakes Research, $1500 (2017; Baldwin Scholarship, International Association of Great Lakes Research, $3000 (2017-2018)

Thomas Horvath - 2004 Richard Siegfried Junior Faculty Prize for Academic Excellence, State University College at Oneonta

David Janetski – Arthur J. Schmitt Presidential Fellowship (2006-2010); Best Oral Presentation in Applied Research at Annual Meeting of the North American Benthological Society in Columbia, SC (2007); Skinner Award (Honorable Mention) - American Fisheries Society (2010); Bayer Predoctoral Fellowship (2010)

Konrad Kulacki – U.S. Dept. of Education GAANN Fellowship (2003-2005); Best Oral Paper Award, Ohio Valley Chapter of SETAC (2006); UNDERC Summer Research Fellowship (2008); Best Student Presentation, Ohio Valley Chapter of SETAC (2008)

James Larson – UNDERC Summer Research Fellowship (2004); U.S. Dept. of Education GAANN Fellowship (2003-2005); Indiana Academy of Sciences Grant-in-Aid of Research (2005); Bayer Predoctoral Fellowship (2005-2006); Best Oral Paper Award, Ohio Valley Chapter of SETAC (2006)

Natalie Levesque – Schmitt Presidential Fellow, University of Notre Dame (2018-2023); GLOBES Graduate Fellow (2019-present); UND GLOBES Mini-Grant Recipient, $2500 (2019); UND REACT Travel Grant for Data Science, $1250 (2019); UND GLOBES Mini-Grant Recipient, $1250 (2021)

Jean Miesbauer – UNDERC Summer Research Fellowship (2002)

Ashley Moerke - Finalist, Proctor & Gamble Co. Research Award (1999); NSF Graduate Research Traineeship (2000-2001); Kaneb Outstanding Teaching Assistant Award (2001); Bayer Predoctoral Research Fellowship (2002-2003); Associate Fisheries Professional Certification (2003), Warner-Lambert Fellowship (2003-2004); NABS Presidents' Award (2004), Graduate Teaching Achievement Award (2004), DIALOG participant (2005), Excellence in Academic Advising Award (2010-2011), Michigan Distinguished Professor of the Year Nominee (2012), LSSU Distinguished Teaching Award (2011-2012).

Katherine O'Reilly – Best Student Research Poster Award, State of Lake Michigan/Great Lakes Beach Association (SOLM/GLBA) Annual Meeting (2015); GLOBES Graduate Fellow; SFS Travel Award (2016); ND-LEEF Research Award, $1500 (2016); SFS General Endowment Award (2016); IAGLR Student Travel Award (2016); Bayer Predoctoral Fellowship (2017); Outstanding Graduate Student Teacher Award, University of Notre Dame Kaneb Center for Teaching and Learning (2017); Founding Treasurer of the American Fisheries Society's Science Communication Section (2017); Norman S. Baldwin Fishery Science Scholarship, International Association for Great Lakes Research, $3000 (2017); NOAA-National Sea Grant Knauss Marine Policy Fellowship (2018-2019); UND GLOBES Mini-Grant Recipient, $2500 (2019)

Janine Rueegg - Selected Participant in *Ecosystem Ecology* Course, Institute of Ecosystem Studies, NY (2008); NABS President's Award (2008); Bayer Predoctoral Fellowship (2009); Award for Excellence in Teaching, Kaneb Center for Teaching and Learning (2010)

Patrick Shirey – NSF IGERT-Globes Fellowship (2007-2011); Center for Aquatic Conservation Fellowship (2009); Graduate Student Policy Award from the Ecological Society of America (2010); GLOBES Fellow Representative to NSF IGERT 2010 Project Meeting; Skinner Memorial Award from American Fisheries Society (2010); CEST Bayer Predoctoral Fellowship (2011-12); ESA Emerging Issues Conference Travel Award (2012); NPS George M. Wright Climate Change Fellowship (2012); 2016 Emerging Leaders Mentorship Award from the American Fisheries Society

Elise Snyder – GLOBES Mini-grant Recipient, $3000 (2022, 2023); Best Student Poster Presentation, Society for Freshwater Science Annual Meeting (2022)

Robert Stelzer - Best Poster at Annual Meeting of the North American Benthological Society, Kalispell, MT (1996); Indiana Academy of Science Research Award (1996, 1997); UND Navari Graduate Fellowship (1995); NSF Doctoral Dissertation Improvement Grant (1997); NSF Graduate Research Traineeship (1998-1999); The Eli J. and Helen Shaheen Graduate School Award in Science (2000); TRISS Endowed Professorship at the University of Wisconsin – Oshkosh (2015).

Eric Strauss - NSF Graduate Research Traineeship (1995-2000); NSF Doctoral Dissertation Improvement Grant (1997)

Danielle Tillman – Clare Booth Luce Graduate Fellowship (1992-1997); NSF Graduate Research Fellowship (1993-1998); Selected Participant in *Ecosystem Ecology* Course, Institute of Ecosystem Studies, NY (2013)

Carmella Vizza – Dean's Fellowship (2012-2017); Downes Memorial Fund Award for Professional Development (2012); Scholarship Recipient for *Ecosystem Ecology* Course, Institute of Ecosystem Studies, NY (2013); Endowment Research Award from Society for Freshwater Science (2013); NSF Graduate Research Fellowship (2013-2016); UND GSU Travel Award (2016); UND Nominee for the Midwestern Association of Graduate Schools Excellence in Teaching Award (2018); Kaneb Center Outstanding Graduate Student Teaching Award (2018)

Asako Yamamuro – Notre Dame Diversity Graduate Fellowship (2001-2003); UNDERC Summer Research Fellowship (2002)

Alison Zachritz – UND GLOBES Mini-Grant Recipient, $2500 (2021, 2022, 2023); Eppley Foundation Grant-in-Aid, $27,500 (2022); USGS-WRRI 104b Grant Recipient $25,000 (2022); Cary Institute Ecosystem Science course scholarship (2022, deferred to 2023); Outstanding Graduate Student Leader of the Year, Honorable Mention (2023)

Placement of Advised Graduate Students and Postdoctorates

Graduate Student	Degree, Yr	Current Employer	Current Position
Patrice Charlebois	M.S., 1994	Illinois-Indiana Sea Grant	Outreach Program Leader
Steven Hurley	M.S., 1994	U.S. Fish & Wildlife Service	Fisheries Biologist
Cynthia Tait	Ph.D., 1997	U.S.D.A. Forest Service (Ret.)	Regional Aquatic Ecologist
Thomas Horvath	Ph.D., 1997	Cal State Univ. – Monterey	Associate Dean
Aimee Fullerton	M.S., 1998	Natl. Marine Fisheries Service	Research Scientist
Robert Stelzer	Ph.D., 1999	U. of Wisconsin – Oshkosh	Professor
Danielle Tillman	Ph.D., 1999	NOAA – OAR/OPPE	Physical Scientist
Eric Strauss	Ph.D., 2000	U. of Wisconsin – La Crosse	Professor
Nicole Mitchell	M.S., 2002	Earlham College	Biology Instructor
Candice Bauer	Ph.D., 2003	USEPA – Region 5	Research Scientist
Ashley Moerke	Ph.D., 2004	Lake Superior State University	Dean
Jean Cordova	M.S., 2004	CDOT (Colorado)	Water Quality Manager
Asako Yamamuro	M.S., 2004	USFS – Region 6/PNWRS	Conservation Biologist
Anthony Cak	M.S., 2005	CUNY – ASRC	Associate Director
Michelle Evans-White	Ph.D., 2005	University of Arkansas	Professor
James Larson	Ph.D., 2006	USGS UMESC	Research Biologist
Sally Entrekin	Ph.D., 2008	Virginia Tech	Associate Professor
Konrad Kulacki	Ph.D., 2009	Exponent Inc.	Senior Scientist
David Costello	Ph.D., 2009	Kent State University	Associate Professor
Angela Bobeldyk	Ph.D., 2009	US Army Corps of Engineers	Program Manager
Andrea Fowler	M.S., 2010	City of Milwaukee	Environmental Attorney
Janine Rueegg	Ph.D., 2011	Université de Lausanne	Research Scientist
David Janetski	Ph.D., 2012	Indiana University of PA	Associate Professor
Patrick Shirey	Ph.D., 2013	University of Pittsburgh	Assistant Professor
Matthew Cooper	Ph.D., 2014	Grand Valley State University	Assistant Professor
Nathan Evans	Ph.D., 2016	USFWS – Great Lakes Region	Lead Biologist/Station Mgr.
Brandon Gerig	Ph.D., 2017	National Park Service	Research Coordinator
Carmella Vizza	Ph.D., 2018	Hawaii Pacific Univ.	Assistant Professor
Katherine O'Reilly	Ph.D., 2022	Illinois-Indiana Sea Grant	Invasive Species Specialist
Whitney Conard	Ph.D., 2022	USEPA – Region 10	Research Scientist

Postdoctorate	Current Employer	Current Position
Jason Knouft	St. Louis University	Professor
Dominic Chaloner	University of Notre Dame	Teaching Professor
Emma Rosi	Cary Institute of Ecosystem Studies	Senior Scientist

Paul Frost	Trent University	Chaired Professor
Randall Bernot	Ball State University	Associate Professor
Aline Matsuo	Yale School of Medicine	Associate Research Scientist
Scott Tiegs	Oakland University	Professor
Daniele Miranda	University of Notre Dame	Research Assistant Professor
Katherine O'Reilly	Illinois-Indiana Sea Grant (NOAA)	Invasive Species Specialist

Scholarly Presentations (number only; full list provided upon request)

Invited Seminars, Addresses, and Lectures: 70
Invited Symposium Contributions (Presenting author): 30
Invited Symposium Contributions (Co-author): 20
Symposia Organized: 11
Contributed Papers (Presenting Author): 35
Contributed Papers and Posters (Co-Author): ~400

PUBLICATIONS

Refereed Journal Papers (Current Google Scholar h-index = 72)

*advised graduate student; #advised undergraduate student; ^advised postdoctorate; +other student

1. **Lamberti, G.A.,** and V.H. Resh. 1979. Substrate relationships, spatial distribution patterns, and sampling variability in a stream caddisfly population. *Environmental Entomology* 8:561-567.

2. Rosenberg, D.M., and 13 others including **G.A. Lamberti**. 1981. Recent trends in environmental impact assessment. *Canadian Journal of Fisheries and Aquatic Sciences* 38:591-624.

3. Resh, V.H., T.S. Flynn, **G.A. Lamberti**, E.P. McElravy, K.L. Sorg, and J.R. Wood. 1981. Responses of the sericostomatid caddisfly *Gumaga nigricula* (McL.) to environmental disruptions. *Series Entomologica* (The Hague) 20:311-318.

4. **Lamberti, G.A.,** and V.H. Resh. 1983. Stream periphyton and insect herbivores: an experimental study of grazing by a caddisfly population. *Ecology* 64:1124-1135. doi.org/10.2307/1937823

5. **Lamberti, G.A.,** and V.H. Resh. 1983. Geothermal effects on stream benthos: separate influences of thermal and chemical components on periphyton and macroinvertebrates. *Canadian Journal of Fisheries and Aquatic Sciences* 40:1995-2009. https://doi.org/10.1139/f83-229

6. Resh, V.H., **G.A. Lamberti**, and J.R. Wood. 1984. Biology of the caddisfly *Helicopsyche borealis* (Hagen): a comparison of North American populations. *Freshwater Invertebrate Biology* 3:172-180.

7. Resh, V.H., **G.A. Lamberti**, and J.R. Wood. 1984. Biological studies of *Helicopsyche borealis* (Hagen) in a coastal California stream. *Series Entomologica* (The Hague) 30:315-319.

8. **Lamberti, G.A.,** and V.H. Resh. 1985. Comparability of introduced tiles and natural substrates for sampling lotic bacteria, algae, and macroinvertebrates. *Freshwater Biology* 15:21-30. doi.org/10.1111/j.1365-2427.1985.tb00693.x

9. **Lamberti, G.A.,** and V.H. Resh. 1985. Distribution of benthic algae and macroinvertebrates along a geothermal stream gradient. *Hydrobiologia* 128:13-21. https://link.springer.com/article/10.1007/BF00008935

10. Schwan, T.G., and **G.A. Lamberti**. 1986. Influence of oxygen concentration on the respiratory behavior of tilapia (*Sarotherodon alcalicus grahami)* in Lake Nakuru, Kenya. *African Journal of Ecology* 24:199-202.

11. **Lamberti, G.A.,** and V.H. Resh. 1987. Seasonal patterns of suspended bacteria and algae in two northern California streams. *Archives fur Hydrobiologie* 110:45-57.

12. **Lamberti, G.A.**, J.W. Feminella, and V.H. Resh. 1987. Herbivory and intraspecific competition in a stream caddisfly population. *Oecologia* 73:75-81. https://link.springer.com/article/10.1007/BF00376980

13. **Lamberti, G.A.**, L.R. Ashkenas, S.V. Gregory, and A.D. Steinman. 1987. Effects of three herbivores on periphyton communities in laboratory streams. *Journal of the North American Benthological Society* 6:92-104.

14. Steinman, A.D., C.D. McIntire, S.V. Gregory, **G.A. Lamberti**, and L.R. Ashkenas. 1987. Effects of herbivore type and density on taxonomic structure and physiognomy of algal assemblages in laboratory streams. *Journal of the North American Benthological Society* 6:175-188.

15. Steinman, A.D., and **G.A. Lamberti**. 1988. Lotic algal communities in the Mt. St. Helens region six years following the eruption. *Journal of Phycology* 24:482-489.

16. McElravy, E.P., **G.A. Lamberti**, and V.H. Resh. 1989. Year-to-year variation in the aquatic macroinvertebrate fauna of a northern California stream. *Journal of the North American Benthological Society* 8:51-63.

17. Steinman. A.D., C.D. McIntire, S.V. Gregory, and **G.A. Lamberti**. 1989. Effects of irradiance and grazing on lotic algal assemblages. *Journal of Phycology* 25:478-485.

18. **Lamberti, G.A.**, S.V. Gregory, L.R. Ashkenas, A.D. Steinman, and C.D. McIntire. 1989. Productive capacity of periphyton as a determinant of plant-herbivore interactions in streams. *Ecology* 70:1840-1856. https://doi.org/10.2307/1938117

19. Stream Solute Workshop (19 authors including **G.A. Lamberti**). 1990. Concepts and methods for assessing solute dynamics in stream ecosystems. *Journal of the North American Benthological Society* 9:95-119.

20. DeNicola, D.M., C.D. McIntire, **G.A. Lamberti**, S.V. Gregory, and L.R. Ashkenas. 1990. Temporal patterns of grazer-periphyton interactions in laboratory streams. *Freshwater Biology* 23:475-489.

21. **Lamberti, G.A.**, S.V. Gregory, L.R. Ashkenas, R.C. Wildman, and K.M.S. Moore. 1991. Stream ecosystem recovery following a catastrophic debris flow. *Canadian Journal of Fisheries and Aquatic Sciences* 48:196-208. doi.org/10.1139/f91-027

22. Bergey, E.A., S.S. Balling, J.N. Collins, **G.A. Lamberti**, and V.H. Resh. 1992. Bionomics of invertebrates within an extensive *Potamogeton pectinatus* bed of a California marsh. *Hydrobiologia* 234:15-24.

23. **Lamberti**, **G.A.**, S.V. Gregory, C.P. Hawkins, R.C. Wildman, L.R. Ashkenas, and D.M. DeNicola. 1992. Plant-herbivore interactions in streams near Mount St. Helens. *Freshwater Biology* 27:237-247. (*Note: Cover Featured Article*)

24. +Pearsons, T.N., H.W. Li, and **G.A. Lamberti**. 1992. Influence of habitat complexity on resistance to flooding and resilience of stream fish assemblages. *Transactions of the American Fisheries Society* 121:427-436.

25. #Ehrman, T.P., and **G.A. Lamberti**. 1992. Hydraulic and particulate matter retention in a 3rd-order Indiana stream. *Journal of the North American Benthological Society* 11:341-349.

26. *Tait, C.K., +J.L. Li, **G.A. Lamberti**, +T.N. Pearsons, and H.W. Li. 1994. Relationships between riparian cover and the community structure of high desert streams. *Journal of the North American Benthological Society* 13:45-56.

27. Li, H.W., **G.A. Lamberti**, +T.N. Pearsons, *C.K. Tait, +J.L. Li, and J.C. Buckhouse. 1994. Cumulative effects of riparian disturbances on high desert trout streams of the John Day Basin, Oregon. *Transactions of the American Fisheries Society* 123:627-640.

28. **Lamberti, G.A.**, and M.B. Berg. 1995. Invertebrates and other benthic features as indicators of environmental change in Juday Creek, Indiana. *Natural Areas Journal* 15:249-258.

29. **Lamberti, G.A.**, S.V. Gregory, L.R. Ashkenas, J.L. Li, A.D. Steinman and C.D. McIntire. 1995. Influences of grazer type and abundance on plant-herbivore interactions in streams. *Hydrobiologia* 306:179-188.

30. #Maloney, D.C., and **G.A. Lamberti**. 1995. Rapid decomposition of summer-input leaves in a northern Michigan stream. *American Midland Naturalist* 133:184-195.

31. *Horvath, T.G., **G.A. Lamberti**, D.M. Lodge, and +W.L. Perry. 1996. Zebra mussels in lake-stream systems: source-sink dynamics? *Journal of the North American Benthological Society* 15:564-575.

32. *Charlebois, P.M., and **G.A. Lamberti**. 1996. Invading crayfish in a Michigan stream: direct and indirect effects on periphyton and macroinvertebrates. *Journal of the North American Benthological Society* 15:551-563.

33. +Perry, W.L., D.M. Lodge, and **G.A. Lamberti**. 1997. Impact of crayfish predation on exotic zebra mussels and native invertebrates in a lake-outlet stream. *Canadian Journal of Fisheries and Aquatic Sciences* 54:120-125.

34. **Lamberti, G.A**., and A.D. Steinman. 1997. A comparison of primary production in stream ecosystems. *Journal of the North American Benthological Society* 16:95-104.

35. *Horvath, T.G., and **G.A. Lamberti**. 1997. Drifting macrophytes as a mechanism for zebra mussel (*Dreissena polymorpha*) invasion of lake-outlet streams. *American Midland Naturalist* 138:29-36.

36. *Fullerton, A.H., **G.A. Lamberti**, D.M. Lodge, and M.B. Berg. 1998. Prey preferences of Eurasian ruffe and yellow perch: comparison of laboratory results with composition of Great Lakes benthos. *Journal of Great Lakes Research* 24:319-328.

37. *Horvath, T.G., and **G.A. Lamberti**. 1999. Recruitment and growth of zebra mussels (*Dreissena polymorpha*) in a coupled lake-stream system. *Archives fur Hydrobiologie* 145:197-217.

38. *Horvath, T.G., and **G.A. Lamberti**. 1999. Mortality of zebra mussel, *Dreissena polymorpha* (Pallas), veligers during downstream transport. *Freshwater Biology* 41:1-8.

39. *Horvath, T.G., #K.M. Martin, and **G.A. Lamberti**. 1999. Effect of zebra mussels, *Dreissena polymorpha*, on macroinvertebrates in a lake-outlet stream. *American Midland Naturalist* 142:340-347.

40. *Stelzer, R.S., and **G.A. Lamberti**. 1999. Independent and interactive effects of crayfish and darters on a stream benthic community. *Journal of the North American Benthological Society* 18:524-532.

41. +Lewis, K.M., J.L. Feder, and **G.A. Lamberti**. 2000. Population genetics of the zebra mussel, *Dreissena polymorpha* (Pallas): Local allozyme differentiation within Midwestern lakes and streams. *Canadian Journal of Fisheries and Aquatic Sciences* 57:637-643.

42. *Fullerton, A.H., **G.A. Lamberti**, D.M. Lodge, and F.W. Goetz. 2000. Potential for resource competition between Eurasian ruffe and yellow perch: growth and RNA responses in laboratory experiments. *Transactions of the American Fisheries Society* 129:1331-1339.

43. *Strauss, E.A., and **G.A. Lamberti**. 2000. Regulation of nitrification in aquatic sediments by organic carbon. *Limnology and Oceanography* 45:1854-1859. doi.org/10.4319/lo.2000.45.8.1854

44. +Lewis, K.M., J.L. Feder, *T.G. Horvath, and **G.A. Lamberti**. 2000. Heterozygosity and fitness: no strong association in Great Lakes populations of the zebra mussel, *Dreissena polymorpha* (Pallas). *Malacologica* 42:113-122.

45. +Perry, W.L., D.M. Lodge, and **G.A. Lamberti**. 2000. Crayfish (*Orconectes rusticus*) impacts on zebra mussel (*Dreissena polymorpha*) recruitment, other macroinvertebrates and algal biomass in a lake-outlet stream. *American Midland Naturalist* 144:308-316.

46. *Stelzer, R.S., and **G.A. Lamberti**. 2001. Effects of N:P ratio and total nutrient concentration on stream periphyton community structure, biomass, and elemental composition. *Limnology and Oceanography* 46:356-367. doi.org/10.4319/lo.2001.46.2.0356

47. *Strauss, E.A., and **G.A. Lamberti**. 2002. Effect of dissolved organic carbon quality on microbial decomposition and nitrification rates in stream sediments. *Freshwater Biology* 47:65-74.

48. *Stelzer, R.S., and **G.A. Lamberti**. 2002 . Ecological stoichiometry in running waters: periphyton chemical composition and snail growth. *Ecology* 83:1039-1051.

49. *Strauss, E.A., *N.L. Mitchell, and **G.A. Lamberti**. 2002. Factors regulating nitrification in aquatic sediments: effects of organic carbon, nitrogen availability, and pH. *Canadian Journal of Fisheries and Aquatic Sciences* 59:554-563.

50. ^Chaloner, D.T., #K.M. Martin, M.S. Wipfli, P.H. Ostrom, and **G.A. Lamberti**. 2002. Marine carbon and nitrogen isotopes in southeastern Alaska stream food webs: evidence from artificial and natural streams. *Canadian Journal of Fisheries and Aquatic Sciences* 59:1257-1265.

51. ^Frost, P.C., *R.S. Stelzer, **G.A. Lamberti**, and J.J. Elser. 2002. Ecological stoichiometry of trophic interactions in the benthos: Understanding the role of C:N:P ratios in littoral and lotic habitats. *Journal of the North American Benthological Society* 21:515-528.

52. +Kolar, C.S., *A.H. Fullerton, #K.M. Martin, and **G.A. Lamberti**. 2002. Influence of zebra mussels on interactions of Eurasian ruffe, yellow perch, and invertebrate prey. *Journal of Great Lakes Research* 28:664-673.

53. Leung, B., D.M. Lodge, D. Finnoff, J.F. Shogren, M.A. Lewis, and **G.A. Lamberti**. 2002. An ounce of prevention or a pound of cure: bioeconomic risk analysis of invasive species. *Proceedings of the Royal Society of London, Series B.* 269:2407-2413. doi.org/10.1098/rspb.2002.2179

54. *Tillman, D.C., *A.H. Moerke, #C.L. Ziehl and **G.A. Lamberti**. 2003. Subsurface hydrology and degree of burial affect mass loss and invertebrate colonization of leaves in a woodland stream. *Freshwater Biology* 48:98-107. (*Note: Cover Featured Article*).

55. *Moerke, A.H., and **G.A. Lamberti**. 2003. Responses in fish community structure to restoration of two Indiana streams. *North American Journal of Fisheries Management* 23:748-759.

56. *Bauer, C.R., +C.H. Kellogg, S.D. Bridgham, and **G.A. Lamberti**. 2003. Mycorrhizal colonization across hydrologic gradients in restored and reference freshwater wetlands. *Wetlands* 23:961-968.

57. *Moerke, A.H., and **G.A. Lamberti**. 2004. Restoring stream ecosystems: Lessons from a Midwestern state. *Restoration Ecology* 12:327-334. doi.org/10.1111/j.1061-2971.2004.0340.x

58. ^Chaloner, D.T., **G.A. Lamberti**, R.W. Merritt, *N.L. Mitchell, P.H. Ostrom, and M.S. Wipfli. 2004. Variation in responses to spawning Pacific salmon among three southeastern Alaska streams. *Freshwater Biology* 49:587-599.

59. *Moerke, A.H., +K.J. Gerard, +J.A. Latimore, R.A. Hellenthal, and **G.A. Lamberti**. 2004. Restoration of an Indiana, USA, stream: Bridging the gap between basic and applied lotic ecology. *Journal of the North American Benthological Society* 23:647-660.

60. *Mitchell, N.L., and **G.A. Lamberti**. 2005. Responses in dissolved nutrients and epilithon abundance to spawning salmon in Southeast Alaska streams. *Limnology and Oceanography* 50:217-227.

61. ^Bernot, R.J., M.A. Brueseke, *M.A. Evans-White, and **G.A. Lamberti**. 2005. Acute and chronic toxicity of imidazolium-based ionic liquids on *Daphnia magna*. *Environmental Toxicology and Chemistry* 24: 87-92. doi.org/10.1897/03-635.1

62. ^Bernot, R.J., #E.E. Kennedy, and **G.A. Lamberti**. 2005. Effects of ionic liquids on the survival, movement, and feeding behavior of the freshwater snail, *Physa acuta*. *Environmental Toxicology and Chemistry* 24:1759-1765.

63. *Evans-White, M.A., and **G.A. Lamberti**. 2005. Grazer species effects on epilithon nutrient composition. *Freshwater Biology* 50:1853-1863.

64. *Evans-White, M.A., *R.S. Stelzer, and **G.A. Lamberti**. 2005. Taxonomic and regional patterns in benthic macroinvertebrate elemental composition in streams. *Freshwater Biology* 50:1786-1799.

65. ^Frost, P.C., *J.H. Larson, #L.E. Kinsman, **G.A. Lamberti**, and S.D. Bridgham. 2005. Attenuation of ultraviolet radiation in streams of northern Michigan. *Journal of the North American Benthological Society* 24:246-255.

66. *Bobeldyk, A.M., J.M. Bossenbroek, *M.A. Evans-White, D.M. Lodge, and **G.A. Lamberti**. 2005. Secondary spread of zebra mussels (*Dreissena polymorpha*) in coupled lake-stream systems. *Ecoscience* 12:339-346.

67. *Fullerton, A.H., and **G.A. Lamberti**. 2006. A comparison of habitat use and habitat-specific feeding efficiency by Eurasian ruffe (*Gymnocephalus cernuus*) and yellow perch (*Perca flavescens*). *Ecology of Freshwater Fish* 15:1-9.

68. ^Frost, P.C., *J.H. Larson, C.A. Johnston, +K.C. Young, P.A. Maurice, **G.A. Lamberti**, D.M. Lodge, and S.E. Bridgham. 2006. Landscape predictors of stream dissolved organic matter concentration and physiochemistry in a Lake Superior river watershed. *Aquatic Sciences* 68:40-51.

69. ^Rosi-Marshall, E.J., *A.H. Moerke, and **G.A. Lamberti**. 2006. Ecological responses to trout habitat rehabilitation in a northern Michigan stream. *Environmental Management* 38:99-107.

70. *Moerke, A.H., and **G.A. Lamberti**. 2006. Scale-dependent influences on water quality, habitat, and fish communities in streams of the Kalamazoo River Basin, Michigan (USA). *Aquatic Sciences* 68:193-205.

71. ^Frost P.C., #A. Mack, *J.H. Larson, S.D. Bridgham, and **G.A. Lamberti**. 2006. Environmental controls of UV-B radiation in forested streams of northern Michigan. *Photochemistry and Photobiology* 82:781-786.

72. *Evans-White, M.A., and **G.A. Lamberti**. 2006. Stoichiometry of consumer-driven nutrient recycling across nutrient regimes in streams. *Ecology Letters* 9:1186-1197.

73. *Moerke, A.H., and **G.A. Lamberti**. 2006. Relationships between land use and stream ecosystems: a multistream assessment in southwestern Michigan. In: R.M. Hughes, L. Wang, and P.W. Seelbach (eds.) Landscape Influences on Stream Habitats and Biological Assemblages. *American Fisheries Society Symposium* 48:323-338.

74. *Cordova, J.M., ^E.J. Rosi-Marshall, *A.M. Yamamuro, and **G.A. Lamberti**. 2007. Quantity, controls and functions of large woody debris in Midwestern USA streams. *River Research and Applications* 23:21-33.

75. *Larson, J.H., ^P.C. Frost, Z. Zheng, C.A. Johnston, S.D. Bridgham, D.M. Lodge, and **G.A. Lamberti**. 2007. Effects of upstream lakes on dissolved organic matter in streams. *Limnology and Oceanography* 52:60-69.

76. ^Frost, P.C., C.T. Cherrier, *J.H. Larson, S.D. Bridgham, and **G.A. Lamberti**. 2007. Effects of dissolved organic matter and ultraviolet radiation on the accrual, stoichiometry and algal taxonomy of stream periphyton. *Freshwater Biology* 52:319-330.

77. *Bauer, C.R., *A.M. Bobeldyk, and **G.A. Lamberti**. 2007. Predicting habitat use and trophic interactions of Eurasian ruffe, round gobies, and zebra mussels in nearshore areas of the Great Lakes. *Biological Invasions* 9:667-678. doi.org/10.1007/s10530-006-9067-8

78. *Yamamuro, A.M., and **G.A. Lamberti**. 2007. Influence of organic matter on invertebrate colonization of sand substrate in a northern Michigan stream. *Journal of the North American Benthological Society* 26:244-252. https://doi.org/10.1899/0887-3593(2007)26[244:IOOMOI]2.0.CO;2

79. ^Chaloner, D.T., **G.A. Lamberti**, *A.D. Cak, *N.L. Blair, and R.T. Edwards. 2007. Inter-annual variation in the water chemistry and epilithon responses to Pacific salmon spawners in an Alaskan stream. *Freshwater Biology* 52:478-490. https://doi.org/10.1111/j.1365-2427.2006.01715.x

80. *Larson, J.H., ^P.C. Frost, D.M. Lodge, and **G.A. Lamberti**. 2007. Photodegradation of dissolved organic matter in forested streams of the northern Great Lakes region. *Journal of the North American Benthological Society* 26:416-425. https://doi.org/10.1899/06-097.1

81. +Hoellein, T.J., J.L. Tank, ^E.J. Rosi-Marshall, *S.A. Entrekin, and **G.A. Lamberti**. 2007. Controls on spatial and temporal variation of nutrient uptake in three Michigan headwater streams. *Limnology and Oceanography* 52:1964-1977. https://doi.org/10.4319/lo.2007.52.5.1964

82. *Kulacki, K.J., ^D.T. Chaloner, *D.M. Costello, +K.M. Docherty, *J.H. Larson, ^R.J. Bernot, M.A. Brueseke, C.F. Kulpa Jr., and **G.A. Lamberti**. 2007. Aquatic toxicity and biodegradation of ionic liquids: A synthesis. *Chemistry Today* (Chimica Oggi) 25 (suppl. 6):32-36

83. Johnston, C.A., B.A. Shmagin, ^P.C. Frost, C. Cherrier, *J.H. Larson, **G.A. Lamberti**, and S.D. Bridgham. 2008. Wetland types and wetland maps differ in ability to predict dissolved organic carbon concentrations in streams. *Science of the Total Environment* 404:326-334. https://doi.org/10.1016/j.scitotenv.2007.11.005

84. *Kulacki, K.J., and **G.A. Lamberti**. 2008. Toxicity of imidazolium ionic liquids to freshwater algae. *Green Chemistry* 10:104-110. https://doi.org/10.1039/B709289J

85. ^Tiegs, S.D., ^D.T. Chaloner, +P. Levi, *J. Rueegg, J.L. Tank and **G.A. Lamberti**. 2008. Timber harvest transforms ecological roles of salmon in Southeast Alaska rainforest streams. *Ecological Applications* 18:4-11. (*Note: Cover Featured Article*) doi.org/10.1890/07-0655.1

86. *Bernot, R.J., and **G.A. Lamberti**. 2008. Indirect effects of a parasite on a benthic community: An experiment with trematodes, snails, and periphyton. *Freshwater Biology* 53:322-329. https://doi.org/10.1111/j.1365-2427.2007.01896.x

87. *Larson, J.H., ^P.C. Frost, and **G.A. Lamberti**. 2008. Variable toxicity of ionic liquids to *Lemna minor* and the influence of dissolved organic matter. *Environmental Toxicology and Chemistry* 27:676-681. doi.org/10.1897/06-540.1

88. *Cak, A.D., ^D.T. Chaloner, and **G.A. Lamberti**. 2008. Effects of spawning salmon on dissolved nutrients and epilithon in coupled stream-estuary systems of southeastern Alaska. *Aquatic Sciences* 70:69-178. doi.org/10.1007/s00027-008-8090-5

89. *Bobeldyk, A.M., and **G.A. Lamberti**. 2008. A decade after invasion: Evaluating the continuing effects of rusty crayfish on a Michigan river. *Journal of Great Lakes Research* 34:265-275. doi.org/10.3394/0380-1330(2008)34[265:ADAIET]2.0.CO;2

90. *Entrekin, S.A., J.L. Tank, ^E.J. Rosi-Marshall, +T.J. Hoellein, and **G.A. Lamberti**. 2008. Responses in organic matter accumulation and processing to an experimental wood addition in three headwater streams. *Freshwater Biology* 53:1642-1657. doi.org/10.1111/j.1365-2427.2008.01984.x

91. *Cordova, J.M., ^E.J. Rosi-Marshall, J.L. Tank, and **G.A. Lamberti**. 2008. Coarse particulate organic matter transport in low-gradient streams of the Upper Peninsula of Michigan. *Journal of the North American Benthological Society* 27:760-771. doi.org/10.1899/06-119.1

92. *Costello, D.M., and **G.A. Lamberti**. 2008. Non-native earthworms in riparian soils increase nitrogen flux into adjacent aquatic ecosystems. *Oecologia* 158:499-510. doi.org/10.1007/s00442-008-1149-0

93. *Evans-White, M.A., and **G.A. Lamberti**. 2009. Direct and indirect effects of a potential aquatic contaminant on grazer-algae interactions. *Environmental Toxicology and Chemistry* 28:418-426. doi.org/10.1897/07-586.1

94. *Janetski, D.J., ^D.T. Chaloner, S.D. Tiegs, and **G.A. Lamberti**. 2009. Pacific salmon effects on stream ecosystems: a quantitative synthesis. *Oecologia* 159:583-95. doi.org/10.1007/s00442-008-1249-x

95. *Costello, D.M., #L.M. Brown, and **G.A. Lamberti**. 2009. Acute toxic effects of ionic liquids on zebra mussel (*Dreissena polymorpha*) survival and feeding. *Green Chemistry* 11:548-553. pubs.rsc.org/en/content/articlelanding/2009/gc/b822347e

96. *Entrekin, S.A., J.L. Tank, ^E.J. Rosi-Marshall, +T.J. Hoellein, and **G.A. Lamberti**. 2009. Responses of secondary production by macroinvertebrates to large wood addition in three Michigan streams. *Freshwater Biology* 54:1741-1748. doi.org/10.1111/j.1365-2427.2009.02223.x

97. ^Tiegs, S.D., +E.Y. Campbell, +P.S. Levi, *J. Rüegg, M.E. Benbow, ^D.T. Chaloner, R.W. Merritt, J.L. Tank and **G.A. Lamberti**. 2009. Separating physical disturbance and nutrient enrichment caused by Pacific salmon in stream ecosystems. *Freshwater Biology* 54:1864-1875. doi.org/10.1111/j.1365-2427.2009.02232.x

98. *Costello, D.M., and **G.A. Lamberti**. 2009. Biological and physical effects of non-native earthworms on nitrogen cycling in riparian soils. *Soil Biology & Biochemistry* 41:2230-2235. doi.org/10.1016/j.soilbio.2009.08.007

99. **Lamberti, G.A.**, D.T. Chaloner, and A.E. Hershey. 2010. Linkages among aquatic ecosystems. *Journal of the North American Benthological Society* 29:245-263. https://doi.org/10.1899/08-166.1

100. *Bobeldyk, A.M., and **G.A. Lamberti**. 2010. Stream food web responses to a large omnivorous invader, *Orconectes rusticus* (Decapoda, Cambaridae). *Crustaceana* 83:641-657. https://www.jstor.org/stable/27822641

101. *Shirey, P.D., and **G.A. Lamberti**. 2010. Assisted colonization under the U.S. Endangered Species Act. *Conservation Letters* 3:45-52. doi.org/10.1111/j.1755-263X.2009.00083.x

102. #Sena, D.W., *K.J. Kulacki, D.T. Chaloner, and **G.A. Lamberti**. 2010. The role of the cell wall in the susceptibility of *Chlamydomonas reinhardtii* to ionic liquids. *Green Chemistry* 12:1066-1071. doi.org/10.1039/C000899K

103. *Costello, D.M., ^S.D. Tiegs, and **G.A. Lamberti**. 2011. Do non-native earthworms in Southeast Alaska use streams as invasional corridors in watersheds harvested for timber? *Biological Invasions* 13:177-187. doi.org/10.1007/s10530-010-9800-1

104. *Janetski, D.J., A. H. Moerke, D.T. Chaloner, and **G.A. Lamberti**. 2011. Spawning salmon increase brook trout movements in a Lake Michigan tributary. *Ecology of Freshwater Fish:* 20: 209-219. doi.org/10.1111/j.1600-0633.2010.00479.x

105. *Rüegg, J., ^S.D. Tiegs, D.T. Chaloner, +P.S. Levi, J.L. Tank, and **G.A. Lamberti**. 2011. Salmon subsidies alleviate nutrient limitation of benthic biofilms in Southeast Alaska streams. *Canadian Journal of Fisheries and Aquatic Sciences* 68:277-287. doi.org/10.1139/F10-145

106. *Shirey, P.A., and **G.A. Lamberti**. 2011. Regulate trade in rare plants. *Nature* 469:465-467. doi.org/10.1038/469465a

107. +Campbell, E.Y., M.E. Benbow, ^S.D. Tiegs, J.P. Hudson, **G. A. Lamberti**, and R. W. Merritt. 2011. Timber harvest intensifies spawning-salmon disturbance of macroinvertebrates in Southeast Alaska streams. *Journal of the North American Benthological Society:* 30:49-59. doi.org/10.1899/10-040.1

108. ^Tiegs, S.D., +P.S. Levi, *J. Rüegg, D.T. Chaloner, J.L. Tank, and **G.A. Lamberti**. 2011. Ecological effects of live salmon exceed those of carcasses during an annual spawning migration. *Ecosystems* 14:598-614. doi.org/10.1111/j.1365-2427.2004.01213.x

109. Resh, V.H., M. Hannaford, J.K. Jackson, **G.A. Lamberti**, and P.K. Mendez. 2011. The biology of the limnephilid caddisfly *Dicosmoescus gilvipes* (Hagen) in Northern California and Oregon (USA) streams. *Zoosymposia* 5:413-419.

110. *Kulacki, K.J., D.T. Chaloner, *J.H. Larson, *D.M. Costello, *M.A. Evans-White, +K.M. Docherty, ^R.J. Bernot, M.A. Brueseke, C.F. Kulpa Jr., and **G.A. Lamberti**. 2011. Proactive aquatic ecotoxicological assessment of room-temperature ionic liquids. *Current Organic Chemistry* 15:1918-1927. doi.org/10.2174/138527211795703685

111. +Levi, P.S., J.L. Tank, ^S.D. Tiegs, *J. Rüegg, D.T. Chaloner, and **G.A. Lamberti**. 2011. Does timber harvest influence the dynamics of marine-derived nutrients in Southeast Alaska streams? *Canadian Journal of Fisheries and Aquatic Sciences* 68:1316-1329. doi.org/10.1139/f2011-067

112. +Collins, S.F., A.H. Moerke, D.T. Chaloner, *D.J. Janetski, and **G.A. Lamberti**. 2011. Response of dissolved nutrients and periphyton to spawning Pacific salmon in three northern Michigan streams. *Journal of the North American Benthological Society* 30:831-839. doi.org/10.1899/10-164.1

113. *Rüegg, J., D.T. Chaloner, +P.S. Levi, J.L. Tank, ^S.D. Tiegs, and **G.A. Lamberti**. 2012. Environmental variability and the ecological effects of spawning Pacific salmon on stream biofilm. *Freshwater Biology* 57:129-142. doi.org/10.1111/j.1365-2427.2011.02703.x

114. *Janetski, D.J., D.T. Chaloner, A.H. Moerke, R.R. Rediske, J.P. O'Keefe, and **G.A. Lamberti**. 2012. Resident fishes display elevated organic pollutants in salmon spawning streams of the Great Lakes. *Environmental Science & Technology* 46:8035-8043. doi.org/10.1021/es301864k

115. +Levi, P.S., J.L. Tank, ^S.D. Tiegs, *J. Rüegg, D.T. Chaloner, and **G.A. Lamberti**. 2012. Does timber harvest influence the dynamics of marine-derived nutrients in Southeast Alaska streams? A reply to Jackson and Martin. *Canadian Journal of Fisheries and Aquatic Sciences* 69:1898-1901. doi.org/10.1139/f2011-067

116. +Hoellein, T.J., J.L. Tank, *S.A. Entrekin, ^E.J. Rosi-Marshall, +M.L. Stephen, and **G.A. Lamberti**. 2012. Effects of a benthic habitat restoration on nutrient uptake and ecosystem metabolism in three headwater streams. *River Research and Applications* 28:1451-1461. doi.org/10.1002/rra.1547

117. +Levi, P.S., J.L. Tank, *J. Rüegg, *D.J. Janetski, ^S.D. Tiegs, D.T. Chaloner, and **G.A. Lamberti**. 2013. Whole-stream metabolism response to spawning Pacific salmon in their native and introduced ranges. *Ecosystems* 16:269-283. doi.org/10.1007/s10021-012-9613-4

118. +Levi, P.S., J.L. Tank, ^S.D. Tiegs, D.T. Chaloner, and **G.A. Lamberti**. 2013. Biogeochemical transformation of a nutrient subsidy: salmon, streams, and nitrification. *Biogeochemistry* 113:643-655. doi.org/10.1007/s10533-012-9794-0

119. +Reisinger, A.J., D.T. Chaloner, *J. Rüegg, ^S.D. Tiegs, and **G.A. Lamberti**. 2013. Effects of Pacific salmon spawners on the isotopic composition of biota differ across Southeast Alaska streams. *Freshwater Biology* 58:938-950. doi.org/10.1111/j.1365-2427.2004.01213.x

120. *Shirey, P.A., #B.N. Kunycky, D.T. Chaloner, M.A. Brueseke, and **G.A. Lamberti**. 2013. Commercial trade of federally listed threatened and endangered plants in the United States. *Conservation Letters* 6:300-316. doi.org/10.1111/conl.12031

121. *Janetski, D.J., D.T. Chaloner, A.H. Moerke, +P.S. Levi, and **G.A. Lamberti**. 2014. Novel environmental conditions alter subsidy and engineering effects by introduced Pacific salmon. *Canadian Journal of Fisheries and Aquatic Sciences* 71:502-513. doi.org/10.1139/cjfas-2013-0292

122. *Cooper, M.J., **G.A. Lamberti**, and D.G. Uzarski. 2014. Spatial and temporal trends in invertebrate communities of Great Lakes coastal wetlands, with emphasis on Saginaw Bay of Lake Huron. *Journal of Great Lakes Research Supplement* 40:168-182. doi.org/10.1016/j.jglr.2013.12.003

123. *Rüegg, J., #C.M. Currier, D.T. Chaloner, ^S.D. Tiegs, and **G.A. Lamberti**. 2014. Habitat influences Pacific salmon (*Oncorhynchus* spp.) tissue decomposition in riparian and stream ecosystems. *Journal of Aquatic Sciences* 76:623-632. doi.org/10.1007/s00027-014-0359-2

124. *Bobeldyk, A.M., *J. Rüegg, and **G.A. Lamberti.** 2015. Freshwater hotspots of biological invasions are a function of species-pathway interactions. *Hydrobiologia* 746:363-373. doi.org/10.1007/s10750-014-2009-z

125. *Evans, N.T., C.W. Riley, and **G.A. Lamberti**. 2015. Culvert replacement enhances connectivity of stream fish communities in a Michigan drainage network. *Transactions of the American Fisheries Society* 144:967-976. doi.org/10.1080/00028487.2015.1054519

126. *Evans, N.T., B.P. Olds, M.A. Renshaw, +C.R. Turner, C.L. Jerde, A.R. Mahon, M.E. Pfrender, **G.A. Lamberti,** and D.M. Lodge. 2016. Quantification of mesocosm fish and amphibian species diversity via environmental DNA metabarcoding. *Molecular Ecology Resources* 16:29-41. doi.org/10.1111/1755-0998.12433

127. *Cooper, M.J., G.M. Costello, S.N. Francoeur, and **G.A. Lamberti**. 2016. Nitrogen limitation of algal biofilms in coastal wetlands of Lakes Michigan and Huron. *Freshwater Science* 35:25-40. doi.org/10.1086/684646

128. *Gerig, B.S., D.T. Chaloner, *D.J. Janetski, R.A. Rediske, J.P. O'Keefe, A.H. Moerke, and **G.A. Lamberti**. 2016. Congener patterns of persistent organic pollutants establish the extent of contaminant biotransport by Pacific salmon in the Great Lakes. *Environmental Science & Technology* 50:554-563. doi.org/10.1021/acs.est.5b05091

129. +Yoo, B., B. Jing, S.E. Jones, **G.A. Lamberti**, Y. Zhu, J.K. Shah, and E.J. Maginn. 2016. Molecular mechanisms of ionic liquid cytotoxicity probed by an integrated experimental and computational approach. *Nature Scientific Reports* 6: 19889. doi.org/10.1038/srep19889

130. #Smith, D.L., *M.J. Cooper, J.M. Kosiara, and **G.A. Lamberti**. 2016. Body burdens of heavy metals in Lake Michigan wetland turtles. *Environmental Monitoring and Assessment* 188:128-142. https://doi.org/10.1007/s10661-016-5118-5

131. Olds, B.P., C.L. Jerde, M.A. Renshaw, +Y. Li, *N. T. Evans, +C.R. Turner, K. Deiner, A.R. Mahon, M.A. Brueseke, *P.D. Shirey, M.E. Pfrender, D.M. Lodge, and **G.A. Lamberti**. 2016. Estimating species richness using environmental DNA. *Ecology and Evolution* 6:4214-4226. https://doi.org/10.1002/ece3.2186

132. *Shirey, P.D. M.A. Brueseke, +J.B. Kenny, and **G.A. Lamberti**. 2016. Long-term fish community response to a reach-scale stream restoration. *Ecology and Society* 21(3):11. http://dx.doi.org/10.5751/ES-08584-210311

133. Uzarski, D.G., and 26 others including **G.A. Lamberti**. 2017. Standardized measures of coastal wetland condition: Implementation at a Laurentian Great Lakes basin-wide scale. *Wetlands* 37:15-32. https://doi.org/10.1007/s13157-016-0835-7

134. *Evans, N.T., *P.D. Shirey, J.G. Wieringa, A.R. Mahan, and **G.A. Lamberti**. 2017. Comparative cost and effort of fish distribution detection via environmental DNA analysis and electrofishing. *Fisheries* 42:90-99. (*Note: Featured Cover Article*). https://doi.org/10.1080/03632415.2017.1276329

135. *Vizza, C., +W.E. West, S.E. Jones, #J.A. Hart, and **G.A. Lamberti**. 2017. Regulators of coastal wetland methane production and responses to simulated global change. *Biogeosciences* 14:431-446. https://doi.org/10.5194/bg-14-431-2017

136. *Evans, N.T., +Y. Li, M.A. Renshaw, B.P. Olds, K. Deiner, +C.R. Turner, C.L. Jerde, D.M. Lodge, **G.A. Lamberti**, and M.E. Pfrender. 2017. Fish community assessment with eDNA metabarcoding: effects of sampling design and bioinformatic filtering. *Canadian Journal of Fisheries and Aquatic Sciences* 74:1362-1374. https://doi.org/10.1139/cjfas-2016-0306

137. *Vizza, C., +J.A. Zwart, S.E. Jones, ^S.D. Tiegs, and **G.A. Lamberti**. 2017. Landscape patterns shape wetland pond ecosystem function from glacial headwaters to ocean. *Limnology and Oceanography* 62: S207-S221. https://doi.org/10.1002/lno.10575

138. Vanni, M.J., and 68 others including **G. A. Lamberti**. 2017. A global database of nitrogen and phosphorus excretion rates of aquatic animals. *Ecology* 98(5):1475 (online data paper). https://doi.org/10.1002/ecy.1792

139. #McGill, L.M., *B.S. Gerig, D.T. Chaloner, and **G.A. Lamberti**. 2017. An ecosystem model for evaluating the effects of introduced Pacific salmon on contaminant burdens of stream-resident fish. *Ecological Modelling* 355: 39-48. https://doi.org/10.1016/j.ecolmodel.2017.03.027

140. *Evans, N.T., and **G.A. Lamberti**. 2018. Freshwater fisheries assessment using environmental DNA: A primer on the method, its potential, and shortcomings as a conservation tool. *Fisheries Research* 197: 60-66. https://doi.org/10.1016/j.fishres.2017.09.013

141. *Gerig, B.S., #D.N. Weber, D.T. Chaloner, #L.M. McGill, and **G.A. Lamberti**. 2018. Interactive effects of introduced Pacific salmon and brown trout on native brook trout: an experimental and modeling approach. *Canadian Journal of Fisheries and Aquatic Sciences* 75: 538-548.

https://doi.org/10.1139/cjfas-2016-0502

142. *Gerig, B.S., D.T. Chaloner, *D.J. Janetski, A.H. Moerke, R.A. Rediske, J.P. O'Keefe, D. de Alwis Pitts, and **G.A. Lamberti**. 2018. Environmental context and contaminant biotransport by Pacific salmon interact to mediate the bioaccumulation of contaminants by stream-resident fish. *Journal of Applied Ecology* 75: 538-548 https://doi.org/10.1111/1365-2664.13123

143. *Vizza, C., J.L. Pechal, M.E. Benbow, +J.M. Lang, D.T. Chaloner, S.E. Jones, and **G.A. Lamberti**. 2018. Nitrate amendment reduces biofilm biomass and shifts microbial communities in remote, oligotrophic ponds. *Freshwater Science* 37:251-263 https://doi.org/10.1086/697897

144. +Li, Y., *N.T. Evans, M.A. Renshaw, C.L. Jerde, B.P. Olds, +A.J. Shogren, K. Deiner, D.M. Lodge, **G.A. Lamberti**, and M.E. Pfrender. 2018. Estimating fish alpha- and beta-diversity along a small stream with environmental DNA metabarcoding. *Metabarcoding and Metagenomics* 2:e24262 https://doi.org/10.3897/mbmg.2.24262

145. *Cooper, M.J., **G.A. Lamberti**, and 10 others. 2018. An expanded fish-based index of biotic integrity for Great Lakes coastal wetlands. *Environmental Monitoring and Assessment* 190:580 https://doi.org/10.1007/s10661-018-6950-6

146. *Gerig, B.S., #N.T. Hermann, D.T. Chaloner, and **G.A. Lamberti**. 2019. Using a dynamic bioenergetics-bioaccumulation model to understand mechanisms of uptake and bioaccumulation of salmon-derived contaminants by stream resident fish. *Science of the Total Environment* 652:633-642 https://doi.org/10.1016/j.scitotenv.2018.10.149

147. *Gerig, B.S., D.T. Chaloner, A.H. Moerke, R. Greil, #S.A. Cullen, K. Kapucinski, and **G.A. Lamberti**. 2019. Trophic ecology of Atlantic salmon (*Salmo salar*) in relation to other salmonine predators in Northern Lake Huron. *Journal of Great Lakes Research* 45:160-166 https://doi.org/10.1016/j.jglr.2018.11.003

148. #Hart, J.A., *C. Vizza, +W.E. West, D.T. Chaloner, S.E. Jones, and **G.A. Lamberti**. 2019. Methane cycling contributes to distinct patterns in carbon stable isotopes of wetland detritus. *Wetlands* 39:361–370 https://doi.org/10.1007/s13157-018-1119-1

149. Kovalenko, K.E., L.B. Johnson, V.J. Brady, J.J.H. Ciborowski, M.J. Cooper, J.P. Gathman, **G.A. Lamberti**, A.H. Moerke, C.R. Ruetz III, and D.G. Uzarski. 2019. Hotspots and bright spots in functional and taxonomic fish diversity. *Freshwater Science* 38:480-490. https://doi.org/10.1086/704713

150. Uzarski, D.G., and 20 others including **G.A. Lamberti**. 2019. Leveraging a landscape-level monitoring and assessment program for developing resilient shorelines throughout the Laurentian Great Lakes. *Wetlands* 29:1357-1366. https://doi.org/10.1007/s13157-019-01139-w

151. +Larson, C.E., J.L. Pechal, *B.S. Gerig, D.T. Chaloner, **G.A. Lamberti**, and M. E. Benbow. 2020. Microbial community response to a novel salmon resource subsidy. *Frontiers in Ecology and Evolution* 7:505. https://doi.org/10.3389/fevo.2019.00505

152. *Shirey, P.D, +J.B. Kenny, M.A. Brueseke, and **G.A. Lamberti**. 2020. Stream habitat provided by large wood at risk under drainage law. *Earth Surface Processes and Landforms* 45:1318–1324. https://doi.org/10.1002/esp.4828

153. *Rüegg, J., D.T. Chaloner, F. Ballantyne, +P.S. Levi, C. Song, J.L. Tank, ^S.D. Tiegs, and **G.A. Lamberti**. 2020. Understanding the relative roles of salmon spawner enrichment and disturbance: a high-frequency, multi-habitat field data and modeling approach. *Frontiers in Ecology and Evolution* 8:19. https://doi.org/10.3389/fevo.2020.00019

154. Benbow, M.E., J.P. Receveur, and **G.A. Lamberti**. 2020. Death and decomposition in aquatic ecosystems. *Frontiers in Ecology and Evolution* 8:17. https://doi.org/10.3389/fevo.2020.00017

155. *Entrekin, S.A., ^E.J. Rosi, J.L. Tank, +T.J. Hoellein, and **G.A. Lamberti**. 2020. Quantitative food webs indicate modest increases in the transfer of allochthonous and autochthonous C to macroinvertebrates following a large wood addition to a temperate headwater stream. *Frontiers in Ecology and Evolution* 8:114. https://doi.org/10.3389/fevo.2020.00114

156. #Currier, C.M., D.T. Chaloner, *J. Rüegg, ^S.D. Tiegs, D. D'Amore, and **G.A. Lamberti**. 2020. Beyond nitrogen and phosphorus subsidies: Pacific salmon (*Oncorhynchus* spp.) as potential vectors of micronutrients. *Aquatic Sciences* 82:50. https://doi.org/10.1007/s00027-020-00725-z

157. *Gerig, B.S., *D.J. Janetski, D.T. Chaloner, and **G.A. Lamberti.** 2020. Contaminant biotransport by Pacific salmon in the Great Lakes. *Frontiers in Ecology and Evolution* 8:199. https://doi.org/10.3389/fevo.2020.00199

158. #Hermann, N.T., D.T. Chaloner, *B.S. Gerig, and **G.A. Lamberti**. 2020. Ecological consequences of Great Lakes salmon subsidies for stream-resident brook and brown trout. *Canadian Journal of Fisheries and Aquatic Sciences* 77:1758-1771. https://doi.org/10.1139/cjfas-2020-0086

159. +McElroy, M.E., T.L. Dressler, G.C. Titcomb, E.A. Wilson, K. Deiner, T.L. Dudley, E.J. Eliason, *N.T. Evans, S.D. Gaines, K.D. Lafferty, **G.A. Lamberti**, Y. Li, D.M. Lodge, M.S. Love, A.R. Mahon, M.E. Pfrender, M.A. Renshaw, K.A. Selkoe, and C.L. Jerde. 2020. Calibrating environmental DNA metabarcoding to conventional surveys for measuring fish species richness. *Frontiers in Ecology and Evolution* 8:276 https://doi.org/10.3389/fevo.2020.00276

160. **Lamberti, G.A.,** *N.M. Levesque, M.A. Brueseke, D.T. Chaloner, and M.E. Benbow. 2020. Editorial: Animal mass mortalities in aquatic ecosystems: how common and influential? *Frontiers in Ecology and Evolution* 8:602225 https://doi.org/10.3389/fevo.2020.602225

161. +Marcantonio, R.A., +S.P. Field, P. Bai Sesay, and **G.A. Lamberti**. 2021. Identifying human health risks from precious metal mining in Sierra Leone. *Regional Environmental Change* 21:2 https://doi.org/10.1007/s10113-020-01731-5

162. #Houssein, F.A., *K.E. O'Reilly, B.W. Peters, M.A. Brueseke, and **G.A. Lamberti**. 2021. High-frequency photographic imaging provides novel insights into nesting bald eagle diet and opportunities for public engagement. *American Midland Naturalist* 186:122-135 https://doi.org/10.1674/0003-0031-186.1.122

163. #Bosio, S.F., *P.D. Shirey, *S.A. Entrekin, +T.J. Hoellein, *A.H. Moerke, ^E.J. Rosi, J.L. Tank, and **G.A. Lamberti**. 2021. Dynamics of large wood added to midwestern USA streams. *River Research and Applications* 37:843-857 https://doi.org/10.1002/rra.3798

164. *Conard, W.M., *B.S. Gerig, #L.M. Lovin, D.B. Bunnell, and **G.A. Lamberti**. 2021. Metal accumulation in Lake Michigan prey fish: Influence of ontogeny, trophic position, and habitat use. *Journal of Great Lakes Research* 47:1746-1755 https://doi.org/10.1016/j.jglr.2021.08.019

165. *Vizza, C., S.E. Jones, #J.A. Hart, +W.E. West, and **G.A. Lamberti**. 2022. Pond methane dynamics, from microbial communities to ecosystem budget, during summer in Alaska. *Limnology and Oceanography* 67:450–467 https://doi.org/10.1002/lno.12003

166. ^Miranda, D.A., G.F. Peaslee, *A.M. Zachritz, and **G.A. Lamberti.** 2022. A worldwide evaluation of trophic magnification of per- and polyfluoroalkyl substances in aquatic ecosystems. *Integrated Environmental Assessment and Management* 18:1500-1512 https://doi.org/10.1002/ieam.4579

167. #Gentine, J.A., *W.M. Conard, *K.E. O'Reilly, and 8 others including **G.A. Lamberti**. 2022. Environmental predictors of phytoplankton chlorophyll-*a* in Great Lakes coastal wetlands. *Journal of*

Great Lakes Research 48:929-934 https://doi.org/10.1016/j.jglr.2022.04.015

168. *Conard, W.M., +H.D. Whitehead, +K.J. Harris, **G.A. Lamberti**, G.F. Peaslee, and A.A. Rand. 2022. Maternal offloading of per- and polyfluoroalkyl substances to eggs by Lake Michigan salmonids. *Environmental Science & Technology Letters* 9:937-942 https://doi.org/10.1021/acs.estlett.2c00627

169. *O'Reilly, K.O., *M.J. Cooper, P.S. Forsythe, C.J. Houghton, +J.S. Shrovnal, J.J. Student, D.G. Uzarski, and **G.A. Lamberti**. 2023. Lakescape connectivity: Mobile fish consumers link Lake Michigan coastal wetland and nearshore food webs. *Ecosphere* 14 (2): e4333 https://doi.org/10.1002/ecs2.4333

170. +Brandão-Dias, P.F.P., D.M.C. Hallack, *E.D. Snyder, J.L. Tank, D. Bolster, +S. Volponi, A.J. Shogren, **G.A. Lamberti**, K. Bibby, and S.P. Egan. 2023. Particle size influences decay rates of environmental DNA in aquatic systems. *Molecular Ecology Resources* 23:756-770 https://doi.org/10.1111/1755-0998.13751

171. ^Miranda, D.A., *A. Zachritz, +H. Whitehead, S.R. Cressman, G.F. Peaslee, and **G.A. Lamberti**. 2023. Occurrence and biomagnification of perfluoroalkyl substances (PFAS) in Lake Michigan fishes. *Science of the Total Environment* 895, 164903 https://doi.org/10.1016/j.scitotenv.2023.164903

172. *Conard, W.M., *K.E. O'Reilly, #C. Hartlage, and **G.A. Lamberti**. 2023. Widespread microplastic pollution in Indiana, USA, rivers. *River Research and Applications* 39:2092–2101 https://doi.org/10.1002/rra.4204

173. +Brandão-Dias, P.F.P., J.L. Tank, *E.D. Snyder, U.H. Mahl, B. Peters, D. Bolster, A.J. Shogren, **G.A. Lamberti**, K. Bibby, and S.P. Egan. 2023. Suspended materials affect particle size distribution and removal of environmental DNA in flowing waters. *Environmental Science and Technology* 57:13161-13171. https://doi.org/10.1021/acs.est.3c02638

174. *Snyder, E.D., J.L. Tank, +P.F.P. Brandão-Dias, K. Bibby, A.J. Shogren, A.W. Bivins, B. Peters, #E.M. Curtis, D. Bolster, S.P. Egan, and **G.A. Lamberti**. Online prior to publication. Environmental DNA (eDNA) removal rates in streams differ by particle size under varying substrate and light conditions. *Science of the Total Environment* 903, 166469 https://doi.org/10.1016/j.scitotenv.2023.166469

175. *Gerig, B.S., D.T. Chaloner, R.R. Rediske, G. Paterson, and **G.A. Lamberti**. 2023. Pacific salmon as vectors of environmental contaminants: An experimental test confirms synoptic surveys in natural streams. *Environmental Pollution* 336, 122355 https://doi.org/10.1016/j.envpol.2023.122355

176. *Shirey, P.D., and **G.A. Lamberti**. 2023. Assisted migration—moving species by translocation. In: Policy Forum: A landmark environmental law looks ahead. *Science* 382(6677):1348-1355 https://www.science.org/doi/10.1126/science.adn3245

177. *Zachritz, A.M, *K.E. O'Reilly, #D.L. Smith, *M.J. Cooper, #K. Schlaht, and **G.A. Lamberti.** 2024. Bioaccumulation of mercury in Lake Michigan painted turtles (*Chrysemys picta*). *Environmental Monitoring and Assessment* 196, 75 https://doi.org/10.1007/s10661-023-12129-1

Papers Submitted/In Press

178. Gregory, S., L. Ashkenas, R. Wildman, G. Lienkaemper, I. Arismendi, **G.A. Lamberti**, M. Meleason, B.E. Penaluna, and D. Sobota. In revision. Long-term dynamics of large wood in old-growth and second-growth stream reaches in the Cascade Range of Oregon. *River Research and Applications*

Books and Monographs

179. Resh, V.H., **G.A. Lamberti**, E.P. McElravy, J.R. Wood, and J.W. Feminella. 1984. Quantitative methods for evaluating the effects of geothermal energy development on stream benthic

communities at The Geysers, California. *Calif. Water Res. Center Contr. No. 190.* 57 pp.

180. **Lamberti, G.A.**, and A.D. Steinman (editors). 1993. Research in Artificial Streams: Applications, Uses, and Abuses. *J. N. Am. Benthol. Soc.* 12:313-384.

181. Hauer, F.R., and **G.A. Lamberti** (editors). 1996. *Methods in Stream Ecology*. Academic Press, San Diego, CA. 674 pp.

182. Hauer, F.R., and **G.A. Lamberti** (editors). 2006. *Methods in Stream Ecology*, Second Edition. Elsevier, Amsterdam. 877 pp.

183. Hauer, F.R., and **G.A. Lamberti** (editors). 2017. *Methods in Stream Ecology*, Third Edition. Volume 1: Ecosystem Structure. Elsevier, London, UK. 494 pp.

184. **Lamberti, G.A.,** and F.R. Hauer (editors). 2017. *Methods in Stream Ecology*, Third Edition. Volume 2: Ecosystem Function. Elsevier, London, UK. 362 pp.

185. Benbow, M.E., and **G.A. Lamberti** (editors). 2020. *Death and Decomposition in Aquatic Ecosystems*. Lausanne: Frontiers Media SA. 140 pp. https://www.frontiersin.org/research-topics/8260/death-and-decomposition-in-aquatic-ecosystems#articles

Book Chapters and Invited Reviews

186. **Lamberti, G.A.**, and J.W. Moore. 1984. Aquatic insects as primary consumers. Pp.164-195 *In*: V.H. Resh and D.M. Rosenberg (eds.). *The Ecology of Aquatic Insects.* Praeger Publishers, New York.

187. Eriksen, C.H., V.H. Resh, S.S. Balling, and **G.A. Lamberti**. 1984. Aquatic insect respiration. Pp. 27-37 *In*: R.W. Merritt and K.W. Cummins (eds.). *An Introduction to the Aquatic Insects of North America.* 2nd ed. Kendall-Hunt Publishers, Dubuque, IA.

188. Gregory, S.V., **G.A. Lamberti**, D.C. Erman, K.V. Koski, M.L. Murphy, and J.R. Sedell. 1986. Influence of forest practices on aquatic production. Pp. 233-255 *In*: E.O. Salo and T.W. Cundy (eds.). *Streamside Management: Forestry and Fishery Interactions.* Inst. Forest Resources, Univ. of Washington, Seattle.

189. Gregory, S.V., R.C. Wildman, L.R. Ashkenas, and **G.A. Lamberti**. 1990. The ecology and chemistry of caldera springs of Crater Lake National Park. Pp. 81-89 *In*: E.T. Drake, G.L. Larson, J. Dymond, and R. Collier (eds.) *Crater Lake: An Ecosystem Study.* Pacific Division of AAAS, San Francisco, CA.

190. **Lamberti, G.A.** 1993. Grazing experiments in artificial streams. Pp. 337-342 *In*: **Lamberti, G.A.**, and A.D. Steinman (editors). 1993. Research in Artificial Streams: Applications, Uses, and Abuses. *J. N. Am. Benthol. Soc.* 12:313-384.

191. Eriksen, C.H., V.H. Resh, and **G.A. Lamberti**. 1996. Aquatic insect respiration. Pp. 29-40 *In*: R.W. Merritt and K.W. Cummins (eds.). *An Introduction to the Aquatic Insects of North America.* 3rd ed. Kendall-Hunt Publishers, Dubuque, IA.

192. **Lamberti, G.A.** 1996. The role of periphyton in benthic food webs. Pp. 533-572 *In*: R.J. Stevenson, M.L. Bothwell, and R.L. Lowe (eds.). *Algal Ecology in Freshwater Benthic Ecosystems.* Academic Press, San Diego, CA.

193. McIntire, C.D., S.V. Gregory, A.D. Steinman, and **G.A. Lamberti**. 1996. Modeling benthic algal communities: an example from stream ecology. Pp. 669-704 *In*: R.J. Stevenson, M.L. Bothwell,

and R.L. Lowe (eds.). *Algal Ecology in Freshwater Benthic Ecosystems.* Academic Press, San Diego, CA.

194. **Lamberti, G.A.**, and S.V. Gregory. 1996. Transport and retention of CPOM. Pp. 217-229 *In*: F.R. Hauer and G.A. Lamberti (eds.). *Methods in Stream Ecology*. Academic Press, San Diego, CA.

195. **Lamberti, G.A.**, and J.W. Feminella. 1996. Plant-herbivore interactions. Pp. 409-430 *In*: F.R. Hauer and G.A. Lamberti (eds.). *Methods in Stream Ecology*. Academic Press, San Diego, CA.

196. Steinman, A.D., and **G.A. Lamberti.** 1996. Biomass and pigments of benthic algae. Pp. 295-313 *In*: F.R. Hauer and G.A. Lamberti (eds.). *Methods in Stream Ecology*. Academic Press, San Diego, CA.

197. Hershey, A.E., and **G.A. Lamberti**. 1998. Stream macroinvertebrate communities. Pp. 165-195 *In:* R.J. Naiman and R.E. Bilby (eds.). *River Ecology and Management.* Springer, New York.

198. Hershey, A.E., and **G.A. Lamberti**. 2001. Aquatic insect ecology. Pp. 733-775 *In:* J.H. Thorp and A.P. Covich (eds.). *Ecology and Classification of North American Freshwater Invertebrates*. Academic Press, San Diego.

199. F.R. Hauer, C.N. Dahm, **G.A. Lamberti** and J.A. Stanford. 2003. Landscapes and ecological variability of rivers in North America: Factors affecting restoration strategies. Pp. 81-105 *In:* R.C. Wissmar and P.A. Bisson (eds.). *Strategies for Restoring River Ecosystems: Sources of Variability and Uncertainty in Natural and Managed Systems.* American Fisheries Society, Bethesda, MD.

200. Thorp, J.H., **G.A. Lamberti**, and A.F. Casper. 2005. St. Lawrence River Basin. Pp. 983-1028 *In:* A. Benke, and C.E. Cushing (eds.) *Rivers of North America*. Academic Press, San Diego, CA.

201. **Lamberti, G.A.**, and S.V. Gregory. 2006. CPOM transport, retention, and measurement. Pp. 273-289 *In*: F.R. Hauer and G.A. Lamberti (eds.). *Methods in Stream Ecology*, 2nd edition. Elsevier, Amsterdam.

202. **Lamberti, G.A.**, J.W. Feminella and C.M. Pringle. 2006. Primary producer-consumer interactions. Pp. 537-559 *In*: F.R. Hauer and G.A. Lamberti (eds.). *Methods in Stream Ecology*, 2nd edition. Elsevier, Amsterdam.

203. Steinman, A.D., **G.A. Lamberti** and P.R. Leavitt. 2006. Biomass and pigments of benthic algae. Pp. 357-379 *In*: F.R. Hauer and G.A. Lamberti (eds.). *Methods in Stream Ecology*, 2nd edition. Elsevier, Amsterdam.

204. Moerke, A.H. and **G.A. Lamberti**. 2006. Effects of watershed land use on stream ecosystems: A multi-stream assessment in the midwestern U.S. Pp. 323-338 *In:* R. M. Hughes, L. Wang, and P. W. Seelbach (eds.). Landscape influences on stream habitats and biological assemblages. American Fisheries Society Symposium 48, Bethesda, Maryland.

205. Bridgham, S.D., and **G.A. Lamberti**. 2009. Decomposition in wetlands. Pp. 326-346 *In:* E. Maltby and T. Barker (eds.). *The Wetlands Handbook*. Wiley-Blackwell, Oxford.

206. Chaloner, D.T., A.E. Hershey, and **G.A. Lamberti**. 2009. Benthic invertebrate fauna. Pp. 157-172 *In:* G.E. Likens (ed.) *Encyclopedia of Inland Waters* (Vol. 2). Elsevier, Amsterdam.

207. Kelly, D.W., **G.A. Lamberti**, and H.J. MacIsaac. 2009. The Laurentian Great Lakes as a case study of biological invasion. Pp. 205-225 *In*: R.P. Keller, D.M. Lodge, M.A. Lewis, and J.F. Shogren (eds.). *Bioeconomics of Invasive Species: Integrating Ecology, Economics, Policy and Management*. Oxford University Press.

208. Hershey, A.E., **G.A. Lamberti**, D.T. Chaloner, and R.M. Northington. 2010. Aquatic insect ecology. Pp. 659-694 *In:* J.H. Thorp and A. P. Covich (eds.). *Ecology and Classification of North American Freshwater Invertebrates* (Third Edition). Elsevier, New York, NY.

209. Suckow, M.A., and **G.A. Lamberti**. 2017. Institutional Animal Care and Use Committee. Pp. 65-74 *In:* M.A. Suckow and K.L. Stewart (eds.). *Principles of Animal Research for Graduate and Undergraduate Students*. Elsevier, London, UK.

210. Steinman, A.D., **G.A. Lamberti,** P.R. Leavitt, and D.G. Uzarski. 2017. Biomass and Pigments of Benthic Algae. Pp. 223–241 *In:* F.R. Hauer and G.A. Lamberti (eds.). *Methods in Stream Ecology: Volume 1: Ecosystem Structure*. Elsevier, London, UK.

211. Peckarsky, B.P., and **G.A. Lamberti**. 2017. Invertebrate Consumer – Resource Interactions. Pp. 379–398 *In:* F.R. Hauer and G.A. Lamberti (eds.). *Methods in Stream Ecology: Volume 1: Ecosystem Structure*. Elsevier, London, UK.

212. **Lamberti, G.A.**, S.A. Entrekin, N.A. Griffiths, and S.D. Tiegs, 2017. Coarse Particulate Organic Matter: Storage, Transport, and Retention. Pp. 55–69 *In:* G.A. Lamberti and F.R. Hauer (eds.). *Methods in Stream Ecology: Volume 2: Ecosystem Function*. Elsevier, London, UK.

213. Buchwalter, D.B., V.H. Resh, **G.A. Lamberti**, and W. Verberk. 2019. Aquatic insect respiration. Pp. 43-64 *In*: R.W. Merritt, K.W. Cummins, and M.B. Berg (eds.). *An Introduction to the Aquatic Insects of North America.* 5th Edition. Kendall-Hunt Publishers, Dubuque, IA.

214. **Lamberti, G.A.,** A.F. Casper, D.M. Costello, and D.J. Janetski. In press. St. Lawrence River – Great Lakes Basin. Pp. xxx-xxx *In*: M.D. Delong, T.D. Jardine, A.C. Benke, and C.E. Cushing (eds.) Rivers of North America. 2nd Edition. Elsevier, Amsterdam, The Netherlands.

Contributions to Symposium Proceedings

215. **Lamberti, G.A.** and V.H. Resh. 1977. Spatial distribution patterns and sampling variability in the benthic chironomid fauna of Clear Lake, California. *Proc. Pap. Annu. Conf. Calif. Mosq. Control Assoc.* 45:222-225.

216. **Lamberti, G.A.** and V.H. Resh. 1980. Geothermal influences on the interactions of benthic algae, bacteria, and herbivorous insects in a northern California stream. p. 10-12 *In: North American Benthological Society Special Symposia*, March 26-28, 1980.

217. **Lamberti, G.A.** and V.H. Resh. 1985. Seasonal patterns of invertebrate predators and prey in Coyote Hills Marsh. *Proc. Pap. Ann. Conf. Calif. Mosq. Control Assoc.* 52:126-128.

218. **Lamberti, G.A.**, and S.V. Gregory. 1989. The importance of riparian zones to stream ecosystems. p. 24-26 *In*: C. Toole (ed.) *Proceedings of the Salmon-Trout Restoration Federation Conference*, Arcata, CA. California Sea Grant Publication UCSGEP-89-02.

219. **Lamberti, G.A.**, S.V. Gregory, L.R. Ashkenas, R.C. Wildman, and A.D. Steinman. 1989. Influence of channel geomorphology on retention of dissolved and particulate matter in a Cascade Mountain stream. p. 33-40 *In*: D.L. Abell (ed.) *Proceedings of the California Riparian Systems Conference*. Gen. Tech. Rep. PSW-110, Pacific Southwest Forest and Range Experiment Station, USDA Forest Service, Berkeley, CA.

220. Gregory, S.V., **G.A. Lamberti**, and K.M.S. Moore. 1989. Influence of valley floor landforms on stream ecosystems. p. 3-8 *In*: D.L. Abell (ed.) *Proceedings of the California Riparian Systems Conference*. Gen. Tech. Rep. PSW-110, Pacific Southwest Forest and Range Experiment Station, USDA Forest Service, Berkeley, CA.

Book Reviews

221. Gregory, S. and **G. Lamberti**. 1985. *Periphyton of Freshwater Ecosystems* (R.G. Wetzel, ed.). *Bull. N. Am. Benth. Soc.* 2:69-70.

222. Lodge, D.M., **G.A. Lamberti**, J.M. Harding, and T.G. Horvath. 1993. *Zebra Mussels: Biology, Impacts, and Control*. (T.F. Nalepa and D.W. Schlosser, eds.). *J. N. Am. Benthol. Soc.* 12:302-304.

223. **Lamberti, G.A.** 1996. Scale is in the eye of the ecologist. Review of: *Aquatic Ecology: Scale, Pattern and Process.* (P.S. Giller, A.G. Hildrew, and D.G. Raffaelli, eds.). *Ecology* 77:565-567.

224. **Lamberti, G.A.** 2000. *The Biology of Streams and Rivers.* (P.S. Giller and B. Malmqvist). *J. N. Am. Benthol. Soc.* 19:758-760.

GRANTS AND CONTRACTS (total funding over career >$20M)

Research Grants and Contracts

1. Macroinvertebrate growth and production as influenced by beaver ponds in fluvial systems. USDA Forest Service. Role: PI. **$21,000**, 1985-1986.

2. Fish habitat and riparian zone interactions: a basin perspective. U.S. Bureau of Land Management. Role: Co-PI (PI: S. Gregory). **$165,000**, 1987-1989.

3. Cumulative impact of riparian cover on thermal loading, trophic processes, and juvenile steelhead trout in small streams of the John Day Basin. Water Resources Research Institute, U.S. Geological Survey. Role: PI. **$33,000**, 1988-1990.

4. Plant-herbivore interactions in stream ecosystems. National Science Foundation. Role: PI. **$270,000**, 1990-1993.

5. REU Supplement: Plant-herbivore interactions in stream ecosystems. National Science Foundation. Role: PI. **$5000**, 1991.

6. Establishment of a monitoring network for zebra mussels in streams of Indiana Dunes National Lakeshore. National Park Service. Role: PI. **$3459**, 1992-1993.

7. Impact of zebra mussels on unionid clams of the St. Joseph River system in Indiana. Indiana Department of Natural Resources. Role: PI. **$5043**, 1993-1994.

8. Invasion, impact, and interactions of zebra mussels and rusty crayfish in the St. Joseph River basin, Indiana-Michigan, and in streams of northern Wisconsin-Michigan. U.S. Environmental Protection Agency. Role: PI. **$193,689**, 1992-1994.

9. Renewal: Invasion, impact, and interactions of zebra mussels and rusty crayfish in the St. Joseph River basin, Indiana-Michigan, and in streams of northern Wisconsin-Michigan. U.S. Environmental Protection Agency. Role: PI. **$120,209**, 1994-1996.

10. Analysis of benthic macroinvertebrate communities in relation to stream type and habitat variables. USDA Forest Service. Role: PI. **$2360**, 1994-1995.

11. Condition of stream channels and fisheries in the Ontonagon River system under current flow regimes of the Bond Falls Project. USDA Forest Service. Role: PI. **$2400**, 1995-1996.

12. Limiting factors and ecological effects of zebra mussels in a southern Lake Michigan drainage. NOAA - Sea Grant. Role: PI. **$12,000**, 1996.

13. Analysis of river valley geomorphology using GIS. USDA Forest Service. Role: PI. **$2400**, 1997-1998.

14. Potential effects of invading ruffe (*Gymnocephalus cernuus*) on benthic and pelagic ecosystems of the Great Lakes. NOAA - Sea Grant. Role: PI. **$366,513**, 1995-1999.

15. Dissertation research for R. S. Stelzer: Role of ecological stoichiometry in plant-herbivore interactions: a test in stream ecosystems. Role: PI. National Science Foundation. **$4500**, 1997-1999.

16. Dissertation research for E. A. Strauss: Effects of dissolved organic carbon on nitrification rates in aquatic ecosystems. Role: PI. National Science Foundation. **$9985**, 1997-1999.

17. Stream macroinvertebrate response to hydroelectric dam operations. USDA Forest Service. Role: PI. **$5000**, 1999-2000.

18. Restoration of degraded midwestern streams: implications for water quality and biological communities. USGS-Water Resources. Role: PI. **$75,000**, 1997-2001.

19. Primary production in the Kissimmee River - floodplain system. South Florida Water Management District. Role: PI. **$40,000**, 1997-2001.

20. Restoration of Indiana streams: A comparison of restoration strategies at a statewide level. USGS via Indiana Water Resources Research Center. Role: PI. **$14,089**, 2000-2001.

21. Effects of stormwater filters on stream temperature. St. Joseph County Drainage Board, Indiana. Role: PI. **$60,000**, 1997-2001.

22. Evaluation of restoration efforts in Cook's Run, Ottawa National Forest. USDA Forest Service. Role: PI. **$8000**, 1998-2001.

23. Linking marine-derived nutrients to stream ecosystem function using a 15N tracer addition combined with an experimental salmon carcass addition. NSF. Role: Co-PI. (PI: Jennifer Tank), **$26,414**, 2001-2002.

24. Fishery response to restoration of Juday Creek on the University of Notre Dame campus. University of Notre Dame. Role: PI. **$14,742**, 1998-2003.

25. Influence of marine nutrients from salmon on stream ecosystems. USDA – NRI. Role: PI. **$410,500**, 1999-2003.

26. Zebra mussels, round gobies, and Eurasian ruffe: predicting ecological impacts of the 'exotic triad' to improve control. Illinois-Indiana Sea Grant College Program. Role: PI. **$116,535**, 2000-2003.

27. Determining the environmental impacts on aquatic ecosystems and biodegradability of new ionic liquids prior to widespread industrial use. NOAA-OAR. Role: PI. **$250,000**, 2002-2004.

28. Factors limiting stream productivity in the Ottawa National Forest: a watershed perspective. USDA Forest Service. Principal Investigator, **$23,730**, 2000-2005.

29. Interactive effects of climate change, wetlands, and dissolved organic matter on UV damage to aquatic foodwebs. USEPA-STAR. Role: Co-PI. (PI: Scott Bridgham). **$895,307**, 2002-2006.

30. Large woody debris: Effects on stream processes and fish composition in streams of the Ottawa National Forest. USDA Forest Service. Role: PI. **$22,500**, 2003-2005.

31. Toxicity of ionic liquids to a vascular plant (*Lemna minor*) in the presence of dissolved organic matter. Indiana Academy of Science. Role: PI. (Supported student: James Larson). **$2307**, 2005.

32. Role of large woody debris in restoring stream ecosystem function in managed U.S. forests. USDA-NRI. Role: Co-PI. (PI: Jennifer Tank), **$375,000,** 2002-2006.

33. Determining the environmental impacts on aquatic ecosystems and biodegradability of new ionic liquids prior to widespread industrial use. NOAA-OAR. Role: PI. **$494,739**, 2004-2006.

34. Pyridinium-based ionic liquids – new non-volatile solvents for industrial applications. Indiana 21st-Century Research and Technology Fund. Role: Co-PI. (PI: Joan Brennecke), **$1,363,099**, 2002-2007.

35. Determining the environmental fate, biodegradability, and impacts on aquatic ecosystems of new ionic liquids prior to widespread industrial use. NOAA-OAR. Role: PI. **$475,900**, 2005-2007.

36. Ecology and food web structure of ponds on the West Copper River Delta, Alaska. USDA Forest Service. Role: Co-PI (PI: Martin Berg). $45,000 **($10,000** to ND**)**. 10/01/07 – 04/30/08.

37. Ecological forecasting and risk analysis of nonindigenous species: strategic optimization using a bio-economic approach. NSF-IRCEB. Role: Co-PI. (PI: David Lodge). **$2,989,645**. 09/01/02 – 08/31/09.

38. Historical ecology of the Namekagon River system of Wisconsin. National Park Service and Wisconsin DNR. Role: PI. **$15,000.** 7/1/08 – 5/31/09.

39. Dean John A. Knauss Marine Policy Fellowship (for Angela M. Bobeldyk). NOAA. Role: PI. **$40,132**. 2/01/08 – 1/31/09.

40. The role of salmon-derived nutrients in managed U.S. forests. USDA-NRI. Role: PI. **$420,000**. 04/01/06 – 09/30/09.

41. Ecology and food web structure of ponds on the West Copper River Delta, Alaska. USDA Forest Service. Role: Co-PI (PI: Martin Berg). $45,000 **($10,000** to ND**)**. 11/01/08 – 5/31/09.

42. Impacts of introduced Pacific salmon on ecological communities of Great Lakes tributaries. Great Lakes Fishery Trust. Role: PI. **$150,637**. 11/01/07 – 12/31/10.

43. DISSERTATION RESEARCH (for David Costello): Modeling the effects of invasive earthworms on watershed nitrogen dynamics. NSF-DEB. Principal Investigator. **$9837**. 5/1/08 – 4/30/10.

44. IJC-UGLS Ecosystems Study Areas Data Coordination Team. International Joint Commission via Central Michigan University. Role: PI. $35,000 **($7500** to ND**).** 11/13/09 – 9/30/10.

45. Contribution of freshwater wetland food webs to migratory bird diets in the Copper River Delta of Alaska. USDA Forest Service – Pacific Northwest Research Station. Role: PI. **$29,000.** 9/1/09 – 8/31/11.

46. Evaluating environmental DNA detection alongside standard fish sampling in Great Lakes coastal wetland monitoring. Illinois-Indiana Sea Grant College Program. Role: Co-PI (PI: David Lodge). **$10,000**. 06/01/10 – 12/31/11.

47. Contaminant transport by introduced Pacific salmon to Great Lakes tributaries. Illinois-Indiana Sea Grant College Program. Role: Co-PI (PI: David Janetski). **$6000**. 06/01/10 – 12/31/11.

48. Developing functional indicators of coastal wetland health. Illinois-Indiana Sea Grant College Program. Role: Co-PI (PI: Matthew Cooper). **$6000.** 01/01/2011 – 12/31/2011

49. Fish monitoring approach for culvert replacement in the Huron-Manistee National Forest. USFS and Manistee County Highway Commission. Role: PI. **$54,000.** 06/01/11 - 09/30/12.

50. Enhancing native brook trout in the Upper Great Lakes region. National Fish and Wildlife Foundation. Role: PI. **$30,000**. 06/01/11 - 08/31/13.

51. REU Supplement: An integrated molecular simulations, biophysical experimentation and toxicological assay approach for mechanistic understanding of toxic effects of ionic liquids. National Science Foundation - CBET. Role: Co-PI (PI: J. Shah). **$6000,** 06/21/2012 - 09/30/2012

52. Climate change and ecology of the Copper River Delta, Alaska. National Fish and Wildlife Foundation. Role: Co-PI (PI: G. Reeves, USFS). $100,000 **($32,000** to ND**)**. 01/01/2012 - 12/31/2012

53. George Melendez Wright Climate Change Fellowship from the National Park Service (to PhD student Patrick Shirey). Role: PI. **$19,950**. 10/1/12 – 9/30/13.

54. Comparison of ecosystem function across tundra streams and lakes receiving Pacific salmon. U.S. Fish and Wildlife Service. Role: Co-PI (PI: J. Tank). **$18,000**. 05/15/2012 – 03/31/2015

55. Climate change and ecology of the Copper River Delta, Alaska. National Fish and Wildlife Foundation. Co-PI (PI: M. Berg, LUC). $200,000 **($65,000** to ND**)**. 01/01/2013 - 6/30/2015.

56. GLIC: Implementing Great Lakes Coastal Wetland Monitoring. USEPA Great Lakes Restoration Initiative. Role: Co-PI (PI: D. Uzarski, CMU). $10,000,000 **($538,837** to ND**).** 05/01/2010 – 04/30/2015. (NCE to 4/30/2016)

57. Conservation of native fish communities in tributaries to the Great Lakes: Predicting the impacts of contaminants delivered by spawning Pacific Salmon. Great Lakes Fishery Trust. Role: Co-PI (PI: D. Chaloner). **$222,115**. 01/01/2013 - 12/31/2014 (NCE to 12/31/2015)

58. An integrated molecular simulations, biophysical experimentation and toxicological assay approach for mechanistic understanding of toxic effects of ionic liquids. National Science Foundation - CBET. Role: Co-PI (PI: J. Shah). **$346,820,** 10/01/2011 - 09/30/2015 (NCE to 09/30/2016)

59. Development of an environmental metagenetics approach for monitoring aquatic biodiversity. Department of Defense SERDP. Role: Co-PI (PI: D. Lodge). **$1,362,920**. 05/01/2012 - 04/30/2016 (NCE to 04/30/2017)

60. Distribution and impacts of invasive *Elodea* on Copper River delta wetlands. USDA Forest Service. Role: Co-PI (PI: M. Berg, LUC). **$10,895** to UND**.** 10/01/2015 – 09/30/2016

61. EPA STAR Fellowship for Brandon Gerig. USEPA. Role: PI. **$84,000**. 08/16/2015 – 8/15/2017

62. Quantifying Coastal Wetland – Nearshore Linkages in Lake Michigan for Sustaining Sport Fishes. Illinois-Indiana Sea Grant College Program. Role: PI. **$240,000.** 02/01/2014 - 01/31/2016 (NCE to 01/31/2017)

63. Novel diagnostics for biotransport of aquatic environmental contaminants. Advanced Diagnostics and Therapeutics SRI, University of Notre Dame. Role: PI. **$25,509.** 01/01/2015 - 12/31/2017

64. Incorporating environmental change in planning for healthy coastal ecosystems. Alaska Sea Grant (Prime: NOAA). Role: Co-PI (PI: A. Taylor, UAA). $155,000 (**$19,000** to UND). 05/01/2016 – 04/30/2018

65. Effects of land use type on abundance and type of microplastic pollution – a contaminant of emerging concern in Indiana rivers. Indiana Water Resources Research Center (Prime: US Geological Survey). Role: PI. **$15,000.** 03/01/2017 – 02/28/2018.

66. Exploring the Nexus of Water, Energy, and Food in a Changing Climate. Luksic Fund for UND-PUC Collaboration. Role: Co-PI (PI: A. Rocha). **$19,000.** 10/30/2015 - 10/30/2018.

67. NOAA Knauss Marine Policy Fellowship for Katherine O'Reilly. NOAA-Sea Grant. Role: PI. **$66,000.** 09/01/2017 – 01/31/2019.

68. Independent Science Advisory Panel for Missouri River Recovery Implementation Committee. Oak Ridge Associated Universities. Role: PI. **$30,000 – 50,000/yr** (variable). 11/1/2014 – 12/31/2019.

69. Distribution and Impacts of Invasive Elodea on Copper River Delta Wetlands. Loyola University of Chicago (Prime: USDA / US Forest Service). Role: PI. **$37,895**. 10/01/2015 - 04/30/2020.

70. NSF IPA Assignment for Dr. Gary A. Lamberti. National Science Foundation – DEB. Role: PI. $330,849 (Sponsor: **$248,964**). Initiatiated 10/13/2020

71. Coastal Wetland Monitoring: Continued Implementation by the GLCWC. USEPA. Role: Co-PI (PI: D. Uzarski). $10,000,000 (**$218,059** to ND). 10/01/2015 – 09/30/2020 (NCE to 09/30/2021). – 10/12/2021.

72. Effects of Nutrient Loading on PFAS Bioaccumulation in Aquatic Food Webs. U.S. Geological Survey – IWRRC. Role: PI. **$25,000**. 03/01/2022 – 02/28/2023.

73. A Survey of Southern Lake Michigan Sportfish for Per- and Polyfluoroalkyl Substances (PFAS) – An Emerging Contaminant in the Great Lakes. NOAA – Illinois-Indiana Sea Grant. Role: PI. **$160,000**. 02/01/2020 – 01/31/2023.

74. Per- and Polyfluoroalkyl Substances (PFAS) – An Emerging Environmental and Human Health Concern for the Great Lakes? U.S. Geological Survey – IWRRC. Role: PI. **$250,000**. 05/01/2020 – 04/30/2023.

75. NSF IPA Assignment for Dr. Gary A. Lamberti. National Science Foundation – DEB. Role: PI. $335,873 per year (Sponsor: **$252,909 per year**). 10/13/2020 – 10/12/2022.

Active Grants and Contracts

76. Impacts of Herbicide Treatment for Invasive Elodea on Water Quality and Planktonic Communities in Copper River Delta Wetlands of Alaska. USDA Forest Service, Pacific Northwest Research Station. Role: PI. **~$25,000 per year**. 07/01/2019 - 12/31/2023.

77. Predicting eDNA transport and degradation in flowing waters: Application of a conservation tool using integrated experimental, field, and modeling approaches. US Department of Defense – SERDP. Role: Co-PI (PI: J. Tank). **$1,499,999**. 08/21/2019 – 08/21/2023.

78. To Control or Eradicate? The Influence of *Elodea* on Sockeye Salmon in Eyak Lake, Cordova, AK. National Fish and Wildlife Foundation. Role: Co-PI (PI: J. Bellmore). $127,078 **($62,742** to ND). 6/01/2021 – 5/31/2024.

79. Coastal Wetland Monitoring: Continued Implementation by the GLCWC. USEPA. Role: Co-PI (PI: D. Uzarski). $10,000,000 **($207,300** to ND**).** 10/01/2020 – 09/30/2025.

80. Introduced Salmon as Vehicles of PFAS Transport in Lake Michigan Tributaries. Eppley Foundation. Role: PI. **$27,500**. 7/01/2022 – 06/30/2023

81. Trophic and tissue distribution of PFAS in native Lake Michigan fishes. Great Lakes Fishery Trust. Role: PI. **$313,108**. 03/01/2023 – 02/31/2025.

82. Occurrence of PFAS in water and sediment from the Indiana coastal zone. Role: Co-PI (PI, D. Miranda). Indiana Department of Natural Resources – Lake Michigan Coastal Program (via NOAA). **$148,226**. 09/01/2023 – 02/28/2025.

83. Quantifying PFAS distribution in coastal Lake Michigan tributaries. NOAA – Illinois-Indiana Sea Grant. Role: PI. **$199,510**. 02/01/2024 – 01/31/2026.

84. Tracking PFAS accumulation and transfer in Lake Michigan using molecular tools. USGS-IWRRC. Role: Co-PI (PI: D. Miranda). **$278,999**. 01/01/2024 – 12/31/2025.

85. Drivers of Antimicrobial Resistance within Diverse Aquaculture Systems. USDA-NIFA. Role: Co-PI (PI: K. Bibby). **$1,000,000**. 06/01/2024 – 05/31/2027 [Pending]

86. Screening for unintended sources of PFAS and tracking its uptake in Native and commercial agriculture. USEPA. Role: Co-PI (PI: K. Doudrick). **$1,599,921**. 09/01/2024 – 07/31/2027 [Pending]

87. RaMP: Notre Dame Research and Mentoring for Postbaccalaureates in Biological Sciences (ND-RaMP). National Science Foundation. Role: PI (Lead PI, M. A. McDowell). **$3,122,675.00**. 08/01/2024 – 07/31/2028 [Pending]

Instructional and Educational Grants

88. Environmental stress in ecosystems: linking ecology and engineering. National Science Foundation; Graduate Research Training (GRT) Program. Role: Principal Investigator. **$562,500**. 09/01/1995 – 08/31/2000.

89. Risk assessments of novel chemicals in the environment. U.S. Department of Education - Graduate Assistance in Areas of National Need (GAANN). Role: Co-Principal Investigator (PI, Joan Brennecke). **$497,850**. 09/01/2001 – 08/31/2006.

90. IGERT: Global Linkages of Biology, Environment, and Society (GLOBES). National Science Foundation. Role: Co-Principal Investigator (PI, Jeffrey Feder), **$3,387,561**. 09/01/2005 - 08/31/2012.

91. Practicum in Field Environmental Biology: Galapagos Islands. UND Center for Social Concerns Course Development Grants. Role: PI. **$2500**. 07/01/2016 – 6/30/2017.

PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM (PRRIP -or- Program)
EXHIBIT A: PRRIP Conflict of Interest Form – ISAC Members

The PRRIP developed guidance regarding the avoidance of conflicts of interest in accordance with the ISAC Charter (Attachment 6, Appendix I) and the Peer Review Guidelines (Adaptive Management Plan, Appendix A) contained in the PRRIP Final Program Document. As stated in the ISAC Charter: "The ISAC must retain as much independence from the adaptive management program as possible. This independence requires that their role focus on reviewing products produced by the Program."

Potential conflicts of interest include but are not limited to:

- Financial interest in the restoration and management activities associated with the PRRIP.
- Familial relationship with any of the scientists conducting research and/or monitoring associated with the PRRIP.
- Bias, for personal reason for or against the scientists mentioned above and/or the entities involved in the implementation of the PRRIP.
- Professional connection with any entities involved with PRRIP implementation.
- Impacts of lobbying or political pressure exerted by person(s) looking for a particular result or more work with the PRRIP.
- Has conducted, is conducting, or intends to conduct work for or on behalf of the Program, or work that directly overlaps with Program scientific and technical priorities, which could result in an ISAC member reviewing and commenting on her/his own work product(s).

As a candidate proposed for participation on the ISAC, I hereby state that I do not have any conflicts of interest with the Platte River Recovery Implementation Program as outlined above and (if necessary) explained on the following page. I can serve effectively on the ISAC without any financial, familial, personal, or professional bias in order to further the goals and objectives of the PRRIP and the implementation and evaluation of the Extension Science Plan and associated scientific and technical activities, analyses, and syntheses.

FOR THE CONSULTANT:

Gary A. Lamberti	February 27, 2024
NAME	DATE

PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM (PRRIP -or- Program)
EXHIBIT B – Certification Regarding Lobbying

The undersigned certifies, on behalf of the Consultant, that to the best of his or her knowledge and belief:

1. No federal appropriated funds have been paid or will be paid, by or on behalf of the Consultant, to any person for influencing or attempting to influence an officer or employee of any federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, or the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement.

2. No registrant under the Lobbying Disclosure Act of 1995 has made any lobbying contacts on behalf of the Consultant with respect to the federal grant or cooperative agreement under which the Consultant is receiving monies.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who makes an expenditure prohibited by Section 1 above or who fails to file or amend the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

FOR THE CONSULTANT:

Gary A. Lamberti	February 27, 2024
NAME	DATE

25 February 2024

Dr. Chadwin Smith
Science Policy Coordinator
Platte River Recovery Implementation Program
4111 4th Ave., Suite 6
Kearney, NE 68845

Dear Dr. Smith,

This letter of interest accompanies application materials for a position on the Independent Scientific Advisory Committee (ISAC) of the Platte River Recovery Implementation Program (PRRIP). As you will see from my curriculum vitae, I have many years of experience working with endangered fishes of Great Plains rivers. I have worked in New Mexico, South Dakota, and Texas. Although I do not have specific experience working with pallid sturgeon, I have some familiarity with them as colleagues worked with them while I was at South Dakota State University. However, the riverine minnows I have studied in the past are relevant to the PRRIP because fishes such as these are potential prey for pallid sturgeon and for interior least tern and they also serve as indicators of ecological integrity in plains rivers. Along these lines, one of my main interests is ecological functioning and habitat availability in plains rivers as this relates to flow regime and geomorphology. I believe these subjects are relevant to your efforts. My experience is most extensive within the Pecos River, Río Grande, and Cheyenne River.

I believe I have a strong record of scientific accomplishment as detailed in my curriculum vitae. Perhaps most relevant to the PRRIP are the recent publication (as co-editor and chapter author) of the multi-authored volume Standing Between Life and Extinction, Ethics and Ecology of Conserving Aquatic Species in North American Deserts (University of Chicago Press) and a 2015 publication in the journal Fish and Fisheries (a top journal within the field of fisheries) entitled "Recruitment ecology of pelagic-broadcast spawning minnows: paradigms from the ocean advance science and conservation of an imperilled freshwater fauna". The latter was a concept paper on ecosystem functioning in Great Plains rivers, and has received a fair amount of attention in the literature. Beyond this, I was also a contributor to the recent second volume of Rivers of North America (Academic Press) on the chapter for the Missouri River basin (I wrote sections on the Cheyenne and Big Sioux rivers). Regarding river restoration, I led a study on the Pecos River restoration at Bitter Lake National Wildlife Refuge in 2012-2013 to assess its benefits for the federally threatened Pecos bluntnose shiner. Research was conducted by a graduate student Jake Mecham, housed at South Dakota State University, and was summarized in his 2015 master's thesis "The effects of channelization and channel restoration on aquatic habitat and biota of the Pecos River, New Mexico".

Although I presently have an academic position, in the past I was a fisheries technician and fisheries biologist with the U.S. Fish & Wildlife Service in New Mexico in what was then called the New Mexico Fishery Resources Office. This has given me the perspective of a practitioner and I believe I can relate well with challenges faced by agency employees, having once been in

similar shoes myself. While with the FWS, I was often involved in situations in which I had to maintain scientific integrity and objectivity while also seeking creative solutions to complex problems. This included many discussions on water operations on the Pecos River as well as discussions on bringing endangered RÍo Grande silvery minnow into captivity. I also have a fair amount of administrative experience, having been chair of the Department of Zoology at Weber State University for seven years. I also served on the advisory board for the Ogden Nature Center for two terms (the maximum allowed consecutively), including being committee chair for a year. I also served as an outside member on the board of the Venture Academy and High School for 10 years (this is an expeditionary learning charter school) and I served one term on the Northern Regional Advisory Committee for the Utah Division of Wildlife Resources (this is a process by which the public provides feedback to the committee, who then recommends actions to the board of directors).

The ISAC of the PRRIP appeals to me because it would offer the opportunity to become more familiar with approaches being used in a major river basin on the Great Plains where I have not done active research. Not only am I interested in being a useful resource for the PRRIP, but I expect I would gain valuable insight that could inform my own research activities elsewhere. I believe the interdisciplinary nature of the ISAC would be particularly beneficial. The following quote from the solicitation document particularly excites me: “The ISAC operates as a collaborative interdisciplinary team. All ISAC members are free to contribute on any topic and lively discussions are part of ISAC meetings. ISAC recommendations to the Program are refined through such dialogue.”

A final thing I should mention is that I also have a longtime interest in the Platte River. Although I grew up in Ohio, my parents are both from central Nebraska, my father is from Phelps County (Holdredge) and my mother is from York County (Bradshaw). They met as students at what was then called Kearney State University. My family still owns some farmland (as absentee farmers) in the Bradshaw area. During my youth in the 1980s, we commonly visited Nebraska in the summer and my father (a biology professor and naturalist) always made a point to take us out on excursions to watch birds and generally enjoy the Nebraska plains and prairies. One of our favorite destinations was the Platte River and I still readily recall wading in the river, watching interior least terns cruise up and down the channel fishing for minnows, and watching piping plovers skitter along the sandbars. I remember that river courses would change from year to year and it was on the Platte River that I first became interested in rivers of the Great Plains.

These things being said, I hope you will agree (upon further review) that I am well qualified for your position and am well rounded and experienced in ways that would benefit the position. I would be excited for the opportunity to discuss the position further with you and I am happy to provide further documentation of my experience, if needed.

Sincerely,

Chris Hoagstrom

One paragraph biographical statement:

I am a fish ecologist and biogeographer with expertise on Great Plains fishes and riverine ecosystems. My master's research was on fish assemblages in the Pecos River, TX and my PhD research was on fish assemblages in the Cheyenne River, SD. In the 10 years between my masters and PhD, I worked with the U.S. Fish & Wildlife Service in what was then known as the New Mexico Fishery Resources Office. My initial position was as a fisheries technician and I worked my way up to a position as a Fishery Biologist. During this time, my role was as a researcher of endangered riverine fishes including the Pecos bluntnose shiner and Río Grande silvery minnow. My role included making management recommendations to multidisciplinary groups that managed these rivers, including various government agencies. In this role I (along with my supervisor and colleagues) did my best to understand how the rivers were managed, the constraints on each system, and the priorities of managing entities. After completing my PhD, I gained an academic position at Weber State University. In this position, I have remained active in Great Plains research, coauthoring several papers on the ecology of Great Plains riverine fishes, several of which have been well cited. I also have extensive administrative experience, including serving on multiple advisory boards.

Affirmative statements:

- After reading through the PRRIP Conflict of Interest Form, I am confident I can sign the form.
- After reading through the PRRIP Certification Regarding Lobbying Form, I am confident I can sign the form.
- During the contract phase, I could sign a contract affirming I am NOT disbarred from doing work for the federal government.

Curriculum Vitae

Christopher W. Hoagstrom

Residence: 1030 East Country Hills Drive
Ogden, Utah 84403
(801) 388-6226 cell
pecospupfish@hotmail.com

Office: Weber State University
Department of Zoology
1415 Edvalson, Dept. 2505
Ogden, Utah 84408-2505
Phone: (801) 626-7486
christopherhoagstrom@weber.edu
weber.edu/zoology/ChrisHoagstrom.html
weber.edu/choagstrom/default.html

Present Position: Professor, Zoology, Weber State University

Education:

South Dakota State University	Biology	PhD	2006
Sul Ross State University	Biology	MS	1994
Ohio Northern University	Biology	BS	1992

Academic experience:

Weber State University	Professor	2019 – present
Weber State University	Professor & Department Chair	2017 – 2019
Weber State University	Associate Professor & Department Chair	2012 – 2017
Weber State University	Assistant Professor	2006 – 2012
South Dakota State University	Graduate Research Assistant	2003 – 2006
Sul Ross State University	Graduate Research Assistant	1992 – 1994
Ohio Northern University	Undergraduate Teaching Assistant	1991

Relevant employment (non-academic):

U.S. Fish & Wildlife Service, New Mexico Fishery Resources Office	Biological Technician - Fishery Biologist	1993 – 2002
U.S. Geological Survey, Water Resources Division, Columbus, Ohio	Biological Technician	1992
U.S. Department of Agriculture, Animal Plant Health Inspection Service, Plant Protection and Quarantine, Toledo, Ohio	Technician	1991
U.S. National Park Service, Theodore Roosevelt National Park	Student Conservation Association Volunteer	1990

Courses Taught

- Courses in present rotation:
    - **ZOOL 1110 LS – Principles of Zoology**

      A science major's introduction to the study of cell biology, genetics, inheritance, evolution, and ecology. The nature and practice of science is also emphasized and basic skills in data collection, analysis, and presentation are introduced. Three hours of lecture and two hours of lab per week. The year-long major's introductory sequence is completed with ZOOL 2220.

        - Course fulfills life science (LS) general education requirements

    - **ZOOL 3470 – Zoogeography**

      Study of factors determining the distributions of animals with emphases on ecological and evolutionary processes occurring across landscapes and around the globe. Three hours of lecture per week.

    - **ZOOL 3500 - Conservation Biology**

      The study of how biological principles and concepts are used in conservation. Major emphasis on the preservation and management of biodiversity. Connections between biological and societal issues are explored. Three hours of lecture per week.

        - Course bears sustainability (SUS) attribute

    - **ZOOL 4480 - Aquatic Ecology**

      Study of the physical, chemical, and biological interactions of freshwater ecosystems with emphasis on streams. Field trips required. Three hours of lecture and three hours of lab per week.

        - Course bears Course-based Research Experience (CRE) attribute

    - **ZOOL 4650 – Ichthyology**

      Classification, ecology and biology of fishes and emphasis on local freshwater forms. Field trips required.

- Courses taught in the past:
    - **ZOOL 1010 Animal Biology**

      A non-major's introduction to cell biology, genetics, evolution, ecology, and animal diversity with emphasis on diversity of animal architecture and life strategies in relation to the diverse environments of Earth. The overriding theme is the process of evolution, its basis, and its implications for all animals, including humans. Three lecture/discussion hours a week.

    - **ZOOL 1120 Principles of Zoology II**

      A major's introduction to cellular processes and the diversity and comparative biology of vertebrate animals. Three hours of lecture and one 2-hour lab a week.

    - **ZOOL 4950 Field Zoology**

      Study conducted on an extended, supervised field trip.

University Service (highlights)

- WSU Zoology advisor for new majors 2019-present
- WSU College of Science Rank & Tenure Committee (elected) 2022-present
- WSU Environmental Science Program, Life Science co-director 2021-2023
- WSU General Education Improvement & Assessment Committee 2015-2020
- WSU Program Review Team (invited position)
    - Anthropology 2022
    - Economics 2018
    - Psychology 2017
- WSU University Rank & Tenure Committee, chair (elected) 2019
- WSU Academic Affairs Master Planning Task Force (invited position) 2016-2018
- WSU Undergraduate Research Committee 2009-2016
- WSU Faculty Senate (elected) 2011-2014
- WSU Appointment, Promotions, Academic Freedom, & Tenure Committee 2009-2011
- WSU College of Science Graduation Committee 2007-2013
    - Chair 2013
- WSU Course Fees Committee 2008-2010

Professional & Community Service (highlights)

- Desert Fishes Council, executive committee
    - Program Secretary 2022-present
    - Membership Secretary 2018-2019
    - Member at Large 2009-2010
- Ogden Nature Center, board of directors 2012-2017
    - Vice chair 2015
    - Chair 2016
    - Past chair 2017
- Venture Academy (K-12 Charter School), board of directors 2012-2022
- Northern Region Regional Advisory Committee, Utah Division of Wildlife Resources (appointed position) 2018-2021
- Ogden Regional Hospital, Institutional Review Board 2012-2016

Honors

- Weber State University, Brady Presidential Distinguished Professor (2020)
- College of Science Outstanding Mentor, awarded by Weber State University Office of Undergraduate Research (2019)
- Gwen Williams Prize, awarded by the Hemingway Faculty Development Trust for extraordinary work by faculty receiving Hemingway Vitality Grants (2012)
- John R. Morgart Science Award, U.S. Fish and Wildlife Service, Southwest Region, best published paper (2010)
- Jerome Norgren Endowment at South Dakota State University, Fisheries Ph.D. graduate student of the year (2005)
- U.S. Department of the Interior Star Award (2001, September 1999, January 1999)
- U.S. Department of the Interior On-the-Spot Award (1994, 1996)
- U.S. Department of Agriculture Certificate of Merit (1992)
- Dean's List (spring 1989-1990, fall 1990-1991, winter 1991-1992, spring 1991-1992)
- Beta Beta Beta Biological Honor Society (1990)

RESEARCH
Publications

REFEREED ARTICLES

Massip-Veloso Y, Hoagstrom CW, McMahan CD, Matamoros WA 2024. Biogeography of Greater Antillean freshwater fishes, with a review of competing hypotheses. Biological Reviews, in press.

Gomez M, Matamoros WA, Larre-Campuzano S, Yépez-Mulia L, de Fuentes A, Hoagstrom CW 2024. Revised New World bioregions and environmental correlates for vectors of Chagas disease (Hemiptera, Triatominae). Acta Tropica, 107063.

Hoagstrom CW, Ung V, Sweat SC, Matamoros WA, Ennen JR 2022. Comparative biogeography of North American turtle faunas: Neogene regionalization. Frontiers of Biogeography 14:e57618.

Rico CN, Hoagstrom CW, Elías DJ, McMahan CD, Matamoros WA 2022. Biotic regionalization of freshwater fishes in Northern Middle America highlights high beta diversity created by prominent biogeographic barriers. Frontiers of Biogeography 14:e58095.

Hoagstrom CW, Echelle AA. 2022. Biogeography of the *Macrhybopsis aestivalis* complex (Teleostei: Cyprinidae): emphasis on speciation and ancient heterospecific mitochondrial transfer. Environmental Biology of Fishes, 105:261-287.

MacGuigan DJ, Hoagstrom CW, Domisch S, Hulsey CD, Near TJ. 2021. Integrative ichthyological species delimitation: reconciling genetic, phenotypic, environmental, and biogeographic evidence in the Greenthroat Darter complex (Percidae:Etheostomatinae). Zoologica Scripta 50:707-733.

Hoagstrom CW, Osborne MJ. 2021. Biogeography of *Cyprinodon* Across the Great Plains-Chihuahuan Desert Region and Adjacent Areas. Desert Fishes Council Special Publication 2021:20-76.

Ennen JR, Agha M, Sweat SC, Matamoros WA, Lovich JE, Iverson JB, Rhodin AGJ, Thomson RC, Hoagstrom CW. 2021. A watershed moment: focusing in on sub-basins to focus the geography of turtle conservation across the globe. Biological Conservation 253:108925.

Osborne MJ, Portnoy DS, Fields AT, Bean MG, Hoagstrom CW, Conway KW. 2021. Under the radar: genetic assessment of Rio Grande Shiner (*Notropis jemezanus*) and Speckled Chub (*Macrhybopsis aestivalis*), two Rio Grande basin endemic cyprinids that have experienced recent range contractions. Conservation Genetics 22:187-204.

Hoagstrom CW, Bestgen KR, Propst DL, Williams JE. 2020. Searching for common ground between life and extinction. Pages 407-418 *in* DL Propst, JE Williams, KR Bestgen, CW Hoagstrom (editors). Standing Between Life and Extinction. University of Chicago Press.

Hoagstrom CW, Houston D, Mercado-Silva N. 2020. Biodiversity, biogeography, and conservation of North American desert fishes. Pages 36-67 *in* DL Propst, JE Williams, KR Bestgen, CW Hoagstrom (editors). Standing Between Life and Extinction. University of Chicago Press.

Ennen JR, Agha M, Sweat SC, Matamoros WA, Lovich JE, Rhodin AGJ, Iverson JB, Hoagstrom CW. 2020. Turtle biogeography: Global regionalization and conservation priorities. Biological Conservation 241:108323.

Hoagstrom CW, Xiang L, Lewis-Rogers N, Connors PK, Sessions-Robinson A, Mull JF 2019. A quantitative simulation of coevolution with mutation using playing cards. American Biology Teacher 81:127-132.

Echelle AA, Lang NJ, Borden WC, Schwemm MR, Hoagstrom CW, Eisenhour DJ, Mayden RL, Bussche RAVD. 2018. Molecular systematics of the North American chub genus *Macrhybopsis* (Teleostei: Cyprinidae). Zootaxa 4375:537-554.

Ennen JR, Matamoros WA, Agha M, Lovich JE, Sweat S, Hoagstrom CW. 2017. Hierarchical, quantitative biogeographic provinces for all North American turtles and their contribution to the biogeography of turtles and the continent. Herpetological Monographs 31:142-168.

Matamoros WA, Hoagstrom CW, Schaefer JF, Kreiser BR. 2016. Fish faunal provinces of the conterminous United States of America reflect historical geography and familial composition. Biological Reviews 91:813-832.

Osborne MJ, Diver TA, Hoagstrom CW, Turner TF. 2016. Biogeography of "*Cyprinella lutrensis*": intensive genetic sampling from the Pecos River 'melting pot' reveals a dynamic history and phylogenetic complexity. Biological Journal of the Linnean Society 117:264-284.

Collyer ML, Hall MD, Smith MD, Hoagstrom CW. 2015. Habitat-morphotype associations of Pecos pupfish (*Cyprinodon pecosensis*) in isolated habitat complexes. Copeia 103:181-199.

Hoagstrom CW, Archdeacon TP, Davenport SR, Propst DL, Brooks JE. 2015. Intrafragment riverscape conservation for an imperiled, small-bodied, pelagic-broadcast spawning minnow: speckled chub (*Macrhybopsis aestivalis*). Canadian Journal of Fisheries and Aquatic Sciences 72:527-537.

Hoagstrom, CW, Turner TF. 2015. Recruitment ecology of pelagic-broadcast spawning minnows: paradigms from the ocean advance science and conservation of an imperilled freshwater fauna. Fish and Fisheries 16:282-299.

Echelle AA, Schwemm MR, Lang NJ, Nagle BC, Simons AM, Unmack PJ, Fisher WL, Hoagstrom CW. 2014. Molecular systematics and historical biogeography of the *Nocomis biguttatus* species group (Teleostei: Cyprinidae): Nuclear and mitochondrial introgression and a cryptic Ozark species. Molecular Phylogenetics and Evolution 81:109-119.

Hoagstrom CW. 2014. Drift versus retention: an alternative perspective to Wilde and Urbanczyk's 'relationship between river fragment length and persistence of two imperiled great plains cyprinids'. Journal of Freshwater Ecology 29:449-452.

Hoagstrom CW. 2014. Habitat loss and subdivision are additive mechanisms of fish extinction in fragmented rivers. Global Change Biology 21:4-5.

Hoagstrom CW, Ung V, Taylor K. 2014. Miocene rivers and taxon cycles clarify the comparative biogeography of North American highland fishes. Journal of Biogeography 41:644-658.

Davenport SR, Mull JF, Hoagstrom CW. 2013. Attempted consumption of a dangerous, riparian ant (*Camponotus vicinus*) by a threatened, fluvial minnow (*Notropis simus pecosensis*). Southwestern Naturalist 58:126-128.

Hoagstrom CW, Brooks JE, Davenport SR. 2011. A large-scale conservation perspective considering endemic fishes of the North American plains. Biological Conservation 144:21-34.

Osborne MJ, Davenport SR, Hoagstrom CW, Turner TF. 2010. Genetic effective size, N_e, tracks density in a small freshwater cyprinid, Pecos bluntnose shiner (*Notropis simus pecosensis*). Molecular Ecology 19:2832-2844.

Hoagstrom CW, Berry CR Jr. 2010. The native range of walleye in the Missouri River drainage. North American Journal of Fisheries Management 30:642-654.

Hoagstrom CW, Zymonas ND, Davenport SR, Propst DL, Brooks JE. 2010. Rapid species replacements between fishes of the North American plains: a case history from the Pecos River. Aquatic Invasions 5:141-153.

Hoagstrom CW, Remshardt WJ, Smith JR, Brooks JE. 2010. Changing fish faunas in two reaches of the Rio Grande in the Albuquerque Basin. Southwestern Naturalist 55:78-88.

Hoagstrom CW. 2009. Causes and impacts of salinization in the Lower Pecos River. Great Plains Research 19:27-44.

Hoagstrom CW, Hayer CA, Berry CR Jr. 2009. Criteria for determining native distributions of poorly-studied taxa: the case of the northern plains killifish in the Cheyenne River drainage, North America. Aquatic Conservation: Marine and Freshwater Ecosystems 19:88-95.

Hoagstrom CW, Brooks JE, Davenport SR. 2008. Recent habitat association and the historical decline of *Notropis simus pecosensis*. River Research and Applications 24:789-803.

Hoagstrom CW, Brooks JE, Davenport SR. 2008. Spatiotemporal population trends of *Notropis simus pecosensis*, 1992-2005, in relation to habitat conditions and the annual flow regime. Copeia 2008:5-15.

Hoagstrom CW, Berry CR Jr. 2008. Morphological diversity among fishes in a Great Plains river drainage. Hydrobiologia 596:367-386.

Hoagstrom CW, Gosch NJC, DeWitte AC, Berry CR Jr, Duehr JP. 2007. Biodiversity, biogeography, and longitudinal fish faunal structure among perennial, warmwater streams of the Cheyenne River drainage. Prairie Naturalist 39:117-144.

Selch TM, Hoagstrom CW, Weimer EJ, Duehr JP, Chipps SR. 2007. Influence of fluctuating water levels on mercury concentrations in adult walleye. Bulletin of Environmental Contamination and Toxicology 79:36-40.

Hoagstrom CW, DeWitte AC, Gosch NJC, Berry CR Jr. 2007. Historical fish assemblage flux in the Cheyenne River below Angostura Dam. Journal of Freshwater Ecology 22:219-229.

Kaemingk MA, Graeb BDS, Hoagstrom CW, Willis DW. 2007. Patterns of Fish Diversity in a mainstem Missouri River Reservoir and Associated Delta. River Research and Applications 23:786-791.

Hoagstrom CW, Wall SS, Kral JG, Blackwell BG, Berry CR Jr. 2007. Zoogeographic patterns and faunal change of South Dakota Fishes. Western North American Naturalist 67:161-184.

Hoagstrom CW, Wall SS, Berry CR Jr, Duehr JP. 2006. River size and fish assemblages in southwestern South Dakota. Great Plains Research 16:117-126.

Hoagstrom CW, Berry CR Jr. 2006. Island biogeography of native fish faunas among Great Plains drainage basins: basin scale features influence composition. American Fisheries Society Symposium 48:221-264.

Hoagstrom CW, Brooks JE. 2005. Distribution and status of Arkansas River shiner *Notropis girardi* and Rio Grande shiner *Notropis jemezanus*, Pecos River, New Mexico. Texas Journal of Science 57:35-58.

Hoagstrom CW. 2003. Historical and recent fish fauna of the Lower Pecos River. Pages 91-110 *in* G. P. Garrett and N. L. Allan (editors). Aquatic fauna of the northern Chihuahuan Desert. Special Publications of the Museum of Texas Tech University 46.

Hoagstrom CW, Brooks JE. 1999. Distribution, status, and conservation of the Pecos pupfish, *Cyprinodon pecosensis*. Technical Report No. 2, New Mexico Department of Game and Fish, Santa Fe.

Echelle AA, Hoagstrom CW, Echelle AF, Brooks JE. 1997. Expanded occurrence of genetically introgressed pupfish (Cyprinodontidae: *Cyprinodon pecosensis* x *variegatus*) in New Mexico. Southwestern Naturalist 42:336-339.

EDITED BOOKS

Propst DL, Williams JE, Bestgen KR, Hoagstrom CW. 2020. Standing Between Life and Extinction: Ethics and Ecology of Conserving Aquatic Species in North American Deserts. University of Chicago Press.

EDITED PROCEEDINGS

Bean MG, Garrett GP, Hoagstrom CW. 2021. Proceedings of the Desert Fishes Council Special Publication 2021. Desert Fishes Council.

OTHER PUBLICATIONS (NOT PEER-REVIEWED)

Galat DL, Braaten PJ, Guy C, Hoagstrom C, Horton T, Moser D, Paukert C. 2023. Chapter 10: Missouri River Basin. *In* MD Delong, TD Jardine, AC Benke, CE Cushing (editors). Rivers of North America, second edition. Academic Press.

Pasbrig, CA, Wagner, MD, Hoagstrom CW, Adams WE Jr, Neumann RM. 2022. Guide to the fishes of South Dakota, second edition. South Dakota Game, Fish & Parks, Pierre, SD.

Hoagstrom CW. 2020. Case Study 6.8: Pecos River restoration and the threatened Pecos bluntnose shiner, New Mexico. Pages 290-291 *in* MK Briggs, WR Osterkamp (editors). Renewing our rivers, stream corridor restoration in dryland regions. The University of Arizona Press.

Hoagstrom CW, Adams WE Jr, Neumann RM, Willis DW. 2011. Guide to the fishes of South Dakota. South Dakota Game, Fish & Parks, Pierre, SD.

Hoagstrom CW, Wall SS, Kral JG, Blackwell BG. 2007. Recent zoogeography of South Dakota fishes. Pages 37-89 *in* CR Berry Jr, KF Higgins, DW Willis, and SR Chipps (editors). History of fisheries and fishing in South Dakota. South Dakota Department of Game, Fish and Parks, Pierre.

Hoagstrom CW, DeWitte AC, Gosch NJC, Berry CR Jr. 2006. Perennial-Warmwater Fish Communities of the Cheyenne River Drainage: a seasonal assessment. Proceedings of the South Dakota Academy of Science 85:213-245.

Hoagstrom CW, Hayer CA, Kral JG, Wall SS, Berry CR Jr. 2006. Rare and Declining Fishes of South Dakota: a river drainage scale perspective. Proceedings of the South Dakota Academy of Science 85:171-211.

Berry CR Jr, Hoagstrom CW. 2003. Bioethics in a changing world: fisheries issues. Fisheries 28(9):30-31.

Presentations

ORAL PRESENTATIONS

Hernández S, Hoagstrom CW, Matamoros W 2023. Historical biogeography of New World Killifishes recapitulates geographical history in the Gulf of México watershed. International Biogeography Society, 11th Biennial Conference, Prague, CZ.

Hernández S, Hoagstrom CW, Matamoros W 2023. Abandoned in the Mojave Desert: revised history of oviparous goodeids (Empetrichthyinae). Desert Fishes Council Annual Symposium, Bishop, CA.

Hoagstrom CW, Osborne MJ 2022. An epoch abroad: how & when *Cyprinodon* may have reached the Great Basin (& points along the way). Desert Fishes Council Annual Symposium, St. George, UT.

Hoagstrom CW, Echelle AA. 2021. Southwestern endemic *Macrhybopsis*: legacies of peripheral isolation. Desert Fishes Council Annual Symposium, {virtual}.

Hoagstrom CW. 2021. The legacy of climate survival in endemic desert fishes. Virtual Annual Meeting of the Western Division of the American Fisheries Society: Amplifying Science in a Changing World. Special session: Climate Change Effects on Fish and Fisheries in a Changing World - Session 2. [**invited presentation**].

Hoagstrom CW. 2019. Meeting in the middle: biogeography of Pecos drainage *Cyprinodon*. Desert Fishes Council Annual Symposium, Alpine, TX.

Hoagstrom CW, Bestgen KR, Propst DL, Williams JE. 2018. Searching for Common Ground between Life and Extinction. Desert Fishes Council Annual Symposium, Furnace Creek, CA.

Hoagstrom CW, Houston D, Mercado-Silva N. 2016. Celebrating and conserving the diversity of desert fishes. Desert Fishes Council Annual Symposium, Albuquerque, NM.

Propst DL, Williams J, Bestgen K, Hoagstrom CW. 2016. Standing Between Life and Extinction: Ethics and Ecology of Conserving Aquatic Species in the American Southwest. Desert Fishes Council Annual Symposium, Albuquerque, NM.

Hoagstrom CW. 2016. Using long-term data to solve a minnow-conservation puzzle. Joint Meeting of Ichthyologists and Herpetologists, New Orleans, LA [**invited presentation**].

Ennen JR, Agha M, Lovich JE, Matamoros WA, Sinervo B, Spinks PE, Shaffer HB, Nowakowski J, Todd BD, Price SJ, Hoagstrom CW, Hazzard S. 2016. Macroecological and Evolutionary Patterns of Turtles at two scales, Global and Continental. Turtle Survival Alliance Conference, New Orleans, LA.

Hoagstrom CW. 2016. Evidence for hybrid metapopulations of pelagic-broadcast spawning minnows in the Pecos River, New Mexico. Great Plains Landscape Conservation Cooperative Webinar (20 Jan. 2016, 2 pm) [**invited presentation**].

Hoagstrom CW, Caldwell C, Peterson D. 2015. Wetland habitat associations of imperiled Pecos Pupfish, *Cyprinodon pecosensis*, in a brackish ciénega. Desert Fishes Council Annual Symposium, Death Valley, CA.

Hoagstrom CW, Taylor K. 2015. Deep Endemism of Fishes in the Ozarks and Pre-Pleistocene Highland Vicariance. Joint Meeting of Ichthyologists and Herpetologists, Reno, NV.

Mecham, DJ, Hoagstrom CW, Graeb, BDS. 2014. The effects of river channel restoration on early juvenile fishes and meiofauna of the Pecos River, New Mexico. Desert Fishes Council Annual Symposium, Los Cabos, BCS.

Hoagstrom CW, Archdeacon TP, Davenport SR, Propst DL, Brooks JE. 2014. Last-stand population ecology in fragmented rivers and conservation in de-facto refugia. Desert Fishes Council Annual Symposium, Los Cabos, BCS.

Hoagstrom CW, Taylor K. 2014. Evidence that a Centrifugal-Speciation/Taxon-Cycle Process Produced Endemism in the Ouachita Mountains via Peripheral Isolation. Joint Meeting of Ichthyologists and Herpetologists, Chattanooga, TN.

Hoagstrom CW, Archdeacon TP, Davenport SR, Propst DL, Brooks JE. 2013. Population regulation and conservation of speckled chub *Macrhybopsis aestivalis*. Desert Fishes Council Annual Symposium, Flagstaff, AZ.

Hoagstrom, CW, Riviere-Ung V, Taylor K. 2013. Tertiary Origins of Fish Endemism in North American Highlands: Parallel Evolution, Taxon Cycles, and Human Intrusions. Joint Meeting of Ichthyologists and Herpetologists, Albuquerque, NM. Fish out of Water: evolutionary and ecological issues in the conservation of fishes in water-altered environments special symposium [**invited presentation**].

Collyer ML, Hoagstrom CW. 2013. Examining the association between ecology and morphology in the Pecos pupfish (*Cyprinodon pecosensis*) in an altered and ecologically diverse landscape. American Society of Ichthyologists and Herpetologists, Albuquerque, NM. Fish out of Water: evolutionary and ecological issues in the conservation of fishes in water-altered environments special symposium [**invited presentation**].

Hoagstrom CW, Turner TF. 2012. The recruitment sequence, fish community assembly, & conservation ecology in arid-land rivers. Desert Fishes Council Annual Symposium, Death Valley, CA. Evolutionary Ecology of Refuge Populations of Protected Fishes special symposium [**invited presentation**].

Hoagstrom CW, Davenport SR, Brooks JE, Propst DL. 2012. Complex life history, ecology, and conservation of speckled chub (*Macrhybopsis aestivalis*), a benthic, opportunistic, pelagic-

broadcast spawning minnow. Annual meeting of the Society for Freshwater Science, Louisville, KT.

Hoagstrom CW. 2011. Fish endemism and conservation in the plains, North America. Science Conversations presented by the Weber State University Chapter of Sigma Xi. Ogden, UT.

Hoagstrom CW. 2011. Biological homogenization by rapid species replacement. Seminar speaker. Utah State University, College of Natural Resources [**invited presentation**], Logan, UT.

Hoagstrom CW. 2010. Challenges ahead and research needs. Break-out period presenter. Restoring Rivers in the Southwestern U.S. and Northern Mexico, a Bi-National Conference On Learning From the Past To Benefit the Future [**invited presentation**]. Tucson, AZ.

Hoagstrom CW, Zymonas ND, Davenport SR, Propst DL, Brooks JE. 2010. Ecology of rapid replacement – Rio Grande silvery minnow vs. plains minnow – middle Pecos River, New Mexico. Desert Fishes Council Annual Symposium, Moab, UT.

Osborne MJ, Davenport SR, Hoagstrom CW, Turner TF. 2010. Genetic effective size, N_e, tracks density in a small freshwater cyprinid, Pecos bluntnose shiner (*Notropis simus pecosensis*). Desert Fishes Council Annual Symposium, Moab, UT.

Hoagstrom CW. 2010. Benthic fish assemblages in northern Utah. Western Division of the American Fisheries Society Annual Meeting, Salt Lake City, UT.

Hoagstrom CW. 2009. Benthic fish assemblages in northern Utah. 6th Annual Faculty Forum, WSU, Ogden, UT.

Hoagstrom CW, Davenport SR, Brooks JE. 2009. Biogeography and long-term conservation of fishes and aquatic habitats of the Pecos River drainage. Western Division of the American Fisheries Society Annual Meeting, Albuquerque, NM.

Davenport SR, Hoagstrom CW, Archdeacon TP. 2009. Response of Pecos River fish community to surface flow intermittence. Western Division of the American Fisheries Society Annual Meeting, Albuquerque, NM.

Kodric-Brown A, Hoagstrom CW, Brooks JE. 2009. Fish assemblages of sinkholes in the lower Pecos River Basin of New Mexico. Western Division of the American Fisheries Society Annual Meeting, Albuquerque, NM.

Holmes NV, Hoagstrom CW. 2009. Ecomorphology of sculpin in northeastern Utah. Western Division of the American Fisheries Society Annual Meeting, Albuquerque, NM.

Holmes NV, Hoagstrom CW. 2009. Ecomorphology of sculpin in northeastern Utah. Weber State University Undergraduate Research Symposium, Ogden, UT.

Holmes NV, Hoagstrom CW. 2009. Ecomorphology of sculpin, a native fish of northeastern Utah. Utah Conference on Undergraduate Research, Salt Lake City, UT.

Hoagstrom CW. 2009. Preliminary data on the distribution, habitat association, and population structure of Paiute sculpin *Cottus beldingii* in northeastern Utah. Utah Chapter of the American Fisheries Society Annual Meeting, Moab, UT.

Holmes NV, Hoagstrom CW. 2009. Ecomorphology of sculpin in northeastern Utah. Utah Chapter of the American Fisheries Society Annual Meeting, Moab, UT.

Hoagstrom CW, Holmes NV. 2008. Ecomorphological relations between *Cottus* species and their environment in northeastern Utah. Desert Fishes Council Annual Symposium, Cuatro Ciénegas, Coahuila.

Hoagstrom CW, Holmes NV. 2008. How does the environmental variation among streams affect morphological variation of individual fish? 5th Annual Faculty Forum, WSU, Ogden, UT.

Hoagstrom CW. 2008. Hydrological causes and ecological impacts of salinization in the Lower Pecos River. Annual meeting of the North American Benthological Society, Salt Lake City, UT.

Hoagstrom CW, Brooks JE, Davenport SR. 2007. Recent habitat association and the historical decline of *Notropis simus pecosensis*. Desert Fishes Council Annual Symposium, Ventura, CA.

Hoagstrom CW, Brooks JE, Davenport SR. 2006. Spatiotemporal population patterns of the Pecos bluntnose shiner, 1992-2005. Desert Fishes Council Annual Symposium, Furnace Creek, CA.

Davenport SR, Hoagstrom CW, Brooks JE. 2006. Effects of surface flow intermittence on a Great Plain's fish community, Pecos River, New Mexico. Desert Fishes Council Annual Symposium, Furnace Creek, CA.

Kaemingk MA, Graeb BDS, Hoagstrom CW, Willis DW. 2006. Patterns of fish diversity within the Lewis and Clark Reservoir and delta. 67th Midwest Fish and Wildlife Conference, Omaha, NE.

Berry CR, Hoagstrom CW. 2006. Status of fishes in South Dakota with emphasis on declining species in eastern rivers. Eastern South Dakota Water Conference, Brookings, SD.

Hoagstrom CW, Berry CR, Gosch NJC, DeWitte AC. 2006. Fish assemblage structure in the North American Great Plains: a case history. Annual Meeting of the North American Benthological Society, Anchorage, AK.

Hoagstrom CW, DeWitte AC, Gosch NJC, Berry CR Jr. 2006. Perennial-Warmwater Fish Communities of the Cheyenne River Drainage: a seasonal assessment. South Dakota Academy of Science Meeting, Chamberlain, SD.

Hoagstrom CW, Hayer CA, Kral JG, Wall SS, Berry CR Jr. 2006. Rare and Declining Fishes of South Dakota: a river drainage scale perspective. South Dakota Academy of Science Meeting, Chamberlain, SD.

Hoagstrom CW, Wall SS, Kral JG, Blackwell BG, Berry CR Jr. 2006. Distributional trends of South Dakota Fishes among river drainages and over time. Dakota Chapter American Fisheries Society Meeting, Chamberlain, SD.

Hoagstrom CW, Berry CR Jr. 2006. South Dakota's river fish inventory and habitat analysis: 15-year summary of fish ecology discoveries, Part II. Dakota Chapter American Fisheries Society Meeting, Chamberlain, SD.

Berry CR Jr., Hoagstrom CW. 2006. South Dakota's river fish inventory and habitat analysis: 15-year summary of fish ecology discoveries, Part I. Dakota Chapter American Fisheries Society Meeting, Chamberlain, SD.

Kaemingk MA, Graeb BDS, Hoagstrom CW, Willis DW. 2006. Patterns of Juvenile Fish Diversity within the Lewis and Clark Reservoir System. Dakota Chapter American Fisheries Society Meeting, Chamberlain, SD.

Hoagstrom CW, Berry CR Jr, Gosch NJC, DeWitte AC. 2005. Is it "normal" for smallmouth bass to dominate the Cheyenne River below Angostura Dam during drought periods? Midwest Fish & Wildlife Conference, Grand Rapids, MI.

Selch TM, Chipps SR, Hoagstrom CW, Duehr JP, Weimer EJ. 2005. Predictive models relating mercury concentrations in top-level piscivores to water level fluctuations and physicochemical properties. Midwest Fish & Wildlife Conference, Grand Rapids, MI.

Duehr JP, Hoagstrom CW, Berry CR Jr. 2005. Segment and reach scale geomorphology and associated fish assemblages in the Cheyenne River Basin. Joint Assembly of the American Geophysical Union, North American Benthological Society, Society of Exploration Geophysicists, and the Solar Physics Division of the American Astronomical Society, New Orleans, LA.

Hoagstrom CW, Berry CR Jr. 2004. Fluviogeomorphical continua and fish communities in western South Dakota Rivers. Midwest Fish & Wildlife Conference, Indianapolis, IN.

Hoagstrom CW, Berry CR Jr. 2004. Zoogeography of native fishes in western Missouri River tributary watersheds from the Yellowstone to the Platte. Annual Meeting of the American Fisheries Society, Madison, WI.

Hoagstrom CW. 2004. Downstream reduction of fish species richness in the Cheyenne River, South Dakota, U.S.A. Annual Meeting of the North American Benthological Society, Vancouver, BC.

Hoagstrom CW. 2004. Pelagic, broadcast spawning minnows in South Dakota? Dakota Chapter American Fisheries Society Meeting, Pierre, South Dakota.

Hoagstrom CW, Berry CR Jr. 2003. Channel Catfish Distribution in Western South Dakota. Midwest Fish & Wildlife Conference, Kansas City, MO.

Berry CR Jr., Morey NM, Hoagstrom CW. 2003. Recreational Catfishing, Status of Channel and Flathead Catfish Populations, and Proposed Flood Control Measures in Eastern South Dakota. Midwest Fish & Wildlife Conference, Kansas City, MO.

Hoagstrom CW, Brooks JE. 2003. Pecos bluntnose shiner conservation status. Society for Conservation Biology Annual Meeting, Duluth, MN.

Hoagstrom CW. 2002. Length structure of the Pecos bluntnose shiner population at two temporal scales. Joint Meeting of the Ichthyologists and Herpetologists, Kansas City, MO.

Hoagstrom CW. 2002. Pecos bluntnose shiner: size-related habitat use. Annual Symposium of the Desert Fishes Council, Hotel Fiesta Inn, San Luis Potosi.

Brooks JE, Propst DL, Dudley RK, Hoagstrom CW, Platania SP, Turner TF. 2002. Native fish research and management in the upper/middle Rio Grande basin, 2002. Annual Symposium of the Desert Fishes Council, Hotel Fiesta Inn, San Luis Potosi.

Hoagstrom CW. 2001. Habitat preference of Rio Pecos fluvial cyprinids. Meeting of the North American Benthological Society, Lacrosse, WI.

Hoagstrom CW. 2001. Historical and recent distributions of lower Pecos River fishes. Annual Symposium of the Desert Fishes Council, Alpine, TX.

Brooks JE, Propst DL, Hoagstrom CW, Platania SP, Turner TF, Wiley BG. 2001. Native fish research and management in the upper/middle Rio Grande basin during 2001. Annual Symposium of the Desert Fishes Council, Alpine, TX.

Tashjian PL, Hoagstrom CW. 2001. The Physical In-Channel Habitat of the Middle Pecos River, New Mexico: Geomorphic Control on Native Fish Community. American Water Resources Association National Conference, Albuquerque, NM.

Hoagstrom CW. 2000. Significance of fluvial, sand-bed habitat to desert river minnow conservation. Annual Symposium of the Desert Fishes Council, Death Valley, CA.

Brooks JE, Propst DL, Dudley RK, Hoagstrom CW, Monzingo J, Platania SP, Smith JR. 2000. Native fish research and management in New Mexico during 2000. Annual Symposium of the Desert Fishes Council, Death Valley, CA.

Hoagstrom CW. 1999. Native fishes in the Pecos River, New Mexico. Annual Symposium of the Desert Fishes Council, Ciudad Victoria, Tamaulipas.

Hoagstrom CW. 1999. Fate of native Pecos River fishes: Red Bluff Dam to Sheffield, Texas. Symposium on the Resources of the Chihuahuan Desert Region: U.S. and Mexico, Alpine, TX.

Hoagstrom CW. 1998. Pelagic spawning cyprinids and reservoir operation, Pecos River, NM. Southwestern Association of Naturalists Annual Meeting, Albuquerque, NM.

Hoagstrom CW. 1998. Endemic Pecos River minnows. Uniting the Basin Congress, El Paso, TX.

Hoagstrom CW, Brooks JE. 1998. Distribution, status, and conservation of the Pecos pupfish, *Cyprinodon pecosensis*. Annual Symposium of the Desert Fishes Council, Wahweap Lodge, Page, AZ.

Hoagstrom CW. 1997. Reservoir operation, habitat, and cyprinid fishes in the middle Pecos River, NM. Annual Symposium of the Desert Fishes Council, Death Valley National Park, CA.

Hoagstrom CW. 1995. Fish population interactions in a southeast New Mexican sinkhole. Annual Symposium of the Desert Fishes Council, Peppermill Hotel Casino, Reno, NV.

Hoagstrom CW. 1994. Status of estuarine fishes inhabiting the Pecos River. Annual Symposium of the Desert Fishes Council, Death Valley National Park, Furnace Creek, CA.

POSTER PRESENTATIONS

Hoagstrom CW, Houston D, Mercado-Silva N. 2018. Biodiversity, Biogeography, & Conservation of North American Desert Fishes I: Areas of Endemism; Poster presentation, Desert Fishes Council; Furnace Creek, CA

Hoagstrom CW, Houston D, Mercado-Silva N. 2018. Biodiversity, Biogeography, & Conservation of North American Desert Fishes II: Faunal Assembly; Poster presentation, Desert Fishes Council; Furnace Creek, CA

Hoagstrom CW, Davenport SR, Propst DL, Brooks JE. 2015. Conserving relict ecosystems for grassland-endemic riverine minnows. Joint Meeting of Ichthyologists and Herpetologists, Reno, NV.

Hoagstrom CW, Archdeacon TP, Davenport SR, Propst DL, Brooks JE. 2014. Intra-fragment riverscape conservation for an imperiled, small-bodied, pelagic-broadcast spawning minnow. Joint Meeting of Ichthyologists and Herpetologists, Chattanooga, TN.

Hoagstrom CW. 2012. The Coahuilan connection to the Interior highlands. Desert Fishes Council Annual Symposium, Death Valley, CA.

Anderson T, Kingsford M, Hoagstrom CW. 2012. Fish in your backyard? Factors affecting trout presence in Wasatch Front creeks. Desert Fishes Council Annual Symposium, Death Valley, CA.

Abbott J, Booth J, Anderson T, Hoagstrom CW. 2012. Rainbow Trout (*Oncorhynchus mykiss*) Population Structure in Strongs Creek, Ogden, Utah. National Conference on Undergraduate Research, Ogden, UT.

Green S, Remkes T, Van Leuven D, Hoagstrom CW. 2012. Assessment of Age and Growth in Rainbow Trout (*Oncorhynchus mykiss*) in Strongs Creek, Ogden Utah. National Conference on Undergraduate Research, Ogden, UT.

Anderson T, Kingsford M, Hoagstrom CW. 2012. Fish in your backyard? Factors affecting trout presence in Wasatch Front creeks. National Conference on Undergraduate Research, Ogden, UT.

Anderson T, Kingsford M, Hoagstrom CW. 2012. Fish in your backyard? Factors affecting trout presence in Wasatch Front creeks. Day at the Utah State Capitol, event, Salt Lake City, UT.

Anderson T and CW Hoagstrom. 2011. Fish in your backyard? Finding trout in Wasatch Front creeks. Weber State University Undergraduate Research Symposium, Ogden, UT.

Knight Z and CW Hoagstrom. 2011. Rainbow Trout Abundance and Population Structure in Creeks Along the Wasatch Front, Utah. Weber State University Undergraduate Research Symposium, Ogden, UT.

Anderson T and CW Hoagstrom. 2011. Fish in your backyard? Finding trout in Wasatch Front creeks. Day at the Utah State Capitol, event, Salt Lake City, UT.

Geary SA, and CW Hoagstrom. 2010. Habitat research for a least chub refuge at the Ogden Nature Center. Weber State University Undergraduate Research Symposium, Ogden, UT.

Hoskins AJ, and CW Hoagstrom. 2010. Non-native fishes of the Ogden Nature Center and potential for least chub introduction. Weber State University Undergraduate Research Symposium, Ogden, UT.

Eames J, T Healy, B Galbraith, and CW Hoagstrom. 2010. Survival of the Pyramid Lake strain of the Lahontan Cutthroat in Spring Creek, Utah. Weber State University Undergraduate Research Symposium, Ogden, UT.

Cranney MD, CW Hoagstrom. 2009. Morphological variation among humpback whitefish in three Alaskan creeks. Western Division of the American Fisheries Society Annual Meeting, Albuquerque, NM.

Cranney MD, CW Hoagstrom. 2009. Morphological variation among humpback whitefish in three Alaskan creeks. Weber State University Undergraduate Research Symposium, Ogden, UT.

Johnson S, CW Hoagstrom. 2009. Relations between stream habitat, distribution, & population structure of Paiute sculpin, *Cottus beldingii*. Posters on the Hill event at the state capitol, Salt Lake City, UT.

Johnson S, CW Hoagstrom. 2008. Relations between stream habitat, distribution, & population structure of Paiute sculpin, *Cottus beldingii*. Weber State University Undergraduate Research Symposium, Ogden, UT.

Hoagstrom CW, and CR Berry Jr. 2006. Is the walleye *Sander vitreus* native to South Dakota. Dakota Chapter American Fisheries Society Meeting, Chamberlain, SD.

Hoagstrom CW, AC DeWitte, NJC Gosch, JP Duehr, and CR Berry Jr. 2005. *Notropis stramineus missuriensis* (Cope): a forgotten subspecies? Dakota Chapter American Fisheries Society Meeting, Bismarck, ND.

Duehr JP, CW Hoagstrom, and CR Berry Jr. 2004. Comparison of fish species diversity in two small western South Dakota watersheds. Annual Meeting of the North American Benthological Society, Vancouver, BC.

Berry CR Jr, and CW Hoagstrom. 2003. Ethics: recreational fishing, fisheries profession, and fisheries education. American Institute of Biological Sciences Annual Meeting, Arlington, VA.

External grants received

- COMPARATIVE ECOLOGY AND POPULATION MANAGEMENT OF FISH ASSEMBLAGES IN PRAIRIE RIVERS. 2013. Grant proposal funded by Great Plains Landscape Conservation Cooperative for **$47,036**.
- SEASONAL ECOLOGY OF PECOS PUPFISH IN A DYNAMIC, REMNANT WETLAND. 2012. Grant proposal funded by U.S. Geological Survey for **$87,699**. Administered through *Dr. Colleen Caldwell*, U.S. Geological Survey, New Mexico Cooperative Fish and Wildlife Research Unit, Department of Fishery and Wildlife Sciences, New Mexico State University.
- CHANNEL RESTORATION AND PECOS BLUNTNOSE SHINER RECRUITMENT. 2011. Grant proposal funded by U.S. Bureau of Reclamation for **$203,860**. *Dr. Brian Graeb*, Department of Wildlife and Fisheries Sciences, South Dakota State University, co-principal investigator.
- FISH INVENTORIES IN AND FISH POPULATIONS AND ASSEMBLAGE COMPARISONS AMONG THREE TETLIN NWR STREAMS, Challenge Cost Share, U.S. Fish and Wildlife Service, Anchorage, Alaska for **$5000**.
- FISHES AND RIVERINE HABITAT OF BADLANDS NATIONAL PARK, WITH EMPHASIS ON THE STURGEON CHUB AND OTHER IMPERILED SPECIES. 2006. South Dakota State University, Brookings, SD. Grant proposal funded by the National Park Service and South Dakota State University (Park Oriented Biological Support Program) for **$76,833**. Grant in part supported an MS level research assistant for two years. Coauthored with *Dr. Charles R. Berry, Jr.*
- RIO GRANDE SILVERY MINNOW ECOLOGICAL INVESTIGATIONS, HABITAT UTILIZATION BY RIO GRANDE SILVERY MINNOW IN RELATION TO GEOMORPHIC REACH, DISCHARGE, AND POLLUTION, MAINSTEM RIO GRANDE, BERNALILLO TO SAN MARCIAL, NEW MEXICO. 2002-2003. U.S. Fish and Wildlife Service, New Mexico Fishery Resources Office, Albuquerque, NM. Grant proposal funded by the Endangered Species Act Work Group for the Middle Rio Grande, NM for **$107,400** in 2003 and **$213,240** in 2004. Coauthored with *Mr. Paul L. Tashjian*.

Fish, Wildlife, and Conservation Biology
Warner College of Natural Resources
1474 Campus Delivery
Fort Collins, Colorado, 80523-1474
Dept. Office: 970-491-5020
Fax: 970-491-5091
http://warmercnr.colostate.edu/fwcb

January 19, 2024
Chadwin Smith, Ph.D.
Science Policy Coordinator
Platte River Recovery Implementation Program
4111 4th Ave., Suite 6
Kearney, NE 68845

Dear Dr. Smith,

I would like to apply for an open position as a large river ecologist on the Independent Scientific Advisory Committee (ISAC) of the Platte River Recovery Implementation Program (PRRIP). I believe that I am highly qualified for the position based on my disciplinary expertise in river fish ecology and management, a strong record of scientific accomplishment, inter-disciplinary experiences including human dimensions of river management, and alignment of my career goal and stage with the PRRIP mission. I will summarize my experience and qualifications below.

I have conducted research on fish ecology and conservation in rivers of all sizes in North America and Japan. My disciplinary expertise includes population dynamics, habitat and movement ecology, conservation genetics, global change biology, flow ecology, invasive species management, and statistical models. I obtained my Ph.D. degree in fisheries management from University of Connecticut in 2010 and have since held two tenure-track faculty positions at Clemson University and Colorado State University. I am currently in my third year as an Associate Professor in the Department of Fish, Wildlife, and Conservation Biology at Colorado State University. I have built an international reputation in fish ecology and conservation, evidenced by over 65 peer-reviewed publications, over $2 million of research funding obtained as PI or CoPI, a current editorial board status in Ecology of Freshwater Fish, and 14 graduate students and post-docs I have mentored. In my current position, I teach an upper-level undergraduate course in fish conservation annually and a graduate-level course in river sustainability with a significant focus on river flow management every other year.

My academic and professional training in river ecology and management is complemented by strong inter-disciplinary backgrounds. I obtained a BA in international politics and law from Meiji University (Tokyo, Japan) and an inter-disciplinary MA in Environmental Studies from Dalhousie University (Nova Scotia, Canada). Prior to obtaining my PhD degree, I worked as a diplomat for 8 years for the Japanese Ministry of Foreign Affairs and worked with a variety of governmental and international agencies. I gained hands-on experience on how policy and

administrative decisions are made by balancing competing interests given the practical and political constraints. My inter-disciplinary backgrounds have shaped my current research agenda in river management. For example, I currently work with the Colorado Water Conservation Board and the South Platte Basin Roundtable on an inter-disciplinary project that addresses ecological issues (aquatic invasive species and salinity) and human dimensions to characterize stakeholder mental models of water use and management in South Platte River.

Of the many river projects I have worked on, I highlight three projects that are most relevant to the PRRIP. First, I worked on a project to use side-scan sonar for estimating the spawning adult population size of Atlantic sturgeon *Acipenser oxyrinchus* in Savannah River that borders Georgia and South Carolina. I also almost initiated another project to evaluate whether and where Atlantic sturgeon spawn in the river, but it did not materialize as it coincided with my transfer from Clemson University to Colorado State University. I became familiar with ecology and conservation challenges of Atlantic sturgeon, which appear shared with pallid sturgeon. Second, I am currently working on demography and migration of masu salmon *Oncorhynchus masou* in Japan and effects of in-stream wood to increase salmon production in a fine-substrate-dominated river, similar to Platte River but much smaller in size. In my view, animal migrations share key properties across taxa including the avian species targeted in the PRRIP and I am interested in learning more on how ecological inferences on migratory species are strengthened given missing observations across space and life stages based on the terrestrial species. Finally, I have an ongoing project in Blue River, a 5th-order tributary to Colorado River, to increase primary and secondary aquatic production in a flow-regulated river. Working with a private ranch, our unique approach is to restore nutrients by injecting phosphorous artificially, while simultaneously working with a dam operator to experiment with flow release. Across these projects, I have learned aquatic ecology in anthropogenically-stressed rivers globally and I will bring the wealth of experience to the PRRIP.

I am very interested in serving on the ISAC for many reasons, but three reasons merit mention. First, if I understand correctly, a major component that affects the success of the PRRIP centers on flow management. Flow is undoubtedly critical to pallid sturgeon, but flow management which affects sediment transport seems critical to the avian species that rely on off-channel and riparian habitats for nesting and survival. This appears to be a unique opportunity to learn how rivers and animals respond to flows in the long-term adaptive management framework. Second, I am entering my mid-career as an applied scientist. When I think about how I got where I am, where I want to go in my long-term career, and how I might be able to make impacts beyond my academic cell, bridging science and policy is my top priority in my next career phase. I think I can make positive impacts as a member of the ISAC on the natural resource management and decision-making process, and I will find the experience fulfilling and rewarding. Finally, I would like to incorporate my experience as an ISAC member in my classroom and course materials in fish conservation and river sustainability taught at Colorado State University. This type of knowledge does not appear in the textbook of river ecology and management, but it is immensely important for students to learn how science and governance feeds each other. It will be exciting to me to communicate with students about how one of the most successful collaborative endangered species recovery programs is administered, and it aligns with a land-grant mission of my state university.

One last thought is that I am well positioned to maintain scientific independence and objectivity as an ISAC member. I have not worked in the PRRIP jurisdictional area and have no future plans to do so, yet I am geographically not distant based in Fort Collins, Colorado. I cannot claim that I am an aquatic expert of the Platte River basin, but I believe I would be a great fit if you are looking for a river ecologist with broad and diverse experience and strong quantitative backgrounds. I look forward to discussing how I may be able to contribute to the PRRIP via this important role. I am happy to provide additional information on my qualifications, as needed. I can be reached at yoichiro.kanno@colostate.edu and 970-632-0952 (cell phone) at your convenience. Thank you so much in advance for considering my application.

Sincerely,

Yoichiro Kanno
Associate Professor

Biographical Statement: Yoichiro Kanno

Yoichiro Kanno is an Associate Professor in the Department of Fish, Wildlife, and Conservation Biology at Colorado State University. He received a BA in international law and politics (Meiji University, Japan), MA in Environmental Studies (Dalhousie University, Canada), and Ph.D. in fisheries and natural resources (University of Connecticut, USA). He is a stream and river fish ecologist with expertise on population dynamics, habitat and movement ecology, conservation genetics, global change biology, flow ecology, invasive species management, and statistical models. He has published over 65 peer-reviewed publications, obtained over $2 million of research funding as PI or CoPI, mentored 14 graduate students and post-docs, and serve currently on the editorial board of Ecology of Freshwater Fish. He teaches courses in fish conservation and river sustainability at Colorado State University and taught fisheries management and Bayesian applications to fisheries and wildlife data at Clemson University, South Carolina. Prior to obtaining his Ph.D. degree in fisheries and natural resources, he worked as a diplomat for 8 years for the Japanese Ministry of Foreign Affairs and worked with many governmental and international agencies. He continues to lead interdisciplinary fish and river management projects in the USA and Japan.

(Updated January 2024)

YOICHIRO KANNO

Mailing Address:
Department of Fish, Wildlife, and Conservation Biology
Colorado State University
1474 Campus Delivery
Fort Collins, CO 80523-1474
Office phone: (970) 491-5520 Cell phone: (970)632-0952 Office fax: (970) 491-5091
Email: yoichiro.kanno@colostate.edu

Education

Ph.D., Natural Resources, University of Connecticut, Storrs, CT. 2010.
Dissertation: Brook trout populations in headwater stream networks: reproductive biology, riverscape genetics, and climate change impact on abundance

M.E.S., Environmental Studies, Dalhousie University, Halifax, NS, Canada. 2002.
Thesis**:** Fish community changes in River Philip, Nova Scotia, and an index of sustainable coldwater streams

B.A., Law, Meiji University, Tokyo, Japan. 2000.

Professional Experience

Associate Professor (Stream Ecology), Department of Fish, Wildlife, and Conservation Biology, and Graduate Degree Program in Ecology, Colorado State University, Fort Collins, CO (Jul. 2021 – Present).

Assistant Professor (Stream Ecology), Department of Fish, Wildlife, and Conservation Biology, and Graduate Degree Program in Ecology, Colorado State University, Fort Collins, CO (Aug. 2017 – Jun. 2021).

Assistant Professor (Fisheries Ecology), Department of Forestry and Environmental Conservation, Clemson University, Clemson, SC (Nov. 2013 – Aug. 2017).

Postdoctoral Research Associate, Silvio O. Conte Anadromous Fish Research Center, U.S. Geological Survey & Department of Environmental Conservation, University of Massachusetts, Amherst, MA (May 2012 – Nov. 2013). Mentored by Dr. Benjamin Letcher.

Postdoctoral Research Associate, Department of Biology & Center for the Management, Utilization and Protection of Water Resources, Tennessee Technological University, Cookeville, TN (Feb. 2011 – May 2012). Mentored by Dr. Hayden Mattingly.

Graduate Research Assistant, Department of Natural Resources and the Environment, University of Connecticut, Storrs, CT (Aug. 2006 – Dec. 2010). Advised by Dr. Jason Vokoun.

Diplomat, Japanese Ministry of Foreign Affairs (Apr. 1999 – Sep. 2006).

Other Appointments

Visiting Research Scholar (Visiting Associate Professor), Center for Ecological Research, Kyoto University, Shiga, Japan (May - July 2018).

Adjunct Assistant Professor, Department of Forestry and Environmental Conservation, Clemson University, Clemson, SC (August 2017 – August 2022).

Peer-reviewed Publications

‡ graduate student; † undergraduate student; § post-doc

Published

[67] Fausch, K.D., K. Morita, J. Tsuboi, **Y. Kanno**, S. Yamamoto, D. Kishi, J.B. Dunham, I. Koizumi, K. Hasegawa, M. Inoue, T. Sato, and S. Kitano. (In press). The past, present, and a future for native charr in Japan. **Ichthyological Research.**

[66] Valentine, G.P.‡, X. Lu §, E.S. Childress, C.A. Dolloff, N.P. Hitt, M.A. Kulp, B.H. Letcher, K.C. Pregler ‡, J.M. Rash, M.B. Hooten, and **Y. Kanno.** 2024. Spatial asynchrony and cross-scale climate interactions in populations of a coldwater stream fish. **Global Change Biology** 30: e17029.

[65] Pregler, K.C. ‡, X. Lu §, G.P. Valentine ‡, S. Kim ‡, and **Y. Kanno.** 2023. Temperature variation generates interspecific synchrony but spatial asynchrony in survival for freshwater fish communities. **Ecology and Evolution** 13: e10700.

[64] Shi, W., Z. Zhou, B.H. Letcher, N.P. Hitt, **Y. Kanno**, R. Futamura, O. Kishida, K. Morita, and S. Li. 2023. Aging contrast: A contrastive learning framework for fish re-identification across seasons and years. **Australian Joint Conference on Artificial Intelligence** AI 2023: 252-264.

[63] Preston, D.L., J. Trujillo, M.P. Fairchild, R.R. Morrison, K.D. Fausch, and **Y. Kanno.** 2023. Short-term effects of wildfire on high elevation stream-riparian food webs. **Oikos** 2023: e09828.

[62] Ma, C., R.R. Morrison, D. White, J. Roberts, and **Y. Kanno.** 2023. Climate change impacts on native cutthroat trout habitat in Colorado streams. **River Research and Applications** 39: 970-986.

[61] **Kanno, Y.**, M.L. Locklear †, N.M. Platis ‡, and S.T. Lewis ‡**.** 2023. Body condition metrics explain fish movement in experimental streams. **Journal of Zoology** 320: 18-28.

[60] **Kanno, Y.**, S. Kim ‡, and K.C. Pregler ‡**.** 2023. Sub-seasonal correlation between growth and survival in three sympatric aquatic ectotherms. **Oikos** 2023: e09685

[59] Tsuboi, J.*, K. Morita, Y. Koseki, S. Endo, G. Sahashi, D. Kishi, T. Kikko, D. Ishizaki, M. Nunokawa, and **Y. Kanno***. 2022. Small giants: tributaries rescue spatially structured populations from habitat fragmentation. **Journal of Applied Ecology** 59: 1997-2009. **Shared first authorship*

[58] Harris, A.C. ‡, S.J. Oyler-McCance, J.A. Fike, M.P. Fairchild, C.M. Kennedy, H.J. Crockett, D.L. Winkelman, and **Y. Kanno**. 2022. Population genetics reveals bidirectional fish movement across the Continental Divide via an interbasin water transfer. **Conservation Genetics** 23: 839-851.

[57] Wenger, S.J., E.S. Stowe, K.B. Gido, M.C. Freeman, **Y. Kanno,** N.R. Franssen, J.D. Olden, N.L. Poff, A.W. Walters, P.M. Bumpers, M.C. Mims, M.B. Hooten, and X. Lu §. 2022. Simple statistical models can be sufficient for testing hypotheses with population time series data. **Ecology and Evolution** 12: e9339.

[56] Freeman, M.C., K.R. Bestgen, D. Carlisle, E.A. Frimpong, N.R. Franssen, K.B. Gido, E. Irwin, **Y. Kanno**, C. Luce, S.K. McKay, M.C. Mims, J.D. Olden, N.L. Poff, D.L. Propst, L. Rack, A.H. Roy, E.S. Stowe, A. Walters, and S.J. Wenger. 2022. Toward improved understanding of streamflow effects on freshwater fishes. **Fisheries** 47:290-298.

[55] Kim, S. ‡, M.B. Hooten, T.L. Darden, and Y. Kanno. 2022. Linking male reproductive success to effort within and among nests in a co-breeding stream fish. **Ethology** 128:489-498.

[54] Futamura, R., K. Morita, **Y. Kanno**, and O. Kishida. 2022. Size-selective mortality occurs in smolts during a seaward migration, but not in river residents, in masu salmon (*Oncorhynchus masou*). **Environmental Biology of Fishes** 105:1833-1843.

[53] Futamura, R., K. Morita, **Y. Kanno**, S. Kumikawa, Y. Matsuoka, A. Okuda, H. Sugiyama, H. Takahashi, J. Uchida, and O. Kishida. 2022. Size-dependent growth tactics of a partially migratory fish before migration. **Oecologia** 198:371-379.

[52] Uno, H., M. Yokoi, K. Fukushima, **Y. Kanno**, O. Kishida, W. Mamiya, R. Sakai, and S. Utsumi. 2022. Spatially variable hydrological and biological processes shape diverse post-flood aquatic communities. **Freshwater Biology** 67:549-563.

[51] Kazyak, D.C., B.A. Lubinski, M.A. Kulp, K.C. Pregler ‡, A.R. Whiteley, E. Hallerman, J.A. Coombs, **Y. Kanno**, J.M. Rash, R.P. Morgan, J. Habera, J. Henegar, T.C. Weathers, M.T. Sell, A. Rabern, D. Rankin, and T.L. King. 2022. Population genetics of brook trout (*Salvelinus fontinalis*) in the southern Appalachian Mountains. **Transactions of the American Fisheries Society** 151:127-149. [***Featured Paper***]

[50] **Kanno, Y.**, A.C. Harris ‡, O. Kishida, S. Utsumi, and H. Uno. 2022. Complex effects of body length and condition on within-tributary movement and emigration in stream salmonids. **Ecology of Freshwater Fish** 31:317-329.

[49] Terui, A., S. Kim ‡, K.C. Pregler ‡, and **Y. Kanno**. 2021. Non-random dispersal in sympatric stream fishes: influences of natural disturbance and body size. **Freshwater Biology** 65:1865-1875.

[48] Fitzgerald, K.A. †, M.R. Haworth, K.R. Bestgen, C.J. Farrell, S. Utsumi, O. Kishida, H. Uno, and **Y. Kanno**. 2021. Hatch timing of two subarctic salmonids in a stream network estimated by otolith increments. **Fisheries Management and Ecology** 28:507-515.

[47] Ciepiela, L.R., R.M. Fitzpatrick, S.T. Lewis ‡, and **Y. Kanno**. 2021. Behavioral interactions between a native and an invasive fish species in a thermally heterogenous experimental chamber. **Fishes** 6:75.

[46] Fausch, K.D., S. Nakano, S. Kitano, **Y. Kanno**, and S. Kim ‡. 2021. Interspecific social dominance networks reveal mechanisms promoting coexistence in sympatric charrs in Hokkaido, Japan. **Journal of Animal Ecology** 90:515-527.

[45] Harris, A.C. ‡, R.D. Hanks §, J.M. Rash, D.W. Goodfred, and **Y. Kanno**. 2021. Standard weight equation for brook trout in southern Appalachian Mountains streams. **Journal of Fish and Wildlife Management** 12:183-189.

[44] Kim, S. ‡*****, K.C. Pregler ‡, E.L. Cushman, T.L. Darden, and **Y. Kanno***. 2020. Behavior outweighs body size in mediating male reproductive success in a nest-building fish, bluehead chub. **Behavioral Ecology and Sociobiology** 74:148. **Shared first authorship*

[43] Nathan, L.R., **Y. Kanno,** B.H. Letcher, A.B. Welsh, A.R. Whiteley, and J.C. Vokoun. 2020. Evaluation of genetic structuring within GIS-derived brook trout management units. **Transactions of the American Fisheries Society** 149:681-694.

[42] Tsuboi, J., K. Morita, Y. Koseki, S. Endo, G. Sahashi, D. Kishi, T. Kikko, D. Ishizaki, M. Nunokawa, and **Y. Kanno**. 2020. Spatial covariation of fish population vital rates in a stream network. **Oikos** 129: 924-937.

[41] **Kanno, Y.**, N. Yui, W. Mamiya, R. Sakai, Y. Yabuhara, T. Miyazaki, S. Utsumi, O. Kishida, and H. Uno. 2020. A multistate mark-recapture approach to characterize stream fish movement at multiple spatial scales. **Canadian Journal of Fisheries and Aquatic Sciences** 77: 1090-1100.

[40] Kim, S. ‡, B.K. Peoples, and **Y. Kanno**. 2020. Diverse reproductive patterns of bluehead chub (*Nocomis leptocephalus*) and their relationships with nest size and interactions with an associate, yellowfin shiner (*Notropis lutipinnis*). **Environmental Biology of Fishes** 103: 783-794.

[39] Nakano, S., K.D. Fausch, I. Koizumi, **Y. Kanno**, Y. Taniguchi, S. Kitano, and Y. Miyake. 2020. Evaluating a pattern of ecological character displacement: charr jaw morphology and diet diverge in sympatry versus allopatry across catchments in Hokkaido, Japan. **Biological Journal of the Linnean Society** 129: 356-378.

[38] Cushman, E.L., K.L. Kanapeckas Métris, **Y. Kanno**, K.C. Pregler ‡, B.K. Peoples, and T.L. Darden. 2020. Optimization of a suite of microsatellite markers for *Nocomis leptocephalus* (bluehead chub) and genetic characterization of two populations in South Carolina. **Southeastern Naturalist** 19: 192-204.

[37] Kim, S. ‡, and **Y. Kanno**. 2020. Spawning periodicity and synchrony of bluehead chub (*Nocomis leptocephalus*) and a nest associate, yellowfin shiner (*Notropis lutipinnis*), across local streams. **Ecology of Freshwater Fish** 29: 299-310.

[36] Pregler, K.C. ‡, R.D. Hanks §, E. Childress, N.P. Hitt, D.J. Hocking, B.H. Letcher, T. Wagner, and **Y. Kanno**. 2019. State-space analysis of power to detect regional brook trout population trends over time. **Canadian Journal of Fisheries and Aquatic Sciences** 76: 2145-2155.

[35] Budy, P., K.B. Rogers, **Y. Kanno**, B.E. Penaluna, N.P. Hitt, G.P. Thiede, J. Dunham, C. Mellison, W.L. Somer, and P. Trotter. 2019. Distribution and status of trout and char in North America. Pages 193-250 *in* J.L. Kershner, J.E. Williams, R.E. Gresswell, and J. Lobón-Cerviá, editors. **Trout and Char of the World**. American Fisheries Society, Bethesda, Maryland.

[34] Vine, J., **Y. Kanno**, S.C. Holbrook, W.C. Post, and B.K. Peoples. 2019. Using side-scan sonar and N-mixture modeling to estimate Atlantic sturgeon spawning migration abundance. **North American Journal of Fisheries Management** 39: 939-950.

[33] Silknetter, S., **Y. Kanno**, K.L. Kanapeckas Métris, E. Cushman, T.L. Darden, and B.K. Brandon. 2019. Mutualism or parasitism: partner abundance affects host fitness in a fish reproductive interaction. **Freshwater Biology** 64: 175-182.

[32] Pregler, K.C. ‡, **Y. Kanno**, D. Rankin, J.A. Coombs, and A.R. Whiteley. 2018. Characterizing genetic integrity of rear-edge trout populations in the southern Appalachians. **Conservation Genetics** 19: 1487-1503.

[31] Blum, A.G., **Y. Kanno**, and B.H. Letcher. 2018. Seasonal streamflow extremes are key drivers of brook trout young-of-the-year abundance. **Ecosphere** 9(8): e02356.

[30] Hanks, R.D. §, **Y. Kanno**, and J.M. Rash. 2018. Can single-pass electrofishing replace three-pass depletion for population trend detection? **Transactions of the American Fisheries Society** 147: 729-739.

[29] Mycko, S.A. ‡, **Y. Kanno**, and J.M. Bettinger. 2018. Using angling and electric fishing to estimate smallmouth bass abundance in a river. **Fisheries Management and Ecology** 25: 77-84.

[28] Kelly, B.B. †, J.B. Cary †, A.D. Smith †, K.C. Pregler ‡, S. Kim ‡, and **Y. Kanno**. 2017. Detection efficiency of a portable PIT antenna for two small-bodied fishes in a Piedmont stream. **North American Journal of Fisheries Management** 37: 1362-1369.

[27] Cary, J.B. †, J.L. Holbrook †, M.E. Reed †, T.B. Austin †, M.S. Steffensen †, S. Kim ‡, K.C. Pregler ‡, and **Y. Kanno**. 2017. Survival of upper Piedmont stream fishes implanted with an 8-mm passive integrated transponder tag. **Transactions of the American Fisheries Society** 146: 1223-1232.

[26] **Kanno, Y.,** M.A. Kulp, S.E. Moore, and G.D. Grossman. 2017. Native brook trout and invasive rainbow trout respond differently to seasonal weather variation: spawning timing matters. **Freshwater Biology** 62: 868-879.

[25] Nathan, L.R., **Y. Kanno,** and J.C. Vokoun. 2017. Population demographics influence genetic responses to fragmentation: a demogenetic assessment of the ‘one migrant per generation’ rule of thumb. **Biological Conservation** 210: 261-272.

[24] **Kanno, Y.,** M.A. Kulp, and S.E. Moore. 2016. Recovery of native brook trout populations following the eradication of non-native rainbow trout in southern Appalachian Mountains streams. **North American Journal of Fisheries Management** 36: 1325-1335.

[23] Barrett, K., C. Guyer, S.T. Samoray, and **Y. Kanno**. 2016. Stream and riparian habitat use by anurans along a forested gradient in western Georgia. **Copeia** 104: 570-576.

[22] **Kanno, Y.,** K.C. Pregler ‡, B.H. Letcher, N.P. Hitt, and J.E.B. Wofford. 2016. Seasonal temperature and precipitation regulate brook trout young-of-the-year abundance and population dynamics. **Freshwater Biology** 61: 88-99.

[21] O’Bryan, C.J., J.A. Homyack, R.F. Baldwin, **Y. Kanno,** and A.L. Harrison. 2016. Novel habitat use supports population maintenance in a reconfigured landscape. **Ecosphere** 7(3): e01228.

[20] **Kanno, Y.**, B.H. Letcher, N.P. Hitt, D.A. Boughton, J.E.B. Wofford, and E.F. Zipkin. 2015. Seasonal weather patterns drive population vital rates and persistence in a stream fish. **Global Change Biology** 21: 1856-1870.

[19] **Kanno, Y.**, B.H. Letcher, A.L. Rosner, K.P. O'Neil, and K.H. Nislow. 2015. Environmental factors affecting brook trout occurrence in headwater stream segments. **Transactions of the American Fisheries Society** 144: 373-382.

[18] **Kanno, Y.**, B.H. Letcher, J.C. Vokoun, and E.F. Zipkin. 2014. Spatial variability in adult brook trout (*Salvelinus fonatinalis*) survival within two intensively surveyed headwater stream networks. **Canadian Journal of Fisheries and Aquatic Sciences** 71: 1010-1019.

[17] Zipkin, E.F., J.T. Thorson, K. See, H.J. Lynch, E.H.C. Grant, **Y. Kanno**, R.B. Chandler, B.H. Letcher, and J.A. Royle. 2014. Modeling structured population dynamics using data from unmarked individuals. **Ecology** 95: 22-29.

[16] Beauchene, M., M. Becker, C.J. Bellucci, N. Hagstrom, and **Y. Kanno**. 2014. Defining summer thermal thresholds of fish community transitions in Connecticut streams. **North American Journal of Fisheries Management** 34: 119-131.

[15] **Kanno, Y.**, B.H. Letcher, J.A. Coombs, K.H. Nislow, and A.R. Whiteley. 2014. Linking movement and reproductive history of brook trout to assess habitat connectivity in a heterogeneous stream network. **Freshwater Biology** 59: 142-154.

[14] **Kanno, Y.**, J.C. Vokoun, and B.H. Letcher. 2014. Paired stream-air temperature measurements reveal fine-scale thermal heterogeneity within headwater brook trout stream networks. **River Research and Applications** 30: 745-755.

[13] DiStefano, R.J., T.R. Black, S.S. Herleth-King, **Y. Kanno**, and H.T. Mattingly. 2013. Life histories of two populations of the imperiled crayfish *Orconectes* (*Procericambarus*) *williamsi* (Decapoda: Cambaridae) in southwestern Missouri, USA. **Journal of Crustacean Biology** 33: 15-24.

[12] **Kanno, Y.**, W.T. Russ, C.J. Sutherland, and S.B. Cook. 2012. Prioritizing aquatic conservation areas using spatial patterns and partitioning of fish community diversity in a near-natural temperate basin. **Aquatic Conservation: Marine and Freshwater Ecosystems** 22: 799-812.

[11] **Kanno, Y.**, J.C. Vokoun, K.E. Holsinger, and B.H. Letcher. 2012. Estimating size-specific brook trout abundance in continuously sampled headwater streams using Bayesian mixed models with zero inflation and overdispersion. **Ecology of Freshwater Fish** 21: 404-419.

[10] **Kanno, Y.**, C.U. Schmidt, S.B. Cook, and H.T. Mattingly. 2012. Variation in microhabitat use of the threatened spotfin chub (*Erimonax monachus*) among stream sites and seasons. **Ecology of Freshwater Fish** 21: 363-374.

[9] **Kanno, Y.**, J.C. Vokoun, and B.H. Letcher. 2011. Fine-scale population structure and riverscape genetics of brook trout (*Salvelinus fontinalis*) distributed continuously along headwater channel networks. **Molecular Ecology** 20: 3711-3729.

[8] **Kanno, Y.**, J.C. Vokoun, and B.H. Letcher. 2011. Sibship reconstruction for inferring mating systems, dispersal and effective population size in headwater brook trout (*Salvelinus fontinalis*) populations. **Conservation Genetics** 12: 619-628.

[7] **Kanno, Y.**, and J.C. Vokoun. 2010. Evaluating effects of water withdrawals and impoundments on fish assemblages in southern New England streams, USA. **Fisheries Management and Ecology** 17: 272-283.

[6] **Kanno, Y.**, J.C. Vokoun, and M. Beauchene. 2010. Development of dual fish multi-metric indices of biological condition for streams with characteristic thermal gradients and low species richness. **Ecological Indicators** 10: 565-571.

[5] **Kanno, Y.**, J.C. Vokoun, D.D. Dauwalter, R.M. Hughes, A.T. Herlihy, T.R. Maret, and T.M. Patton. 2009. Influence of rare species on electrofishing distance when estimating species richness of stream and river reaches. **Transactions of the American Fisheries Society** 138: 1240-1251.

[4] **Kanno, Y.**, and J.C. Vokoun. 2008. Biogeography of stream fishes in Connecticut: defining faunal regions and assemblage types. **Northeastern Naturalist** 15: 557-576.

[3] Bourret, S.J. †, R.W. Tingley, III †, **Y. Kanno**, and J.C. Vokoun. 2008. Maximum daily consumption and specific daily metabolic demand of juvenile flathead catfish. **Journal of Freshwater Ecology** 23: 413-419.

[2] **Kanno, Y.**, and J. MacMillan. 2004. Developing an index of sustainable coldwater streams using fish community attributes in River Philip, Nova Scotia. **Proceedings of the Nova Scotian Institute of Science** 42: 319-338.

[1] **Kanno, Y.**, and K. Beazley. 2004. Freshwater fish considerations for aquatic conservation systems planning in Nova Scotia. **Proceedings of the Nova Scotian Institute of Science** 42: 375-391.

In review

[68] Lewis, S.T.‡, J.D. Salerno, J.S. Sanderson, and **Y. Kanno.** (In revision). An experimental test of intra- and inter-specific competition between invasive western mosquitofish (*Gambusia affinis*) and native plains topminnow (*Fundulus Sciadicus*). **Freshwater Biology.**

[69] Lu, X.§, **Y. Kanno**, G.P. Valentine ‡, J.M. Rash, and M.B. Hooten. (In revision). Using multi-scale spatial models of dendritic ecosystems to infer abundance of a stream salmonid. **Journal of Applied Ecology.**

[70] Lu, X.§, **Y. Kanno**, G.P. Valentine ‡, M.A. Kulp, and M.B. Hooten. (In revision). Regularized latent trajectory models for space-time population dynamics. **Journal of Agricultural, Biological, and Environmental Statistics.**

[71] Valentine, G.P. ‡, X. Lu §, C.A. Dolloff, C.N. Roghair, J.M. Rash, M.B. Hooten, and **Y. Kanno.** (In review). Landscape influences on thermal sensitivity and predicated spatial variability among southeastern USA brook trout streams. **River Research and Applications.**

[72] Platis, N.M.‡, **Y. Kanno**, B.M. Johnson, and B.P. Rose. (In review). Seasonal trophic dynamics of mottled sculpin and juvenile brown trout in a regulated Rocky Mountain river. **Ecology of Freshwater Fish.**

Funded Research Proposals

Ranking and visualizing eastern brook trout climate refugia to guide their range-wide management. $112,663. US Fish and Wildlife Service. 2024. **PI** with J. Rash (CoPI).

Drought impacts on stream populations and food webs in the lower Blue River, Colorado. $70,000. Blue Valley Ranch. 2024. **PI** with B. Johnson (CoPI).

Greenback cutthroat trout restoration on the Wild and Scenic Cache la Poudre River. $13,500. Trout Unlimited Rocky Mountain Flycasters Chapter. 2023-2024. **PI.**

Using a whole-genome approach to distinguish native vs introduce genetic diversity in Colorado River cutthroat trout: resolving the flipping question. $95,480. Colorado Parks and Wildlife. 2023-2024. **Co-PI** with C. Wells (PI), D. Winkelman (Co-PI), and K. Rogers (Co-PI).

ROMO Fire impacts on trout genetic diversity to assess resiliency of fisheries resources. $33,200. National Park Service Focused Condition Assessment Program. 2023-2024. **PI.**

Drought impacts on stream populations and food webs in the lower Blue River, Colorado. $83,000. Blue Valley Ranch. 2023. **PI** with B. Johnson (Co-PI).

Literature review of instream flow approaches to protect fish in Colorado. $49,344. Colorado Water Conservation Board. 2022-2023. **PI**

Adaptive animal movement: testing hypotheses in stream salmonids using a large-scale mark-recapture and PIT antenna tracking. JPY 19,680,000 yen (USD $ 196,800). Japan Society of the Promotion of Science (equivalent to NSF in the US). 2022-2027. Collaborator with O. Kishida (PI), K. Morita (Co-PI). **Kanno, Y.** has played a pivotal role in securing this funding but was not eligible as PI or CoPI as a faculty member at a US institution.

Post-fire assessment of trout population genetic diversity in the Rocky Mountain National Park. $40,000. Rocky Mountain Conservancy. 2022-2024. **PI**.

Drought impacts on stream fish populations and food webs in the lower Blue River, Colorado. $79,000. Blue Valley Ranch. 2022. **PI** with B. Johnson (Co-PI).

ROMO Fisheries inventory to inform cutthroat trout conservation and recreational angling decisions post-fire. $100,751. National Park Service. 2021-2023. **PI** with D. Preston (Co-PI).

Effects of the Cameron Peak Fire on stream-riparian food webs along an elevational gradient. $34,783. Colorado Water Center. 2021-2022. **Co-PI** with D. Preston (PI) and R. Morrison (Co-PI).

Experimental test of condition-specific competition between native plains topminnow and non-native mosquitofish. $3,000. Audubon Society of Greater Denver. 2021-2022. **PI.**

Sustaining plains aquatic ecosystems using an integrated ecological and social approach. $134,015. Colorado Water Conservation Board. 2021-2023. **PI** with J. Salerno (Co-PI) and J. Sanderson (Co-PI).

Characterizing thermal regimes using landscape variables across brook trout streams in the Southeast USA. $86,471. U.S. Fish and Wildlife Service. 2021-2023. **PI** with M. Hooten (Co-PI).

Brook trout population responses to climate variation across the Southeast USA. $223,453. Southeast Climate Adaptation Science Center. 2021-2023. **PI** with M. Hooten (Co-PI).

Drought impacts on stream fish populations and food webs in the lower Blue River, Colorado. $51,000. Blue Valley Ranch. 2021. **PI** with B. Johnson (Co-PI).

Emergent effects of landscape heterogeneity on life-history variation and population stability. JPY 15,000,000 yen (USD $150,000). Japan Society for the Promotion of Science (equivalent to the NSF in the US). 2020-2023. **Collaborator** with T. Sato (PI); **Y. Kanno** assisted writing this international collaborative proposal using an existing long-term data set available from the USGS lab where I was a post-doc. I was not eligible as PI or CoPI as a faculty member at a US institution.

A genetic assessment of cutthroat trout movement across the Continental Divide: A Grand connection or not? $5,000. National Institute for Water Resources through the Colorado Water Center. 2020-2021. **PI** with D. Winkelman (Co-PI).

Field investigations for greenback cutthroat trout recovery. $51,153. U.S. Forest Service. 2019-2023. **PI** with D. Winkelman (Co-PI).

Assessing gene flow of invasive brook trout to restore a meta-population of threatened greenback cutthroat trout in the upper Poudre River basin. $10,000. Colorado State University Water Center "Water Faculty Fellow" grant. 2019-2020. **PI**.

Behavior and life history strategies of stream fishes: Exploratory research using PIT tag and antenna systems. JPY 4,900,000 yen (USD $49,000). Japan Society for the Promotion of Science (equivalent to NSF in the U.S.). 2019-2022. **Collaborator** with O. Kishida (PI); **Y. Kanno** wrote the initial draft of the proposal but was not eligible as PI or Co-PI as a faculty member at a U.S. institution.

Survey of native fish assemblages after a recent discovery of invasive mosquitofish in Arikaree River, Colorado. $1,500. Prairie Biotic Research Inc. 2019-2020. **PI.**

Survey of native plains fish assemblages after a recent discovery of invasive mosquitofish in Arikaree River. $2,500. Audubon Society of Greater Denver. 2019-2020. **PI.**

Invasive fish passage and connectivity assessment to restore the largest greenback cutthroat trout meta-population in the Long Draw Region (CO). $98,902.20. National Fish and Wildlife Foundation "Bring Back the Natives" program. 2019-2020. **PI** with D. Winkelman (Co-PI).

Stream fish conservation in extreme habitat. $10,000. Colorado State University Water Center "Water Faculty Fellow" grant. 2017-2018. **PI**.

Assessment of riverine hybridization and spawning micro-habitat of redeye bass and Alabama bass in the upper Savannah River basin, SC. $80,382. Southeast Aquatic Resources Partnership (originating funding agency: National Fish and Wildlife Foundation). 2016-2019. **PI**.

Endemic Bartram's bass as a sentinel species to prioritize restoration in the upper Savannah River basin of South Carolina. $24,093. South Carolina Water Resources Center. 2017-2018. **Co-PI** with B.K. Peoples (PI).

Identifying spawning locations and habitat characteristics of Atlantic sturgeon in the Savannah River. $75,170. South Carolina Department of Natural Resources (originating funding agency: Georgia Ports Authority – Savannah Harbor Expansion Project Settlement Agreement). 2016-2018. **PI** with C. Post (Co-PI).

South Carolina small river conservation planning project (2016-2018). $23,181. South Carolina Department of Natural Resources (US Fish and Wildlife Service, State Wildlife Grant Program). 2016-2018. **PI**.

Population analysis of self-sustaining trout in North Carolina streams: current dynamics and future monitoring strategies. $56,894. North Carolina Wildlife Resources Commission. 2016-2017. **PI**.

Interactive Conservation Planning for the Appalachian Landscape Conservation Cooperative. $128,455. Wildlife Management Institute (originating funding agency: US Fish and Wildlife Service). 2015-2016. **Co-PI (25%)** with R.F. Baldwin (PI)

South Carolina small river conservation planning project. $7,896. South Carolina Department of Natural Resources (US Fish and Wildlife Service, State Wildlife Grant Program). 2015-2016. **PI**.

Genetic assessment of eastern brook trout populations in South Carolina. $30,000. South Carolina Department of Natural Resources (partially funded by Southeastern Association of Fish and Wildlife Agencies, and Southeast Aquatic Resources Partnership). 2015-2016. **PI**.

Assisting development of a multi-species Habitat Conservation Plan for the Cumberland Region in Tennessee. $3,516. University of Tennessee Knoxville (originating funding agency: US Fish and Wildlife Service). 2014. **PI**.

Scientific support for the Cumberland Habitat Conservation Plans, 2011-2012. $312,512. The Nature Conservancy, Tennessee Chapter. 2011-2012. **Co-PI** with H.T. Mattingly (PI).

Investigating stream temperature and brook trout population fragmentation: riverscape genetics in thermally-contrasting headwater stream channel networks in Connecticut. $72,989. Connecticut Department of Environmental Protection (US Fish and Wildlife Service State Wildlife Grants Program). 2008-2010. J.C. Vokoun (PI); **Y. Kanno** wrote 95% of grant proposal as a graduate student.

Evaluating effects of water withdrawals on fish assemblages in Connecticut streams. $46,918. Connecticut Department of Environmental Protection (US Fish and Wildlife Service State Wildlife Grants Program). 2007-2009. J.C. Vokoun (PI); **Y. Kanno** wrote 95% of grant proposal as a graduate student.

Technical Reports

Kanno, Y., and D. Preston. 2023. Fisheries inventories at ROMO to inform cutthroat trout conservation and recreational angling decision post-fire. Final report submitted to the National Park Service. 22pp.

Lewis, S.T. ‡, and **Y. Kanno.** 2023. A literature review of water depth and velocity used by native stream fishes in Colorado. Final report submitted to the Colorado Water Conservation Board. 121pp.

Kanno, Y. 2015. Modelling aquatic integrity across NHDPlus catchments in Tennessee River Basin. Completion report submitted to Appalachian Landscape Conservation Cooperative. Clemson University, Clemson. 27pp.

Vokoun, J.C., and **Y. Kanno**. 2010. Brook trout (*Salvelinus fontinalis*) populations in headwater channel networks in Connecticut: riverscape genetics and abundance projections under climate change. Completion Report submitted to Connecticut Department of Environmental Protection. University of Connecticut, Storrs. 43pp.

Vokoun, J.C., and **Y. Kanno**. 2009. Evaluating effects of water withdrawals and impoundments on fish assemblages in Connecticut streams. Completion Report submitted to Connecticut Department of Environmental Protection. University of Connecticut, Storrs. 31pp.

Teaching Experience

Classes taught

Colorado State University

FW 370: Design of Fish and Wildlife Projects Spring 2020, 2022
FW 400: Conservation of Fish in Aquatic Ecosystems Every Fall 2017-2022
FW/BZ 568: Sustaining River Ecosystems in a Changing World Spring 2019, 2021, 2023

Clemson University

WFB 4160: Fishery Biology Spring 2014, 2015, 2016
WFB 4180: Fishery Conservation Fall 2014, 2016
WFB 8610-002: Bayesian Analysis in Ecology Fall 2015
FNR 8080: Graduate Seminar Spring 2016
FNR 4700-011: Creative Inquiry – Fish Culvert Passage Fall 2016 – Fall 2017
FNR 4700-040: Creative Inquiry - Stream Fish Ecology Fall 2014 – Fall 2017
FNR 4700-052: Creative Inquiry – Fish Behavior Spring 2015 – Fall 2017

University of Connecticut

NRE 3205: Stream Ecology Spring 2010

Society Membership

American Fisheries Society (2002-present)
Ecological Society of America (2007-2017)

Awards/Honors

2018 Visiting Research Scholar Fellowship, Kyoto University Center for Ecological Research, Japan (JPY ¥160,000 [USD $15,000])

2017 Faculty Research Travel Grant Award, Colorado State University Office of International Program (USD $1,800)

2016 Creative Inquiry Mentor Incentive Award, Creative Inquiry for Undergraduate Research, Clemson University (USD $2,000)

2010 Doctoral Dissertation Fellowship, Graduate School, University of Connecticut (USD $2,000).

2010 Predoctoral Fellowship, Department of Natural Resources and the Environment, University of Connecticut (USD $1,461)

2010 Summer Fellowship for Advanced Graduate Students, Department of Natural Resources and the Environment, University of Connecticut (USD $1,100)

2010 Southern New England Chapter Student Travel Award to attend 140th American Fisheries Society's Annual Meeting in Pittsburgh, Pennsylvania (USD $350)

2010 Best Student Poster Award, for the poster entitled "Evaluating effects of water withdrawals and impoundments on fish assemblages in Connecticut streams", The 66th Northeast Fish and Wildlife Conference, Boston, Massachusetts (USD $200)

2010 Best Student Poster Award, for the poster entitled "Evaluating effects of water withdrawals and impoundments on fish assemblages in Connecticut streams", Southern New England Chapter of American Fisheries Society 2010 Winter Meeting, Avery Point, Connecticut (USD $50)

2008 Grant from Weantinoge Landtrust (Connecticut) to partially defray cost of the brook trout project (see "Funded Research Proposal" above) (USD $1,000)

2008 Southern New England Chapter Student Travel Award to attend 138th American Fisheries Society's Annual Meeting in Ottawa, Ontario (USD $500)

2008 John Moring Travel Award to attend 64th Northeast Fish and Wildlife Conference, Galloway, New Jersey (USD $300)

2002 Dr. J. G. Ogden Memorial Prize for the top student in "Limnology (BIOL 5068)", Dalhousie University, Department of Biology (CAD $300)

2001 Thesis Research Award, Dalhousie University, School for Resource and Environmental Studies (CAD $700)

Graduate students and post-docs supervised

Graduate students

Colorado State University

2024 – Present	Sean Ingram, GDPE MS student "Range-wide assessment of climate refugia for eastern brook trout"
2023 – Present	Noël Clark, FWCB MS student (co-advising; advisor Dr. Caitlin Wells) "Genomic analysis of evolutionary independence in Colorado River cutthroat trout"
2023 – Present	Samuel Lewis, FWCB PhD student (co-advised by Dr. Jonathan Salerno) "Sustaining plains aquatic ecosystems using and integrated ecological and social approach"
2022 – Present	Taylor Stack, FWCB MS student (co-advised by Dr. Dana Winkelman) "Wildfire impacts on trout genetic diversity in a riverscape"
2022 – Present	Bijoya Paul, FWCB PhD student "Spatiotemporal dynamics of migratory river fish in Bangladesh"
2021 – Present	Mickey Means-Brous, GEO MS student (co-advising; advisor Dr. Ellen Wohl) "Beaver, fish, fish: Geomorphic influences on salmonid recolonization in a Colorado post-fire environment"
2022 – 2023	Nitsa Platis, FWCB MS student (co-advised by Dr. Brett Johnson) "Seasonal trophic dynamics of mottled sculpin and juvenile brown trout win a regulated Rocky Mountain river"
2021 – 2023	George Valentine, GDPE MS student "Spatial asynchrony and cross-scale climate interactions in populations of a coldwater stream fish"
2021 – 2022	Samuel Lewis, FWCB MS student (co-advised by Dr. Jonathan Salerno) "An experimental test of intra- and inter-specific competition between invasive western mosquitofish (*Gambusia affinis*) and native plains topminnow (*Fundulus sciadicus*)"
2019 – 2021	Audrey Harris, FWCB MS student (co-advised by Dr. Dana Winkelman) "Genetic analysis reveals bidirectional fish movement across the Continental Divide via an interbasin water transfer"
2015 – 2019	Seog Hyun Kim, FWCB Ph.D. student "Intraspecific variation in reproductive ecology and success of a keystone stream fish, bluehead chub"
2014 – 2019	Kasey Pregler, FWCB Ph.D. student "Using population ecology to advance stream community assembly"

Clemson University

2016 – 2017	Josh Vine, MS student "Migration cues and abundance estimation of imperilled sturgeon in the Savannah River"
2015 – 2017	Seth Mycko, MS student "Abundance modeling and movement of smallmouth bass in a regulated section of the Broad River, SC"

Post-docs

Colorado State University

2021 – 2023 Dr. Lucy Lu (co-advised with Dr. Mevin Hooten)
"Brook trout population responses to climate variation across the Southeast USA"

Clemson University

2017 Dr. Daniel Hanks
"Population analysis of self-sustaining trout in North Carolina streams: current dynamics and future monitoring strategies"

Visiting scholars hosted in my lab

2023 Senri Moriyama, MS student, Hokkaido University, Japan (2 months)
2022 Dr. Koichi Ito, Post-doctoral Research Associate, Hokkaido University, Japan (1 month)
2018 Dr. Vidyadhar Atkore, Post-doctoral Research Associate, Ashoka Trust for Research in Ecology and Environment, India (2 months)

Graduate student committees

2022 – Present Niall Clancy, PhD student, University of Wyoming
Climate adaptation for nongame fishes in west-central North America

2022 – Present Ashley LaRoque, PhD student (Biology), U. North Carolina Greensboro
Stream fish movement and habitat use

2021 – Present Chase Garvey, MS student (FWCB), Colorado State University
Fish passage design

2021 – Present Kira Paik, MS student (FWCB), Colorado State University
Fish passage design

2020 – 2022 Chenchen Ma, MS Student (Envi. Engineering), Colorado State University
"Decreasing stream habitat for greenback cutthroat trout under future climate projections in the headwater streams of the southern Rocky Mountains, Colorado"

2020 – 2022 Nathan Phipps, MS student (Biology), Colorado State University
"Genetic background and experience affect courtship behavior in male Trinidadian guppies (*Poecilia reticulata*)"

2018 – 2023 Amanda Cicchino, PhD student (Biology), Colorado State University
"Linking organismal physiology and the landscape to predict vulnerability to climate change"

2018 – 2022 Rachel Jones, MS student (FWCB), Colorado State University
"Rites of passage: Determining the efficacy of different fish passage designs along the northern Colorado Front Range"

2017 – 2023 Christopher Kopack, PhD student (Biology), Colorado State University
"Enrichment as a conservation tool to enhance behavior, morphology, gene expression, and survival in Arkansas darters"

2018 – 2021 Cole Brittain, MS student (FWCB), Colorado State University
"How does rock-ramp fishway surface texture affect the passage success of small-bodied Great Plains fishes?"

2017 – 2020 Kelsey Navarre, MS student (FWCB), Colorado State University
"Temporal demography of lesser scaup: A species in decline"

2014 – 2018 Lucas Nathan, PhD student, University of Connecticut
"Brook trout genetics and population dynamics in fragmented riverscapes"
2015 – 2017 Jeremy Pike, PhD student, Clemson University
Stream benthic macro-invertebrate drift
2015 – 2017 Ben Neece, MS student, Clemson University
"North American Bat Monitoring Program (NABat) in South Carolina: Acoustic detection and landscape occupancy of bats"
2014 – 2017 Mike Hayden, MS student, Antioch University New England
"Variation in young-of-the-year brook trout (*Salvelinus fontinalis*) emergence timing among streams and years"
2014 – 2017 Abigail Lawson, PhD student, Clemson University
"Population ecology and conservation of the American alligator in South Carolina"
2014 – 2016 Shefali Azad, MS student, Clemson University
"Population dynamics of black bears in northwestern South Carolina"
2014 – 2016 Juliet Lamb, PhD student, Clemson University
"Movement patterns, population dynamics, and risk factors for brown pelicans in the northern Gulf of Mexico"
2014 – 2015 Nicolette Roach, MS student, Clemson University
"Assessing the vulnerability of coastal marsh birds to see-level rise in the South Atlantic coast"

Professional Service

Editorial Board, Ecology of Freshwater Fish (2022 – Present), Ichthyological Research (2023 – 2024)

Journal manuscript review

Biological Conservation (1), Canadian Journal of Fisheries and Aquatic Sciences (2), Conservation Biology (1), Conservation Genetics (1), Ecological Applications (1), Ecological Research (1), Ecology and Evolution (1), Ecology of Freshwater Fish (9), Fisheries Management and Ecology (1), Fisheries Research (1), Freshwater Biology (3), Freshwater Science (1), Global Ecology and Biogeography (1), Ichthyological Research (2), International Review of Hydrobiology (1), Journal of Animal Ecology (2), Journal of Applied Ecology (1), Journal of Fish and Wildlife Management (1), Molecular Ecology (3), North American Journal of Fisheries Management (9), Northeastern Naturalist (1), Oikos (1), PeerJ (2), Population Ecology (2), Restoration Ecology (1), Transactions of the American Fisheries Society (9), Water Resources Research (2), Wiley Interdisciplinary Reviews: Water (1)

Grant proposal review

National Geographic Society, National Geographic Explorers Grants (2022)
NOAA California Sea Grant Delta Science Awards (2021)

Book chapter review

Biology and Ecology of Fishes by Diana J, Höök T & Frimpong F (eds.), "Chapter 9 Fish Stocks: Abundance and Size Structure" (2021)

US Forest Service report, "Chapter 5 Effects of Climate Change on Native Fishes and Amphibians in the Rocky Mountains" (2023)

Member, Organizing Committee, the 10th International Charr Symposium to be held in June 2021 in

Nikko, Japan. 2018-present.

Appointed member, Trout Committee of the American Fisheries Society Southern Division. 2014-present.

President, American Fisheries Society-University of Connecticut Student Chapter. 2008-2009.

Vice-President, American Fisheries Society-University of Connecticut Student Chapter. 2007-2008.

University Service

Colorado State University

University Committees

- Member, Faculty Council (2021 – 2023)
- Member, School of Global Environmental Sustainability, Curriculum Committee (2022 – 2023)
- Member, Graduate Degree Program in Ecology, Student Research Evaluation Committee (2022 – 2023)
- Member, Grade Appeal Assessment Committee; BZ300 in Dept. Biology (2022)

Warner College of Natural Resources Committees

- Member, Faculty Advisory Committee (2021 – 2023)
- Member, International Affair Committee (2021 – 2022)
- Member, Search Committee – Dean of the Warner College (2021 – 2022)

Graduate Degree Program in Ecology Committees

- Member, Student Research Evaluation Committee (2022 – 2023)
- Reviewer, Small Grants for Graduate Research (2018 Spring, 2020 Spring & Fall, 2021 Spring)

Department of Fish, Wildlife, and Conservation Biology Committees

- Member, Award Committee, FWCB Department (2019 – 2022)
- Faculty Advisor, CSU Student Chapter of the American Fisheries Society (2018 – Present)
- Chair, Search Committee - Academic Success Coordinator (2020)
- Faculty Advisor, CSU Fly Fishing Club (2020)
- Member, Search Committee - Conservation Geneticist (2018)

Clemson University

University Committees

- University Research Grants Committee (2016 - 2017)

Department of Forestry and Environmental Conservation Committees

- Curriculum Committee (2015 - 2017)
- Faculty Coordinator, Natural Resources Speaker Series (2014 - 2017)
- Faculty Search Committee - Fisheries/Aquatic Ecologist (2016 - 2016)
- Faculty Search Committee - USGS Coop Assistant Unit Leader (2015)
- Faculty Advisory Committee (2014 - 2015)

Invited Presentations

[14] **Kanno, Y.** 2023. Climate change impacts on brook trout populations in the southeastern USA. Webinar hosted by US Geological Survey Southeast Climate Adaptation and Science Center. Online. November 29, 2023.

[13] **Kanno, Y.** 2023. Conservation science for native inland salmonids in USA. Joint seminar hosted by Salmon Science Society, and School of Agriculture, Hokkaido University. Sapporo, Japan. October 6, 2023.

[12] **Kanno, Y.** 2022. Population dynamics of stream salmonids and their implications on conservation in a changing world. Fall Seminar Series, Division of Biology, Kansas State University. Manhattan, Kansas. October 24, 2022.

[11] **Kanno, Y.** 2022. Challenges and opportunities in conserving native stream fish populations. Atmosphere and Ocean Research Institute, University of Tokyo. Kashiwa, Chiba, Japan. June 20, 2022.

[10] **Kanno, Y.** 2022. Grand Ditch moves water but also trout across the Continental Divide: Implications for native trout management. "Science Behind the Scenery" Webinar Series, Rocky Mountain National Park Continental Divide Research Learning Center. February 15, 2022. [Given virtually due to the coronavirus]

[9] **Kanno, Y.** 2020. Spatial population ecology of stream salmonids and its implications on coldwater conservation. Fall Seminar Series, Department of Natural Resources and the Environment, University of Connecticut. Virtual seminar due to COVID-19. October 30, 2020.

[8] **Kanno, Y.** 2020. Spatial population ecology of stream salmonids and its implications on coldwater conservation. Fall Seminar Series, Department of Natural Resources and the Environment, University of North Carolina Greensboro. Virtual seminar due to COVID-19. October 28, 2020.

[7] **Kanno, Y.** 2018. Spatial and temporal structure of vital rates and population dynamics in stream salmonids. Fall Seminar Series, Department of Zoology, University of Wyoming. Laramie, Wyoming. November 2, 2018.

[6] **Kanno, Y.** 2018. Population ecology of stream salmonids at the riverscape scale. Research Seminar, Tomakomai Experimental Forest, Hokkaido University. Tomakomai, Japan. July 20, 2018.

[5] **Kanno, Y.** 2018. Population ecology of stream salmonids at the riverscape scale. The 278th Research Seminar, Hokkaido National Fisheries Research Institute, Japan Fisheries Research and Education Agency. Sapporo, Japan. July 18, 2018.

[4] **Kanno, Y.** 2017. A riverscape approach to brook trout conservation under global change. Fall 2017 Seminar Series, Kobe University Department of Biology. Kobe, Japan. December 22, 2017.

[3] **Kanno, Y.** 2017. A riverscape approach to brook trout conservation under global change. Fall 2017 Seminar Series, Kyoto University Center for Ecological Research. Shiga, Japan. December 21, 2017.

[2] **Kanno, Y.** 2017. An across-scale approach to conservation of native brook trout at the southern

distribution margin. The 64th Annual Meeting of the Ecological Society of Japan. Tokyo, Japan. March 15, 2017.

[1] **Kanno, Y.** 2011. Climate change and brook trout: insights from genetic analysis, stream temperature monitoring and habitat modeling. Fall Seminar Series, Tennessee Technological University Department of Biology. Cookeville, Tennessee. September 28, 2011.

Oral Presentations (presenter underlined)

† undergraduate students; ‡ graduate students; § post-docs under direct supervision

[83] Lu, X.§, **Kanno, Y.**, Valentine, G.P.‡, Kulp, M.A., and Hooten, M.B. 2023. Regularized latent trajectory models for space-time population dynamics. Spatial Statistics 2023: Climate and the Environment. Boulder, CO. July 21, 2023.

[82] Lu, X.§, **Kanno, Y.**, Valentine, G.P.‡, Kulp, M.A., and Hooten, M.B. 2023. Regularized latent trajectory models for space-time population dynamics. Annual Meeting of the Western North American Region of the International Biometrics Society. Anchorage, AK. June 21, 2023.

[81] **Kanno, Y.** 2023. Toward identifying climate refugia for brook charr in the southeastern USA. The 10th Charr Symposium. Nikko, Japan. May 31, 2023.

[80] Platis, N. ‡, B. Johnson, **Y. Kanno**, and B. Rose. 2023. Trophic niche dynamics of brown trout and mottled sculpin in a regulated Rocky Mountain river. Annual Meeting of the Western Division of the American Fisheries Society. Boise, ID. May 10, 2023.

[79] Lewis, S. ‡, J. Salerno, J. Sanderson, and **Y. Kanno**. 2023. An experimental test for coexistence with the freshwater invader, western mosquitofish. Annual Meeting of the Western Division of the American Fisheries Society. Boise, ID. May 10, 2023.

[78] Lewis, S. ‡, J. Salerno, J. Sanderson, and **Y. Kanno**. 2023. An experimental test of intra- and inter-specific competition between invasive western mosquitofish and native plains topminnow. Annual Meeting of the Colorado/Wyoming Chapter of the American Fisheries Society. Fort Collins, CO. March 2, 2023.

[77] Means-Brous, M. ‡, E. Wohl, and **Y. Kanno**. 2023. Geomorphic influences on salmonid recolonization in a Colorado post-fire environment. Annual Meeting of the Colorado/Wyoming Chapter of the American Fisheries Society. Fort Collins, CO. March 2, 2023.

[76] Tsuboi, J., Morita, K., Koseki, Y., Endo, S., Sahashi, G., Kishi, D., Kikko, T., Ishizaki, D., Nunokawa, M., **Kanno, Y**. 2023. Small giants: tributaries rescue Japanese native salmonid meta-populations from habitat fragmentation. Annual Meeting of the Colorado/Wyoming Chapter of the American Fisheries Society. Fort Collins, CO. March 1, 2023.

[75] X. Lu §, **Y. Kanno**, M. Hooten, Valentine, G. ‡, and M. Kulp. 2023. Spatio-temporal models identify climate change refugia using trout population surveys. Annual Meeting of the Colorado/Wyoming Chapter of the American Fisheries Society. Fort Collins, CO. March 1, 2023.

[74] Valentine, G. ‡, X. Lu §, J. Rash, M. Kulp, E. Childress, N. Hitt, M. Hooten, A. Dolloff, B. Letcher, and **Y. Kanno**. 2023. Spatial asynchrony and cross-scale climate interactions in populations of

coldwater stream fish. Annual Meeting of the Colorado/Wyoming Chapter of the American Fisheries Society. Fort Collins, CO. March 1, 2023.

[73] Valentine, G. ‡, X. Lu §, J. Rash, M. Kulp, E. Childress, N. Hitt, M. Hooten, A. Dolloff, B. Letcher, and **Y. Kanno**. 2023. Structure and scale of spatial synchrony in southeastern US brook trout populations. Annual Meeting of Southern Division American Fisheries Society, Norfolk, VA. February 4, 2023.

[72] Means-Brous, M. ‡, E. Wohl, **Y. Kanno**, and L. Lintner. 2022. Geomorphic influences on salmonid recolonization in a post-fire environment. Annual Meeting of the Geological Society of America, Denver, CO. October 11, 2022.

[71] Harris, A.C. ‡, S. Oyler-McCance, J. Fike, M. Fairchild, C. Kennedy, H. Crockett, D. Winkelman, and **Y. Kanno**. 2022. Gene flow and spatial population structure of brook trout in a large headwater stream network in Colorado. Wild Trout Symposium XIII, West Yellowstone, MT. September 30, 2022.

[70] Tsuboi, J.*, K. Morita, Y. Koseki, S. Endo, G. Sahashi, D. Kishi, T. Kikko, D. Ishizaki, M. Nunokawa, and **Y. Kanno***. 2022. Small giants: tributaries rescue Japanese native salmonid meta-populations from habitat fragmentation. Wild Trout Symposium XIII, West Yellowstone, MT. September 29, 2022. ****Shared first authorship***

[69] Lewis, S. ‡, J. Salerno, J. Sanderson, and **Y. Kanno**. 2022. Condition-specific competition between native plains topminnow and non-native western mosquitofish. Annual Meeting of the American Fisheries Society, Spokane, WA. August 22, 2022.

[68] Lewis, S. ‡, J. Salerno, J. Sanderson, and **Y. Kanno**. 2022. Experimental test of condition-specific competition between native plains topminnow and non-native mosquitofish. Joint Aquatic Sciences Meeting, Grand Rapids, MI. May 17, 2022.

[67] Lewis, S. ‡, J. Salerno, J. Sanderson, and **Y. Kanno**. 2022. Experimental test of condition-specific competition between native plains topminnow and non-native mosquitofish. Annual Meeting of the Colorado/Wyoming Chapter of the American Fisheries Society. Virtual. March 2, 2022.

[66] Harris, A.C. ‡, S. Oyler-McCance, J. Fike, M. Fairchild, C. Kennedy, H. Crockett, D. Winkelman, and **Y. Kanno**. 2022. Population genetics reveals bidirectional fish movement across the Continental Divide via an interbasin water transfer. Annual Meeting of the Idaho Chapter of the American Fisheries Society. Virtual. March 2, 2022. ***Won Best Professional Talk Award

[65] Harris, A.C. ‡, S. Oyler-McCance, J. Fike, M. Fairchild, C. Kennedy, H. Crockett, D. Winkelman, and **Y. Kanno**. 2022. Population genetics reveals bidirectional fish movement across the Continental Divide via an interbasin water transfer. Annual Meeting of the Colorado/Wyoming Chapter of the American Fisheries Society. Fort Hall, ID. March 2, 2022.

[64] Harris, A.C. ‡, M. Fairchild, S. Oyler-McCance, J. Fike, C. Kennedy, D. Winkelman, and **Y. Kanno**. 2021. Gene flow and spatial structure of brook trout in a large headwater stream network in Colorado. Annual Meeting of the American Fisheries Society. Baltimore, Maryland. November 9, 2021.

[63] Valentine, G. ‡, M.B. Hooten, J. Rash, N.P. Hitt, B.H. Letcher, E. Childress, and **Y. Kanno**. 2021.

Structure and scale in spatially synchronous southeastern US trout populations. Annual Meeting of the American Fisheries Society. Baltimore, Maryland. November 7, 2021.

[62] Harris, A.C. ‡, M. Fairchild, S. Oyler-McCance, J. Fike, C. Kennedy, D. Winkelman, and **Y. Kanno**. 2021. Gene flow and spatial structure of brook trout in a large headwater stream network in Colorado. Annual Meeting of the Western Division of the American Fisheries Society. Virtual. May 10, 2021.

[61] Harris, A.C. ‡, M. Fairchild, S. Oyler-McCance, J. Fike, C. Kennedy, D. Winkelman, and **Y. Kanno**. 2021. Gene flow and spatial structure of brook trout in a large headwater stream network in Colorado. Annual Meeting of the Colorado/Wyoming Chapter of the American Fisheries Society. Virtual. February 23, 2021.

[60] Fitzgerald, K.†, M. Haworth, K. Bestgen, C. Farrell, S. Utsumi, O. Kishida, H. Uno, and **Y. Kanno**. 2020. Daily increments of otoliths aid in understanding early life history of subarctic stream salmonids. Annual Meeting of the Colorado/Wyoming Chapter of the American Fisheries Society, Laramie, WY. February 27, 2020.

[59] Nakano, S., K.D. Fausch, I. Koizumi, **Y. Kanno**, Y. Taniguchi, S. Kitano, and Y. Miyake. 2020. Dolly Varden jaw morphology shifts when together with whitespotted charr in Hokkaido streams: another mechanism for coexistence of close competitors? Annual Meeting of the Colorado/Wyoming Chapter of the American Fisheries Society, Laramie, WY. February 27, 2020.

[58] **Kanno, Y.**, A. Harris ‡, K. Fitzgerald †, N. Yui, W. Mamiya, R. Sakai, Y. Yabuhara, T. Miyazaki, S. Utsumi, O. Kishida, and H. Uno. 2020. Characterizing stream salmonid movement at multiple spatial scales in northern Japan. Annual Meeting of the Colorado/Wyoming Chapter of the American Fisheries Society, Laramie, WY. February 26, 2020.

[57] Farmer, T., J. Bulak, and **Y. Kanno**. 2020. Joint analysis of mark-recapture and telemetry data to estimate largemouth bass abundance. Annual Meeting of the Southern Division American Fisheries Society, Little Rock, AR. February 22, 2020.

[56] Furamura, R., K. Morita, **Y. Kanno**, and O. Kishida. 2019. Different juvenile ecology of resident versus sea-run masu salmon revealed by PIT tag and antenna systems. Annual Meeting of Hokkaido Chapter of Ecological Society of Japan, Tomakomai, Hokkaido, Japan. November 30, 2019.

[55] Nakano, S., K.D. Fausch, I. Koizumi, **Y. Kanno**, Y. Taniguchi, S. Kitano, and Y. Miyake. 2019. Shape-shifting charr: Dolly Varden jaw morphology and diet diverge in sympatry with whitespotted charr versus allopatry in two Hokkaido streams. The Joint Meeting of the American Fisheries Society and The Wildlife Society, Reno, Nevada. October 3, 2019.

[54] Pregler, K.C. ‡, **Y. Kanno**, D. Rankin, J.A. Coombs, and A. Whiteley. 2019. Conserving trout populations that have a history of translocation efforts, and exhibit genetic drift and isolation. The Joint Meeting of the American Fisheries Society and The Wildlife Society, Reno, Nevada. October 3, 2019.

[53] Kim, S. ‡, K.C. Pregler ‡, S. Silknetter, B.K. Peoples, E. Cushman, K. Kanapeckas, T. Darden, and **Y. Kanno**. 2019. Individual variation in reproductive success of bluehead chub (*Nocomis*

leptocephalus) revealed by PIT antenna and genetic parentage. The Joint Meeting of the American Fisheries Society and The Wildlife Society, Reno, Nevada. October 3, 2019.

[52] **Kanno, Y.**, N. Yui, W. Mamiya, R. Sakai, S. Utsumi, O. Kishida, and H. Uno. 2019. Movement of stream salmonids during and after a snowmelt period. The Joint Meeting of the American Fisheries Society and The Wildlife Society, Reno, Nevada. October 3, 2019.

[51] Uno, H., N. Yui, W. Mamiya, R. Sakai, S. Utsumi, O. Kishida, and **Y. Kanno**. 2019. Rapidly changing mosaic of aquatic and terrestrial resources in floodplain during and after a snowmelt. The Joint Meeting of the American Fisheries Society and The Wildlife Society, Reno, Nevada. October 1, 2019.

[50] Pregler, K.C. ‡, S. Kim ‡, and **Y. Kanno**. 2019. Spatial and interspecific demographic response diversity in freshwater fish communities. The Joint Meeting of the American Fisheries Society and The Wildlife Society, Reno, Nevada. October 1, 2019.

[49] Kazyak, D.C., B.A. Lubinski, M. Kulp, K.C. Pregler‡, A. Whiteley, E. Hallerman, **Y. Kanno**, J.M. Rash, R. Morgan, J. Henegar, C. Weather, M. Sell, A. Rabern, D. Rankin, and T. King. 2019. Genetic structure of wild brook trout and implications for adaptability and persistence. The Joint Meeting of the American Fisheries Society and The Wildlife Society, Reno, Nevada. September 30, 2019.

[48] **Kanno, Y.,** B. Letcher, N. Hitt, and M. Kulp. 2019. Brook trout responses to climate variation in southern Appalachian streams. The Joint Meeting of the American Fisheries Society and The Wildlife Society, Reno, Nevada. September 30, 2019.

[47] Farmer, T., J. Bulak, and **Y. Kanno**. 2019. Joint analysis of mark-recapture and telemetry data for abundance estimation of largemouth bass in lake shoreline habitats. The Joint Meeting of the American Fisheries Society and The Wildlife Society, Reno, Nevada. September 30, 2019.

[46] Pregler, K.C. ‡, S. Kim ‡, and **Y. Kanno**. 2019. Demographic response diversity among stream fishes as a mechanism to maintain species diversity. Annual Meeting of the Colorado/Wyoming Chapter of the American Fisheries Society, Fort Collins, CO. February 27, 2019.

[45] Kim, S. ‡, B.K. Peoples, and **Y. Kanno**. 2019. Spawning phenology and factors affecting nest size variation of bluehead chub and utilization by a nest associate, yellowfin shiner. Annual Meeting of the Colorado/Wyoming Chapter of the American Fisheries Society, Fort Collins, CO. February 27, 2019.

[44] Vine, J., **Y. Kanno**, C. Holbrook, and B. Peoples. 2018. Using side-scan sonar and N-mixture modeling to estimate Atlantic sturgeon spawning migration abundance. The 148th Annual American Fisheries Society Meeting, Atlantic City, New Jersey. August 20, 2018.

[43] Silknetter, S., **Y. Kanno**, K. Kanapeckas, E. Cushman, T. Darden, and B. Peoples. 2018. Symbiont density determines interaction outcomes in a fish reproductive mutualism. The 148th Annual American Fisheries Society Meeting, Atlantic City, New Jersey. August 20, 2018.

[42] Kulp, M., **Y. Kanno**, S. Moore. 2018. Recovery of native brook trout populations following the eradication of nonnative rainbow trout in southern Appalachian Mountains streams. The 148th Annual American Fisheries Society Meeting, Atlantic City, New Jersey. August 20, 2018.

[41] Judson, E., **Y. Kanno**, and B. Peoples. 2018. Nesting microhabitat use of Bartram's bass in the upper Savannah River basin. The 148th Annual American Fisheries Society Meeting, Atlantic City, New Jersey. August 20, 2018.

[40] Silknetter, S., **Y. Kanno**, and B. K. Peoples. 2018. Symbiont density determines interaction outcomes in a fish reproductive mutualism. Annual Meeting of Society for Freshwater Science, Detroit, MI. May 22, 2018.

[39] Kasey, P. ‡, S. Kim ‡, and **Y. Kanno**. 2018. An investigation of demographic response variation among stream fishes as a mechanism to maintain community diversity. Annual Meeting of Society for Freshwater Science, Detroit, MI. May 21, 2018.

[38] Kim, S. ‡, B.K. Peoples, and **Y. Kanno**. 2018. Environmental and behavioral factors affecting variation in bluehead chub nest size and utilization by a nest associate, yellowfin shiner. Annual Meeting of Southern Division American Fisheries Society, San Juan, Puerto Rico. March 10, 2018.

[37] Vine, J., **Y. Kanno**, C. Holbrook, and B.K. Peoples. 2018. Using side-scan sonar and N-mixture modeling to estimate Atlantic sturgeon spawning migration abundance. Annual Meeting of Southern Division American Fisheries Society, San Juan, Puerto Rico. March 10, 2018.

[29] Mycko, S.A. ‡, **Y. Kanno**, and J.M. Bettinger. 2018. Influence of river discharge on diurnal movement of smallmouth bass: a time-series analysis of fish movements. The 29th Annual Meeting of the North Carolina Chapter of the American Fisheries Society, Morganton, North Carolina. February 21, 2018.

[35] Silknetter, S., **Y. Kanno**, and B.K. Peoples. 2017. Yellowfin shiner density determines the interaction outcomes of nest association with a bluehead chub host. The Annual Meeting of the Southeastern Fishes Council, Chattanooga, Tennessee. November 17, 2017.

[34] Kim, S. ‡, B.K. Peoples, and **Y. Kanno**. 2017. Environmental and behavioral factors affecting variation in bluehead chub nest size and utilization by a nest associate, yellowfin shiner. The Annual Meeting of the Southeastern Fishes Council, Chattanooga, Tennessee. November 17, 2017.

[33] Pregler, K.C. ‡, M. Scott, K. Kubach, and **Y. Kanno**. 2017. Fish assemblage patterns in small rivers: an approach to evaluate site occupancy, mesohabitat use, and detection. The 147th Annual American Fisheries Society Meeting, Tampa, Florida. August 24, 2017.

[32] Letcher, B., E. Childress, M. O'Donnell, K. Nislow, A. Whiteley, and **Y. Kanno**. 2017. Generalizability of stream flow effects: how strong is small-scale variation? Annual Meeting of the Society for Freshwater Science, Raleigh, North Carolina. June 5, 2017.

[31] Hiesl, P., S. Kim ‡, and **Y. Kanno**. 2017. Small streams and culverts: the impact on non-game fish species. Southern Region Council on Forest Engineering Meeting, Point Clear, Alabama. March 9, 2017.

[30] Pregler, K.C. ‡, **Y. Kanno**, D. Rankin, J.A. Coombs, and A. R. Whiteley. 2017. Genetic assessment and effects of stocking on wild brook trout populations in South Carolina. Annual Meeting of

South Carolina Chapter of American Fisheries Society, McCormick, South Carolina. March 2, 2017.

[29] Mycko, S.A. ‡, **Y. Kanno**, and J.M. Bettinger. 2017. Using angling and electrofishing to estimate the size of a smallmouth bass population in a regulated river. Annual Meeting of Southern Division American Fisheries Society, Oklahoma City, Oklahoma. February 4, 2017.

[28] Pregler, K.C. ‡, **Y. Kanno**, D. Rankin, J.A. Coombs, and A. R. Whiteley. 2016. Genetic assessment and effects of stocking on wild brook trout populations in South Carolina. The 146th Annual American Fisheries Society Meeting, Kansas City, Missouri. August 25, 2016.

[27] Mycko, S.A. ‡, **Y. Kanno**, J.M. Bettinger, and J. Bulak. 2016. Movement and abundance of smallmouth bass in the Broad River. Annual Meeting of South Carolina Chapter of American Fisheries Society, Seabrook Island, South Carolina. February 25, 2016.

[26] Pregler, K.C. ‡, **Y. Kanno**, D. Rankin, J.A. Coombs, and A. R. Whiteley. 2016. Genetic assessment and effects of stocking on wild brook trout populations in South Carolina. Annual Meeting of Southern Division American Fisheries Society, Wheeling, West Virginia. February 21, 2016.

[25] Pregler, K.C. ‡, **Y. Kanno**, M.C. Scott, K.M. Kubach, and A. Gelder. 2015. Using hierarchical models to evaluate factors affecting occupancy, abundance, and detection probabilities in southern coastal plain streams. The 69th Annual Conference of the Southeastern Association of Fish and Wildlife Agencies, Asheville, North Carolina. November 2, 2015.

[24] Pregler, K.C. ‡, **Y. Kanno**, M.C. Scott, K.M. Kubach, and A. Gelder. 2015. Using hierarchical models to evaluate factors affecting occupancy, abundance, and detection probabilities in southern coastal plain streams. The 145th Annual American Fisheries Society Meeting, Portland, Oregon. August 20, 2015.

[23] Scott, M.C., K.M. Kubach, **Y. Kanno**, and K.C. Pregler ‡. 2015. Standardizing assessments across aquatic habitats: considerations in characterizing fish assemblages in small rivers. The 145th Annual American Fisheries Society Meeting, Portland, Oregon. August 20, 2015.

[22] Letcher, B.H., D.J. Hocking, **Y. Kanno**, K.H. Nislow, and M.J. O'Donnell. 2015. Developing robust estimates of population response to environmental change: moving towards integrating across scales and data types. The 145th Annual American Fisheries Society Meeting, Portland, Oregon. August 19, 2015.

[21] Hitt, N.P., **Y. Kanno**, B.H. Letcher, and E. Snook. 2015. Seasonal temperature and precipitation related to brook trout abundance across the southern Appalachian Mountains, USA. The 145th Annual American Fisheries Society Meeting, Portland, Oregon. August 19, 2015.

[20] Beauchene, M., M. Becker, C.J. Bellucci, N. Hagstrom, and **Y. Kanno**. 2015. Summer thermal thresholds of fish community transitions in Connecticut streams. The 71st Annual Northeast Fish and Wildlife Conference, New Port, Rhode Island. April 20, 2015.

[19] Hitt, N.P., **Y. Kanno**, B.H. Letcher, and E. Snook. 2015. Modeling brook trout abundance from seasonal climate variation across the southern Appalachian mountains, USA. International Symposium on Advances in the Population Ecology of Stream Salmonids IV, Girona, Spain. May 25-29, 2015.

[18] **Kanno, Y.**, B.H. Letcher, N.P. Hitt, D.A. Boughton, J.E.B. Wofford, and E.F. Zipkin. 2015. Seasonal weather patterns drive brook trout population dynamics: implications for climate change. Annual Meeting of Southern Division American Fisheries Society, Savannah, Georgia. January 31, 2015.

[17] Letcher, B.H., **Y. Kanno**, K.H. Nislow, P. Schueller, R.Bassar, and A.L. Rosner. 2014. Stream flow and temperature effects on salmonid population dynamics: integrated modeling across scales and data types. The 144th Annual American Fisheries Society Meeting, Quebec City, Quebec. August 21, 2014.

[16] Hocking, D., B.H. Letcher, K.H. Nislow, **Y. Kanno**, M. Ratnaswamy, and J.E.B. Wofford. 2014. Using single-pass surveys to assess spatial and temporal patterns in brook trout abundance: correcting for imperfect detection. The 144th Annual American Fisheries Society Meeting, Quebec City, Quebec. August 18, 2014.

[15] Beauchene, M., M. Becker, C.J. Bellucci, N. Hagstrom, and **Y. Kanno**. 2014. Summer thermal thresholds of fish community transitions in Connecticut streams. The 38th Annual New England Association of Environmental Biologists Meeting, Burlington, Vermont. March 26, 2014

[14] Beauchene, M., M. Becker, C.J. Bellucci, N. Hagstrom, and **Y. Kanno**. 2014. When the water gets hot, the sculpins get going. The 2014 Connecticut Conference on Natural Resources, Storrs, Connecticut. March 17, 2014

[13] Letcher, B.H., P. Schueller, R. Bassar, J.A. Coombs, A.L. Rosner, K. Sakrejda, **Y. Kanno**, A.W. Whiteley, and K.H. Nislow. 2014. Brook trout population dynamics: Integrated modeling across scales and data types. Invited oral presentation at Atlantic salmon Ecosystem Research Forum, Orono, Maine. January 2014.

[12] **Kanno, Y.**, J.C. Vokoun, and K.E. Holsinger. 2011. Assessing climate change impact on size-specific abundance of brook trout in headwater stream networks using hierarchical regression modeling. Southern New England Chapter of American Fisheries Society 2011 Winter Meeting, Woods Hole, Massachusetts. January 20, 2011.

[11] **Kanno, Y.**, J.C. Vokoun, and B.H. Letcher. 2010. Fine-scale landscape genetic structure of brook trout in a headwater stream network in Connecticut. The 140th Annual American Fisheries Society Meeting, Pittsburgh, Pennsylvania. September 14, 2010.

[10] **Kanno, Y.**, J.C. Vokoun, and B.H. Letcher. 2010. Fine-scale population genetics of brook trout across headwater stream networks in Connecticut. The 2010 Joint Meeting of Ichthyologists and Herpetologists, Providence, Rhode Island. July 9, 2010.

[9] **Kanno, Y.**, J.C. Vokoun, and B.H. Letcher. 2010. Fine-scale population genetics and mating systems of brook trout across headwater stream networks in Connecticut. Southern New England Chapter of American Fisheries Society 2010 Summer Meeting, Kingston, Rhode Island. June 23, 2010.

[8] **Kanno, Y.**, J.C. Vokoun, and B.H. Letcher. 2010. Fine-scale population genetics of brook trout across headwater stream networks in Connecticut. The 66th Northeast Fish and Wildlife Conference, Newton, Massachusetts. April 27, 2010.

[7] **Kanno, Y.**, J.C. Vokoun, and M. Beauchene. 2009. Development of dual fish-indices of biotic integrity (IBI) for Connecticut streams. The 33rd Annual Meeting of the New England Association of Environmental Biologists, West Brook, Connecticut. March 27, 2009.

[6] **Kanno, Y.**, J.C. Vokoun, and M. Beauchene. 2009. Development of dual fish-indices of biotic integrity (IBI) for Connecticut streams. The 3rd Connecticut Conference on Natural Resources, Storrs, Connecticut. March 9, 2009.

[5] **Kanno, Y.**, and J.C. Vokoun. 2008. Can less stream distance be sampled in depauperate regions when estimating fish species richness? The 138th Annual American Fisheries Society Meeting, Ottawa, Ontario. August 21, 2008.

[4] **Kanno, Y.**, and J.C. Vokoun. 2008. Influence of rare species on electrofishing distance when estimating fish species richness in streams. Southern New England Chapter of American Fisheries Society 2008 Summer Meeting, Storrs, Connecticut. June 11, 2008.

[3] **Kanno, Y.**, and J.C. Vokoun. 2008. Biogeography of stream fishes in Connecticut: defining faunal regions and assemblage types. The 64th Northeast Fish and Wildlife Conference, Galloway, New Jersey. April 29, 2008.

[2] **Kanno, Y.**, and J.C. Vokoun. 2008. Biogeography of stream fishes in Connecticut: defining faunal regions and assemblage types. University of Connecticut College of Agriculture Graduate Research Forum, Storrs, Connecticut. March 28, 2008.

[1] **Kanno, Y.**, and J.C. Vokoun. 2008. Biogeography of stream fishes in Connecticut: defining faunal regions and assemblage types. The 2nd Connecticut Conference on Natural Resources, Storrs, Connecticut. March 10, 2008.

Poster Presentations

† undergraduate students; ‡ graduate students; § post-docs under direct supervision

[36] Moriyama, S. ‡, **Y. Kanno**, R. Futamura, A. Okuda, K. Morita, and O. Kishida. 2023. Size-structured habitat shift in resident masu salmon (*Oncorhynchus masou*). Annual Meeting of the Society of Population Ecology, Sapporo, Japan. October 28, 2023.

[35] Moriyama, S. ‡, R. Futamura, K. Morita, A. Terui, A. Okuda, O. Kishida, and **Y. Kanno**. 2023. Fish movement and habitat shift during the reproductive period of masu salmon (*Oncorhynchus masou*). Annual Meeting of the Colorado/Wyoming Chapter of the American Fisheries Society, Fort Collins, CO. March 1, 2023. ***Won Best Student Poster Award

[34] Stack, T. ‡, A.C. Harris ‡, S. Oyler-McCance, J. Fike, M. Fairchild, C. Kennedy, D. Preston, D. Winkelman, and **Y. Kanno**. 2023. Riverscape genetics and the influence of wildfire on genetic diversity of brook trout in a Colorado headwater stream network. Annual Meeting of the Colorado/Wyoming Chapter of the American Fisheries Society, Fort Collins, CO. March 1, 2023.

[33] Lim, P. †, A. Shirmer †, T. Stirling †, C. Miller †, and **Y. Kanno**. 2023. Dimensions of behavior: testing a correlation between movement and angling catchability of creek chub in indoor mesocosms. Annual Meeting of the Colorado/Wyoming Chapter of the American Fisheries Society, Fort Collins, CO. March 1, 2023.

[32] Platis, N. ‡, B. Johnson, **Y. Kanno**, and B. Rose. 2023. Non-lethal alternative for stable isotope analysis of brown trout and mottled sculpin: A comparison between fin and muscle stable isotope signatures. Annual Meeting of the Colorado/Wyoming Chapter of the American Fisheries Society, Fort Collins, CO. March 1, 2023.

[31] Platis, N. ‡, B. Johnson, **Y. Kanno**, and B. Rose. 2022. Non-lethal alternative for stable isotope analysis of brown trout and mottled sculpin: A comparison between fin and muscle stable isotope signatures. Wild Trout Symposium XIII, West Yellowstone, MT. September 28, 2022.

[30] Valentine, G. ‡, X. Lu §, M. Hooten, J. Rash, N. Hitt, B. Letcher, E. Childress, A. Dolloff, and **Y. Kanno**. 2022. Landscape variables characterize thermal stability in Southeastern US brook trout streams. Wild Trout Symposium XIII, West Yellowstone, MT. September 28, 2022.

[29] Valentine, G. ‡, X. Lu §, J. Rash, M. Kulp, N. Hitt, M. Hooten, and **Y. Kanno**. 2022. Structure and scale in spatially synchronous southeastern US brook trout populations. Joint Aquatic Sciences Meeting, Grand Rapids, MI. May 16, 2022.

[28] Locklear, M. †, and **Y. Kanno**. 2022. Body condition explains exploratory movement of creek chub in experimental streams. Annual Meeting of the Colorado/Wyoming Chapter of the American Fisheries Society. Virtual. March 3, 2022.

[27] Valentine, G. ‡, B. Cade, J. Rash, and **Y. Kanno**. 2022. Density dependence, size hierarchies, and invasive species outweigh geographic variables on brook trout body condition in the southeastern USA. Annual Meeting of the Colorado/Wyoming Chapter of the American Fisheries Society. Virtual. March 3, 2022. ***Won Best Student Poster Award

[26] Valentine, G. ‡, M.B. Hooten, J. Rash, N.P. Hitt, B.H. Letcher, E. Childress, A. Dolloff, and **Y. Kanno**. 2021. Landscape variables characterize thermal stability in southeastern US brook trout streams. Annual Meeting of the American Fisheries Society, Baltimore, MD. November 7, 2021.

[25] Futamura, R., K. Morita, **Y. Kanno**, and O. Kishida. 2021. Behavioral patterns of masu salmon during seaward migration. Annual Meeting of the Population Ecology Society. Virtual. November 6, 2021.

[24] Futamura, R., K. Morita, **Y. Kanno**, S. Kumikawa, A. Okuda, Y. Matsuoka, H. Sugiyama, H. Takahashi, K. Takai, J. Uchida, and O. Kishida. 2021. Changes in growth rate and duration? Size-dependent tactics in juvenile masu salmon before oceanic migration. Annual Meeting of the Ecological Society of Japan, Okayama, Japan. March 19, 2021. ***Won Outstanding Student Poster Award

[23] Harris, A.C. ‡, M. Fairchild, S. Oyler-McCance, J. Fike, C. Kennedy, D. Winkelman, and **Y. Kanno**. 2020. Gene flow and spatial structure of nonnative brook trout in the Long Draw area of the upper Cache la Poudre River basin. Rocky Mountain National Park Research Conference, Estes Park, Colorado. March 10, 2020.

[22] Harris, A.C. ‡, M. Fairchild, S. Oyler-McCance, J. Fike, C. Kennedy, D. Winkelman, and **Y. Kanno**. 2020. Gene flow and spatial structure of nonnative brook trout in the Long Draw area of the upper Cache la Poudre River basin. Annual Meeting of the Colorado/Wyoming Chapter of the American Fisheries Society, Laramie, Wyoming. February 26, 2020.

[21] Campbell, C.W.†, and **Y. Kanno**. 2020. Recent invasion by mosquitofish and status of native plains fishes in Arikaree River, eastern Colorado. Annual Meeting of the Colorado/Wyoming Chapter of the American Fisheries Society, Laramie, Wyoming. February 26, 2020.

[20] Corbett, J.†, A. Rivera†, S. Kim‡, K.C. Pregler‡, T. Farmer, and **Y. Kanno.** 2018. Drought effects on population size, movement, and the potential for density-dependent growth in non-game stream fish in a small Piedmont stream. The 148th Annual American Fisheries Society Meeting, Atlantic City, New Jersey. August 20, 2018.

[19] Corbett, J.†, W. Hobbie†, R. Hughes†, J. Smith†, S. Kim‡, P. Hiesl, and **Y. Kanno**. 2018. Assessing culvert use by non-game fishes in small forested Piedmont stream. Annual Meeting of Southern Division American Fisheries Society, San Juan, Puerto Rico. March 9, 2018.

[18] Jones, D.†, A. Michaeli†, A. Padgett†, S. Kim‡, K.C. Pregler‡, and **Y. Kanno**. 2018. Annual and seasonal patterns of fish body growth in South Carolina Piedmont streams. Annual Meeting of Southern Division American Fisheries Society, San Juan, Puerto Rico. March 9, 2018.

[17] Cushman, E., T. Darden, K. Kanapeckas, **Y. Kanno**, B. Peoples, K. Pregler‡, and S. Silknetter‡. 2017. Development of a microsatellite marker panel for genetic characterization of bluehead chub (*Nocomis leptocephalus*) in South Carolina. The Annual Meeting of the Southeastern Fishes Council, Chattanooga, Tennessee. November 16-18, 2017.

[16] Hobbie, W.†, D. Jones†, R. Martin†, A. Michaeli†, E. Stello†, K.C. Pregler‡, S. Kim‡, and **Y. Kanno**. 2017. Annual and seasonal patterns of fish body growth in South Carolina Piedmont streams. The 147th Annual American Fisheries Society Meeting, Tampa, Florida. August 21, 2017.

[15] Hanks, R.D.§, **Y. Kanno**, and J.M. Rash. 2017. Development and evaluation of regional standard-weight equations for brook, brown, and rainbow trout: do spatial trends exist in "plumpness"?. The 147th Annual American Fisheries Society Meeting, Tampa, Florida. August 21, 2017.

[14] Kelly, B.B.†, J.B. Cary†, A.D. Smith†, K.C. Pregler‡, S. Kim‡, and **Y. Kanno**. 2017. Quantifying the effectiveness of a portable PIT tag antenna at detecting stream fish. The 147th Annual American Fisheries Society Meeting, Tampa, Florida. August 21, 2017.

[13] Kelly, B.B.†, A.D. Smith†, J.B. Cary†, K.C. Pregler‡, S. Kim‡, and **Y. Kanno**. 2017. The influence of species and tag size on detection probabilities using a portable PIT tag antenna wand in a small Piedmont stream. Annual Meeting of South Carolina Chapter of American Fisheries Society, McCormick, South Carolina. March 2, 2017.

[12] Kim, S.‡, and **Y. Kanno**. 2017. Spawning phenology and behavioral interactions of bluehead chub (*Nocomis leptocephalus*) and a nest associate, yellowfin shiner (*Notropis lutipinnis*). Annual Meeting of Southern Division American Fisheries Society, Oklahoma City, Oklahoma. February 2-5, 2017.

[11] Kelly, B.B.†, A.D. Smith†, J.B. Cary†, K.C. Pregler‡, S. Kim‡, and **Y. Kanno**. 2017. The influence of species and tag size on detection probabilities using a portable PIT tag antenna wand in a small Piedmont stream. Annual Meeting of Southern Division American Fisheries Society, Oklahoma City, Oklahoma. February 2-5, 2017.

[10] Cary, J.B.†, M.E. Reed†, J.L. Holbrook†, T.B. Austin†, S. Kim‡, K.C. Pregler‡, and **Y. Kanno**. 2016. Survival of upper Piedmont stream fishes implanted with a passive integrated transponder tag. The 146th Annual American Fisheries Society Meeting, Kansas City, Missouri. August 21-25, 2016.

[9] Austin, T.B.†, J.B. Cary†, J.L. Holbrook†, M.E. Reed†, M. Steffensen†, S. Kim‡, K.C. Pregler‡, and **Y. Kanno**. 2016. Survival of upper Piedmont stream fishes implanted with a passive integrated transponder tag. Annual Meeting of South Carolina American Fisheries Society, Seabrook Island, South Carolina. February 24-26, 2016.

[8] Cary, J.B.†, J.L. Holbrook†, T.B. Austin, T.B†, S. Kim‡, K.C. Pregler‡, and **Y. Kanno**. 2016. Survival of upper Piedmont stream fishes implanted with a passive integrated transponder tag. Annual Meeting of Southern Division American Fisheries Society, Wheeling, West Virginia. February 18-21, 2016.

[7] Letcher, B.H., P. Schueller, R. Bassar, J.A. Coombs, A.L. Rosner, K. Sakrejda, **Y. Kanno**, A.R. Whiteley, and K.H. Nislow. 2013. Population persistence of stream fish in response to environmental change: integrating data and models across space. American Geophysical Union's 46th Annual Fall Meeting, San Francisco, California. December 9-13, 2013.

[6] Rosner, A.L., B.H. Letcher, and **Y. Kanno**. 2013. Estimating environmental drivers for broad-scale ecological models: comparing performance of modeled stream flow and meteorological observations. American Geophysical Union's 46th Annual Fall Meeting, San Francisco, California. December 9-13, 2013.

[5] **Kanno, Y.**, J.C. Vokoun, and B.H. Letcher. 2010. Sibship reconstruction for inferring mating systems and effective population size in headwater brook trout populations. Wild Trout Symposium X, West Yellowstone, Montana. September 28-30, 2010.

[4] **Kanno, Y.**, and J.C. Vokoun. 2010. Evaluating effects of water withdrawals and impoundments on fish assemblages in Connecticut streams. The 140th American Fisheries Society Annual Meeting, Pittsburgh, Pennsylvania. September 12-16, 2010.

[3] **Kanno, Y.**, and J.C. Vokoun. 2010. Evaluating effects of water withdrawals and impoundments on fish assemblages in Connecticut streams. The 66th Northeast Fish and Wildlife Conference, Boston, Massachusetts. April 27, 2010. Won Best Student Poster Award

[2] **Kanno, Y.**, and J.C. Vokoun. 2010. Evaluating effects of water withdrawals and impoundments on fish assemblages in Connecticut streams. The 4th Connecticut Conference on Natural Resources, Storrs, Connecticut. March 8, 2010.

[1] **Kanno, Y.**, and J.C. Vokoun. 2010. Evaluating effects of water withdrawals and impoundments on fish assemblages in Connecticut streams. Southern New England Chapter of American Fisheries Society 2010 Winter Meeting, Avery Point, Connecticut. January 28, 2010. Won Best Student Poster Award

PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM (PRRIP -or- Program)
EXHIBIT A: PRRIP Conflict of Interest Form – ISAC Members

The PRRIP developed guidance regarding the avoidance of conflicts of interest in accordance with the ISAC Charter (Attachment 6, Appendix I) and the Peer Review Guidelines (Adaptive Management Plan, Appendix A) contained in the PRRIP Final Program Document. As stated in the ISAC Charter: "The ISAC must retain as much independence from the adaptive management program as possible. This independence requires that their role focus on reviewing products produced by the Program."

Potential conflicts of interest include but are not limited to:

- Financial interest in the restoration and management activities associated with the PRRIP.
- Familial relationship with any of the scientists conducting research and/or monitoring associated with the PRRIP.
- Bias, for personal reason for or against the scientists mentioned above and/or the entities involved in the implementation of the PRRIP.
- Professional connection with any entities involved with PRRIP implementation.
- Impacts of lobbying or political pressure exerted by person(s) looking for a particular result or more work with the PRRIP.
- Has conducted, is conducting, or intends to conduct work for or on behalf of the Program, or work that directly overlaps with Program scientific and technical priorities, which could result in an ISAC member reviewing and commenting on her/his own work product(s).

As a candidate proposed for participation on the ISAC, I hereby state that I do not have any conflicts of interest with the Platte River Recovery Implementation Program as outlined above and (if necessary) explained on the following page. I can serve effectively on the ISAC without any financial, familial, personal, or professional bias in order to further the goals and objectives of the PRRIP and the implementation and evaluation of the Extension Science Plan and associated scientific and technical activities, analyses, and syntheses.

FOR THE CONSULTANT:

_____ _____

NAME DATE

PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM (PRRIP -or- Program)
EXHIBIT B – Certification Regarding Lobbying

The undersigned certifies, on behalf of the Consultant, that to the best of his or her knowledge and belief:

1. No federal appropriated funds have been paid or will be paid, by or on behalf of the Consultant, to any person for influencing or attempting to influence an officer or employee of any federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, or the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement.

2. No registrant under the Lobbying Disclosure Act of 1995 has made any lobbying contacts on behalf of the Consultant with respect to the federal grant or cooperative agreement under which the Consultant is receiving monies.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who makes an expenditure prohibited by Section 1 above or who fails to file or amend the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

FOR THE CONSULTANT:

_____ _____

NAME DATE

Affirmative Statement: Work for the Federal Government

If selected as a member of the Independent Scientific Advisory Committee of the Platte River Recovery Implementation Program, I affirm that I am not disbarred from doing work for the federal government.

Yoichiro Kanno
Department of Fish, Wildlife, and Conservation Biology
Colorado State University

UNIVERSITY OF GEORGIA

Warnell School of Forestry and Natural Resources
180 E Green Street
Athens, Georgia 30602-2152
TEL 706-542-2686 | FAX 706-542-8356
www.warnell.uga.edu

Chadwin Smith, Ph.D.
Science Policy Coordinator
Platte River Recovery Implementation Program
4111 4th Ave., Suite 6
Kearney, NE 68845

Dr. Chadwin Smith and the ISAC Selection Panel,

I am writing to apply for the open seat on the Independent Scientific Advisory Committee (ISAC) for the Platte River Recovery Implementation Program (PRRIP). I was excited to learn of this opportunity as I deeply value my previous experiences working in the aquatic systems of the Great Plains. I am currently an Associate Professor within the Warnell School of Forestry and Natural Resources at the University of Georgia (UGA). I believe my formal training and experience in Nebraska coupled with my recent work in Georgia will make me a strong candidate that will contribute to the ISAC. I welcome the opportunity to contribute to the PRRIP and thus am sending this application with great interest. Along with this cover letter, I have included my CV, biographical sketch, and affirmative statements.

My research is broadly focused on applied ecology embedded within a framework of answering theoretical questions to better understand and manage aquatic ecosystems. My general research interests are centered on the context of describing how the environment influences fish population dynamics and how that information can be used to better manage our natural resources. My research program has varied among types of systems and species of fish, but has primarily focused in riverine ecosystems. I am interested in determining how both native and introduced fishes use riverscapes with varying levels of connectivity or are impacted by other anthropogenic features. Dynamic rate functions have been the basis for the response variables in many of my studies and was the impetus for my recent theoretical and applied research examining how differing levels of growth and mortality can result in plastic responses in biological traits of sturgeon. My current work examining movement and life history traits using fin spine microchemistry and various mark-recapture methods has diversified my skillsets and broadened the tools available to evaluate fishes in large spatial systems.

I have extensive experience working with sturgeons. My dissertation work examined the population dynamics and demographics of Pallid and Shovelnose Sturgeon in the Platte and Missouri Rivers. I spent over 10 years collecting data on the lower Platter River, becoming intimately familiar with the challenges the biota in this system faces with ongoing threats such as land development, water usage, and climate change. My earlier experiences working as a Pallid Sturgeon biologist on the Missouri River provided beneficial experience working among a diverse group of stakeholders to adaptively manage the species in this system. Even after leaving the Missouri River to work in the Platte River, I continued to engage with the different researchers, working groups, and stakeholders to help push the science and enact beneficial management decisions. After accepting a position

at the University of Georgia, I have been successful in acquiring funds to study endangered Atlantic and Shortnose Sturgeon, as well as a reintroduced population of Lake Sturgeon. Work with each of these large-scale recovery programs has resulted in the participation in various working groups across broad spatial scales. I have active roles in these programs and enjoy working to solve complex problems. For example, I recently administered an age and growth workshop for Atlantic and Shortnose Sturgeon at the Southern Division of the American Fisheries Society meeting. Participants that span the Atlantic coast came to learn how to use fin spines for aging sturgeon and I am directly involved in creating a SOP for standardized removal, processing, and aging of sturgeon fin spines.

My teaching, research, and work experiences would be a great addition to the ISAC. I am passionate about working with others and value collaborations with diverse partners. I have current projects working with other faculty in Warnell, faculty from other schools at UGA, faculty from other universities, and a wide variety of stakeholders. I work closely with the Georgia Department of Natural Resources on both funded and non-funded research as I enjoy being able to assist the agency in addressing natural resource management questions with novel solutions. I value my participation in working groups and frequently volunteer my time to participate within professional societies.

I believe my expertise and prior research experience will be a valuable asset to the ISAC. My publication and grant record provide evidence of my extensive collaborations with researchers and stakeholders across disciplines, federal and state agencies, and universities. It also demonstrates my knowledge of sturgeon, the Platte and Missouri Rivers, and large river ecology.

Thank you for your consideration.

Sincerely,

Dr. Martin Hamel

Biographical Statement

Martin Hamel

I am an associate professor at the University Georgia in the Warnell School of Forestry and Natural Resources. I have worked in large river systems for over 20 years with specific expertise working with sturgeon across broad spatial scales. I received my PhD from the University of Nebraska-Lincoln, where I worked with Pallid and Shovelnose Sturgeon in the Platte River. My expertise is in fish population dynamics and life history, primarily with species in large river systems. I have 37 publications with over $2 million in grant funding, and have experience working in large, diverse teams aimed at recovering threatened and endangered sturgeons.

CURRICULUM VITAE

DR. MARTIN J. HAMEL

Associate Professor
University of Georgia
Warnell School of Forestry and Natural Resources
Mailing address: 125 Manorhaven Ct., Athens, GA 30606
Email: hamel@uga.edu

EDUCATION

PhD 2013 University of Nebraska, Lincoln; Natural Resource Sciences – Applied Ecology Specialization; Dissertation: Determining *Scaphirhynchus* Sturgeon Population Demographics and Dynamics: Implications for Range-Wide Management, Recovery, and Conservation; Advisor: M.A. Pegg

MS 2006 South Dakota State University; Wildlife and Fisheries Sciences – Fisheries Specialization; Thesis: Behavioral Responses of Rainbow Smelt to Sensory Deterrent Systems; Advisor: M.L. Brown

BS 2003 Upper Iowa University; Conservation Management and Biology; Senior Thesis Project: *Crepidostomum* in Rock Bass (*Ambloplites rupestris)*; Advisor: R. Klann

AAS 2001 Kirkwood Community College; Parks and Natural Resources

Graduate Certificate 2019 University of Nebraska, Lincoln – Family Financial Planning

PROFESSIONAL APPOINTMENTS

2022-present	Associate Professor, Warnell School of Forestry and Natural Resources, University of Georgia
2023-present	Associate Graduate Faculty Member, Iowa State University
2019-present	Adjunct Professor, School of Natural Resources, University of Nebraska
2019-2022	Assistant Professor, Warnell School of Forestry and Natural Resources, University of Georgia
2014-2019	Research Assistant Professor, School of Natural Resources, University of Nebraska-Lincoln
2008-2014	Research Technologist II – River Ecology Specialist, School of Natural Resources, University of Nebraska-Lincoln
2006-2008	Fisheries Biologist I, Nebraska Game and Parks Commission
2004-2006	Graduate Research Assistant, South Dakota State University

GRANTS/FUNDING

Hamel, M.J., and A. Fox. Using microchemical analysis to monitor Atlantic and Shortnose Sturgeon habitat use in coastal Georgia Rivers. National Marine Fisheries Council, 2023-2024. Total award: $25,000 (split 50%).

Hamel, M.J., and J. Shelton. Spatial changes in trace element water chemistry across Piedmont rivers of Georgia with applications for native fish species conservation. Georgia Water Resources Institute, 2023-2024. Total award: $20,409.

Hamel, M.J., M.A Pegg, D. Buckmeier, and J. Koch. Creating a digital repository of calcified structures from known-age fishes. Multistate Conservation Grant Program – Wildlife and Sportfish Restoration, 2023-2026. Total award: $428,854

Hamel, M.J., and A. Fox. Assessing reproduction and recruitment dynamics of Atlantic and Shortnose Sturgeon in Georgia coastal rivers. National Marine Fisheries Council, 2022-2024. Total award: $786,586 (split 50%).

Hamel, M.J., B. Irwin, and J. Kirsch. Determining critical knowledge in life history of Lake Sturgeon in the Coosa River basin, Georgia. FY22 Science Support Partnership; U.S. Fish and Wildlife Service – 2021-2024. Total award: $85,770 (split 50%).

Hamel, M.J., and B. Irwin. Evaluation of Lake Sturgeon in the Coosa River. Georgia Department of Natural Resources. 2021-2023. Total award: $145,324 (split 70%-30%).

Hamel, M.J. Spatial changes in trace element water chemistry across river basins of Georgia with applications for fish movement. Office of Research, University of Georgia, 2021-2023. Total award: $23,562

Hamel, M.J. Determining movement dynamics, life history attributes, and angler exploitation of Suwannee Bass in Georgia. Georgia Department of Natural Resources, 2020-2021. Total award: $96,668

Hamel, M.J. Evaluating impacts on sportfish dynamics following the establishment of hydrilla in Lake Sinclair, Georgia. Georgia Power Company, 2020-2021 Total award: $137,500

Hamel, M.J., and M.A. Pegg. Blue Catfish Management in the Kansas River. Kansas Wildlife, Parks and Tourism, 2018-2020. Total award: $206,000 (split 50%)

Hamel, M.J., and M.A. Pegg. Status of Invasive Carps in the Kansas River. Kansas Wildlife, Parks and Tourism, 2018-2020. Total award: $200,000 (split 50%)

Hamel, M.J., and M.A. Pegg. Continuation: Biological Monitoring of Restored Chutes and Effectiveness in Offsetting Adverse Effects from Levee Construction at the Camp Ashland Training Site for the Nebraska Army National Guard (NEARNG) Environmental Branch. Nebraska Army National Guard, 2017 – 2020. Total award: $175,777 (split 50%)

Pegg, M.A., and M.J. Hamel. Pallid Sturgeon Movement in the Lower Platte River. Nebraska Game and Parks Commission, 2017-2018. Total award: $24,802 (split 50%)

Hamel, M.J., and M.A. Pegg. Biological Monitoring of Restored Chutes and Effectiveness in Offsetting Adverse Effects from Levee Construction at the Camp Ashland Training Site for the Nebraska Army National Guard (NEARNG) Environmental Branch. Nebraska Army National Guard, 2014 – 2017. Total award: $196,946 (split 50%)

Pegg, M.A., and M.J. Hamel. Riverine Sportfish Ecology and Management. Nebraska Game and Parks Commission, 2014 – 2019. Total award: $401,210 (split 50%).

Burgin, A., M. Pegg, M. Hamel, J. Spurgeon, and J. Hammen. Conservation of large-river fishes: a complementary approach to determine population structure and river-of-origin. UNL Research Council Grant-in-Aid, 2013. Total award $6,500

Not-awarded

Irwin, B., M. Freeman, S. Wenger, M. Hamel, P. Hazelton, and A. Fox. Advancing understanding of flow effects on fishes and mussels to guide water management under a changing climate. Climate Adaptation Science Center. Total award: $183,798 – *Not funded*

Hamel, M.J. CAREER: A holistic approach to studying biotic responses to dam removal in a highly fragmented river system. National Science Foundation. 2021-2026. Total award: $885,237 – *Not funded*

Wenger, S., M. Hamel, and D. Leigh. Adaptively managing for Robust Redhorse: A range-wide collaboration to address data gaps, assess potential environmental threats, and implement conservation actions. 2022-2024. Total award: $261,288 – *Not funded*

Hamel, M.J. Determining population dynamics, movement, and natal river origin of the invasive Blue Catfish in major river systems of Georgia. Gulf States Marine Fisheries Commission. Total award: $48,302.10 – *Not funded*

Hamel, M.J., and A. Fox. Population dynamics and life history of Atlantic and Shortnose Sturgeon in the Altamaha and Savannah Rivers, Georgia, National Marine Fisheries Council, 2021-2023. Award requested: $551,248 (split 50%) – *Not funded*

Hamel, M.J., and J. Glomb. Examining the efficacy of novel techniques for assessing hydrilla and its ecological impact in large reservoirs. North American Plant Management Society, 2020. Award requested: $40,000 – *Not funded*

Hamel, M.J. Tributary Use of Pallid Sturgeon. Mohamed bin Zayed Species Conservation Fund. 2017. Award requested: $23,600 – *Not funded*

Pope, K., and M.J. Hamel. Effects of Invasive Carp on Algal and Invertebrate Biomass in the Missouri National Recreational River. National Park Service, 2016-2019. Award requested: $226,435 – *Not funded*

Hamel, M.J. Lower Platte River Biological Monitoring. Nebraska Environmental Trust, 2017-2020. Award requested: $76,237 – *Not funded*

Pope, K., and M.J. Hamel. Longitudinal Assessment of Aquatic Macroinvertebrate Communities in Backwater and Side-Channel Habitats in the 59-mile District of Missouri National Recreational River, 2015-2018. Award requested: $217,862 – *Not funded*

PEER-REVIEWED PUBLICATIONS

Authorship key: **Self** – bold
Graduate Student Supervised – underline
Undergraduate Student Supervised - italics

37. Yeager, J.L., T. Bonvechio, and **M.J. Hamel**. *In Print*. Population demographics and angler exploitation of Suwannee Bass. North American Journal of Fisheries Management.

36. Yeager, J.W., T.F. Bonvechio, & **M.J. Hamel**. 2023. Movement dynamics and habitat selection of Suwannee bass *Micropterus notius*. Hydrobiologia. https://doi.org/10.1007/s10750-023-05379-0

35. Dean, Q.D., J.P. Werner, M.A. Pegg, and **M.J. Hamel**. 2022. Blue catfish population characteristics and dispersal along a great plains river gradient. River Research and Applications DOI: 10.1002/rra.3985

34. Pegg, M.A., **M.J. Hamel**, J. Koch, and D. Buckmeier. 2022. Creating a digital repository of calcified structures from known-age fishes, a century in the making. Fisheries 47(8):357-360 DOI: 10.1002/fsh.10773

33. Werner, J.P., Q.D. Dean, M.A. Pegg, and **M.J. Hamel**. 2022. Spatial variability of Silver Carp population demographics in a large tributary river. North American Journal of Fisheries Management DOI: 10.1002/nafm.10777

32. Werner, J.P., Q.D. Dean, M.A. Pegg, and **M.J. Hamel**. 2022. Patterns in spatial use and movement of Silver Carp among tributaries and main-stem rivers: Insight from otolith microchemistry analysis. Biological Invasions. DOI: https://doi.org/10.1007/s10530-022-02927-y

31. Dean, Q., M.A. Pegg, and **M.J. Hamel**. 2021. Temporal patterns of capture, retention rates and efficacy of bank poles in the Kansas River: A novel sampling tool for catfish managers. North American Journal of Fisheries Management 41:S379-S387 DOI: https://doi.org/10.1002/nafm.10627

30. **Hamel, M.J.**, J.J. Spurgeon, M.A. Pegg, and K.D. Steffensen. 2020. Uncovering unique plasticity in life history of an endangered centenarian fish. Nature Scientific Reports https://doi.org/10.1038/s41598-020-69911-1

29. **Hamel, M.J.**, J.J. Spurgeon, and M.A. Pegg. 2020. Catfish population characteristics among river segments with altered fluvial-geomorphic conditions in the Missouri River, NE, USA. North American Journal of Fisheries Management http://dx.doi.org/10.1002/nafm.10478

28. Goto, D., **M.J. Hamel**, J.J. Hammen, M.L. Rugg, M.A. Pegg, and V.A. Forbes. 2020. Divergent density feedback control of migratory predator recovery following sex-biased perturbations. Ecology and Evolution https://doi.org/10.1101/828244

27. Uerling, C.C., **M.J. Hamel**, and M.A. Pegg. 2019. Fish community response to habitat variables in two restored side channels of the lower Platte River, Nebraska. River Research and Applications 35:178-187; DOI: https://doi.org/10.1002/rra.3390.

26. Steffensen, K.D., **M.J. Hamel**, and J.J. Spurgeon. 2019. Post-stocking pallid sturgeon *Scaphirhynchus albus* growth, dispersal, and survival in the lower Missouri River. Journal of Applied Ichthyology 35:117-127.

25. **Hamel, M.J.,** M. Porath, and L.L. Pierce. 2018. Young Professional Survey Results: Member and non-member perspective on decisions to join AFS. A survey of attitudes and perceptions regarding membership to the American Fisheries Society. Fisheries; DOI: https://doi.org/10.1002/fsh.10066

24. Goto, D., **M.J. Hamel**, J.J. Hammen, M.L. Rugg, M.A. Pegg, and V.L. Forbes. 2018. Spatially dynamic maternal control of migratory fish recruitment pulses triggered by shifting seasonal cues. Marine and Freshwater Research 69:942-961.

23. Spurgeon J.J., **M.J. Hamel,** K.D. Steffensen, and M.A. Pegg. 2018. Spatial structure of large-river fish population across main-stem and tributary habitats. River Research and Applications 34:807-815.

22. Steffensen, K.D., and **M.J. Hamel**. 2018. Fin ray removal may be deleterious on *Scaphirhynchus* species. North American Journal of Fisheries Management 38:439-445.

21. Hammen, J.J., **M.J. Hamel**, M.L. Rugg, and M.A. Pegg. 2018. Population characteristics of Shovelnose Sturgeon during low- and high-water conditions in the lower Platte River, Nebraska. North American Journal of Fisheries Management 38:308-315.

20. **Hamel, M.J.**, A.J. Blank, J.J. Spurgeon, and M.A. Pegg. 2017. Assessment of a channel catfish population in a large open river system. Fisheries Management and Ecology 24:460-468.

19. Hammen, J.J., **M.J. Hamel**, M.L. Rugg, and M.A. Pegg. 2017. Habitat associations of shovelnose sturgeon *Scaphirhynchus platorynchus* (Rafinesque, 1820) in the lower Platte River, Nebraska. Journal of Applied Ichthyology DOI: 10.1111/jai.13513.

18. Phelps, Q.E., S.J. Tripp, **M.J. Hamel**, J. Koch, E.J. Heist, J.E Garvey, K.M. Kappenman, and M.A.H Webb. 2016. Status of knowledge of the Shovelnose Sturgeon (*Scaphirhynchus platorynchus*, Rafinesque, 1820). Journal of Applied Ichthyology 32:249-260.

17. **Hamel, M.J.**, J.J. Spurgeon, C.J. Chizinski, K.D. Steffensen, M.A. Pegg. 2016. Variability in age estimation results in ambiguity and false understanding of population persistence. North American Journal of Fisheries Management 36:514-522.

16. **Hamel, M.J.**, J.J. Spurgeon, M.L. Pegg, J.J. Hammen, and M.L. Rugg. 2016. Hydrologic variability influences distribution and occurrence of pallid sturgeon in a Missouri River tributary. River Research and Application 32:320-329.

15. Spurgeon, J.J., **M.J. Hamel**, M.A. Pegg. 2016. Multi-scale approach to hydrological classification provides insight to flow structure in an altered river system. River Research and Applications. DOI: 10.1002/rra.3041

14. **Hamel, M.J.**, M.L. Rugg, J.J. Hammen, and M.A. Pegg. 2015. Reproductive traits of shovelnose sturgeon *Scaphirhynchus platorynchus* (Rafinesque, 1820) in the Lower Platte River, Nebraska. Journal of Applied Ichthyology.

13. Spurgeon, J.J., **M.J. Hamel**, M.A. Pegg, and K.L. Pope. 2015. The global status of freshwater fish age validation studies and a prioritization framework for further research. Reviews in Fisheries Science and Aquaculture 23:329-345.

12. Hogberg, N.P., **M.J. Hamel**, and M.A. Pegg. 2015. Age-0 channel catfish *Ictalurus punctatus* growth related to environmental conditions in the channelized Missouri River, Nebraska. River Research and Applications. DOI: 10.1002/rra.2890.

11. **Hamel, M.J.**, M.A. Pegg, R.R. Goforth, Q.E. Phelps, K.D. Steffensen, J.J. Hammen, and M.L. Rugg. 2014. Range-wide age and growth characteristics of shovelnose sturgeon from mark-recapture data: implications for conservation and management. Canadian Journal of Fisheries and Aquatic Sciences 72:71-82.

10. Goto, D., **M.J. Hamel**, J.J. Hammen, M.L. Rugg, M.A. Pegg, and V.E. Forbes. 2014. Spatiotemporal variation in flow-dependent recruitment of long-lived riverine fish: Model development and evaluation. Ecological Modelling 296:79-92.

9. Rugg, M.L., **M.J. Hamel,** M.A. Pegg, and J.J. Hammen. 2014. Validation of annuli formation in pectoral fin rays from shovelnose sturgeon in the lower Platte River, Nebraska. North American Journal of Fisheries Management 34:1028-1032.

8. **Hamel, M.J.**, M.A. Pegg, J.J. Hammen, and M.L. Rugg. 2014. Population characteristics of pallid sturgeon in the lower Platte River, Nebraska. Journal of Applied Ichthyology 30:1362-1370.

7. **Hamel, M.J.**, J.D. Koch, K.D. Steffensen, M.A. Pegg, J.J. Hammen, and M.L. Rugg. 2014. Using mark-recapture information to validate and assess age and growth of long-lived fish species. Canadian Journal of Fisheries and Aquatic Sciences 71:559-566.

6. **Hamel, M.J.**, K.D. Steffensen, J.J. Hammen, and M.A. Pegg. 2013. Evaluation of PIT Tag Retention from Two Tagging Locations in Juvenile Pallid Sturgeon. Journal of Applied Ichthyology 29:41-43.

5. **Hamel, M.J.**, J.J. Hammen, and M.A. Pegg. 2012. Tag Retention of T-Bar Anchor Tags and Passive Integrated Transponder Tags in Shovelnose Sturgeon. North American Journal of Fisheries Management 32:533-538.

4. **Hamel, M.J.**, N.L. Richards, M.L. Brown, and S.R. Chipps. 2010. Avoidance of Strobe Lights by Zooplankton. Lake and Reservoir Management 26:212-216.

3. **Hamel, M.J.**, K.D. Steffensen, P.T. Horner, and S.M. Stukel. 2009. A comparison of catch rate with two different benthic trawls in the Missouri River. Journal of Freshwater Ecology 24:625-634.

2. **Hamel, M.J.**, M.L. Brown, and S.R. Chipps. 2008. Behavioral Responses of Rainbow Smelt to *in situ* Strobe Lights. North American Journal of Fisheries Management 28:394-401.

1. Neely, B.C., **M.J. Hamel**, and K.D. Steffensen. 2008. A Proposed Standard Weight Equation for Blue Suckers. North American Journal of Fisheries Management 28:1450-1452.

PUBLICATIONS IN REVIEW

3. **Hamel, M.J.**, and W.L. Gerrin. *In Review*. If you build it, it will come: a wide-spread analysis of water chemistry data with applications for future fish microchemistry studies. River Research and Applications.

2. Glomb, J.C., R.C., Lowe, J.L. Shelton, and **M.J. Hamel**. *In Review*. Examining the initial response of a sportfish community to hydrilla invasion. Lake and Reservoir Management.

1. Glomb, J.C., R.C., Lowe, J.L. Shelton, and **M.J. Hamel**. *In Review*. Employing remote sensing techniques for monitoring hydrilla occurrence. Lake and Reservoir Management.

TEXTBOOK CHAPTERS

Hamel, M.J., J.D. Koch, Z. Jackson, and S. Ludsin. (In Preparation). Overview of Management Philosophies in M. Quist, D. Isermann, and M. Wuellner, editors. Inland Fisheries Management in North America, 4th edition. American Fisheries Society, Bethesda, Maryland.

Pracheil, B.M., P.J. Braaten, E.B. Macias, C.S. Guy, D.P. Herzog, **M.J. Hamel**, J.C. Justice, A.R. Loeppky, J.M. Mollish, J.W. Simmons, and S. Tripp. (*Accepted*). Warmwater fish in rivers in S. Bonar, N.M. Silva, and K. Pope, editors. Standard methods for sampling North American freshwater fishes, 2nd edition. American Fisheries Society, Bethesda, Maryland.

Phelps, Q.E., **M.J. Hamel**, S.A. Tripp, Z. Jackson, and R. Koenigs. 2017. Choice of structure – selecting the appropriate aging structure *in* M.C. Quist and D.A. Isermann, editors. Age and growth of fishes: principles and techniques. American Fisheries Society, Bethesda, Maryland.

THESIS AND DISSERTATION

Hamel, M.J. 2013. Determining *Scaphirhynchus* Sturgeon Population Demographics and Dynamics: Implications for Range-Wide Management, Recovery, and Conservation. Ph.D. Dissertation. University of Nebraska-Lincoln, Lincoln, Nebraska.

Hamel, M.J. 2006. Behavioral Responses of Rainbow Smelt to Sensory Deterrent Systems. M.S. Thesis. South Dakota State University, Brookings, South Dakota.

POPULAR ARTICLES AND INTERVIEWS

Hamel, M.J. 2021. Interview with the Labor Street Park podcast: https://www.youtube.com/watch?v=fLVAxNmTUuw

Hamel, M.J. 2020. What role does connectivity play in altered aquatic systems? River Stressors podcast.

Hamel, M.J. 2018. Airboats: A vital tool for research when chasing dinosaurs. Airboating 12(70):8-12

ORAL PRESENTATIONS

Authorship key: **Self** – bold
Graduate Student Supervised – underline
Undergraduate Student Supervised - italics

Bond, A.T., H. Rider, J. Nolan, A.G. Fox, and **M.J. Hamel**. 2024. A statistical model to assess juvenile Atlantic Sturgeon age based on length and Julian day. Warnell Graduate Student Symposium. Athens, GA.

Nolan, J.D., A.T. Bond, H. Rider, A.G. Fox, and **M.J. Hamel**. 2024. Coastal migratory behavior of juvenile Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*) from the South Atlantic Distinct Population Segment. Warnell Graduate Student Symposium. Athens, GA.

Rider, H., A. Bond, J. Nolan, A.G. Fox, and **M.J. Hamel**. 2024. Validating Shortnose Sturgeon age estimates from known age fish. Warnell Graduate Student Symposium. Athens, GA.

Phillips, M., S. Perry, B. Irwin, and M.J. Hamel. 2024. Age and growth characteristics of reintroduced Lake Sturgeon in the Coosa River, Georgia-Alabama. Warnell Graduate Student Symposium. Athens, GA.

Phillips, M., S. Perry, B. Irwin, and M.J. Hamel. 2024. Abundance and evidence of natural recruitment of reintroduced Lake Sturgeon in the Coosa River, Georgia-Alabama. Warnell Graduate Student Symposium. Athens, GA.

Simon, T., and **M.J. Hamel**. 2024. Can otolith microchemistry inform sportfish stocking program? Georgia Chapter of the American Fisheries Society, LeGrange, GA.

Nolan, J.D., A.T. Bond, H. Rider, A.G. Fox, and **M.J. Hamel**. 2024. Coastal migratory behavior of juvenile Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*) from the South Atlantic Distinct Population Segment. Georgia Chapter of the American Fisheries Society, LeGrange, GA.

Bond, A.T., H. Rider, J. Nolan, A.G. Fox, and **M.J. Hamel**. 2024. A statistical model to assess juvenile Atlantic Sturgeon age based on length and Julian day. Georgia Chapter of the American Fisheries Society, LeGrange, GA.

Rider, H., A. Bond, J. Nolan, A.G. Fox, and **M.J. Hamel**. 2024. Validating Shortnose Sturgeon age estimates from known age fish. Georgia Chapter of the American Fisheries Society, LeGrange, GA.

Schumber, Z., M. Baker, B. Irwin, **M.J. Hamel**, and P. Hazelton. 2024. Habitat and landscape characteristics affecting *Corbicula* presence in the upper Savannah River drainage. Georgia Chapter of the American Fisheries Society, LeGrange, GA.

Browning, E., W. Gerrin, J. Shelton, B. Shamblin, **M.J. Hamel**, P. Hazelton, S. McNair, A. Musolf, B. Ammen, and R. Bryne. Aquatic nuisance species in Georgia: current status of weather loach research by UGA Warnell School of Forestry and Natural Resources. Georgia Chapter of the American Fisheries Society, LeGrange, GA.

Perry, S., M. Phillips, B. Irwin, and **M.J. Hamel**. 2024. Movement and habitat use of Lake Sturgeon in the Coosa River System in Georgia. Georgia Chapter of the American Fisheries Society, LeGrange, GA.

Phillips, M., S. Perry, B. Irwin, and **M.J. Hamel**. 2024. Abundance and evidence of natural recruitment of reintroduced Lake Sturgeon in the Coosa River, Georgia-Alabama. Georgia Chapter of the American Fisheries Society, LeGrange, GA.

Phillips, M., S. Perry, B. Irwin, and **M.J. Hamel**. 2024. Growth and abundance of reintroduced Lake Sturgeon in the Coosa River, Georgia – Alabama. Southern Division of the American Fisheries Society, Chattanooga, TN.

Nolan, J.D., A.T. Bond, H. Rider, A.G. Fox, and **M.J. Hamel**. 2024. Coastal migratory behavior of juvenile Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*) from the South Atlantic Distinct Population Segment. Southern Division of the American Fisheries Society, Chattanooga, TN.

Rider, H., A. Bond, J. Nolan, A.G. Fox, and **M.J. Hamel**. 2024. Validating Shortnose Sturgeon age estimates from known age fish. Southern Division of the American Fisheries Society, Chattanooga, TN.

Faherty, T., J. Shelton, P. Hazelton, **M.J. Hamel**, W. Gerrin, S. McNair, K. Evans, and B. Shamblin. 2024. Mitochondrial and nuclear genetic markers suggest at least three introductions of Weather Loach (*Misgurnus anguillicaudatus*) introductions in Georgia. Southern Division of the American Fisheries Society, Chattanooga, TN.

Bond, A.T., H. Rider, J. Nolan, A.G. Fox, and **M.J. Hamel**. 2024. A statistical model to assess juvenile Atlantic Sturgeon age based on length and Julian day. Southern Division of the American Fisheries Society, Chattanooga, TN.

Hamel, M.J., J.D. Koch; M.A. Pegg, and D. Buckmeier. 2023. A proposed publicly available known-age fish structure repository. 7th International Otolith Symposium, Vina Del Mar, Chile – South America.

Phillips, M., S. Perry, B. Irwin, and **M.J. Hamel**. 2023. Growth and longevity of Lake Sturgeon in the Coosa River in Georgia. American Fisheries Society annual meeting, Grand Rapids, MI.

Perry, S., M. Phillips, B. Irwin, and **M.J. Hamel.** 2023. Movement and habitat use of Lake Sturgeon in the Coosa River system in Georgia. American Fisheries Society annual meeting, Grand Rapids, MI.

Davis, V., R. Bringolf, P. Sakaris, T. Bonvechio, and **M.J. Hamel.** 2023. Diet composition of introduced blue catfish populations in four major rivers in Georgia. American Fisheries Society annual meeting, Grand Rapids, MI.

Gerrin, W., *B. Amman,* P. Hazelton, J. Shelton, B. Shamblin, and **M. Hamel**. 2023. CSI Warnell: Investigating the source, dispersal, and recruitment of the Weather Loach using otolith microchemistry. Georgia Water Resources Conference, Athens, GA.

Gerrin, W., J. Shelton, **M. Hamel**, P. Hazelton, B. Shamblin, and S. McNair. 2023. Georgia Weather Loach Update: Tools for Rapid Response to ANS Issues. Gulf and South Atlantic Regional Panel on Aquatic Nuisance Species. Jekyll Island, GA.

McNair, S., W. Gerrin, J. Shelton, B. Shamblin, **M.J. Hamel**, and P. Hazelton. 2023. Approach of the loach: Using genetics to better understand a newly invasive species, the Weather Loach (*Misgurnus anguillicaudatus*), in Georgia. Georgia Water Resources Conference, Athens, GA.

Byrne, R., W. Gerrin, J. Shelton, B. Shamblin, **M.J. Hamel**, P. Hazelton, S. McNair. 2023. Aquatic nuisance species in Georgia: current status of the Weather Loach. Georgia Water Resources Conference, Athens, Ga.

Hamel, M.J. and W. Gerrin. 2023. Trace element concentrations in Georgia waters: applications for future fish microchemistry studies. Georgia Chapter of the American Fisheries Society, St. Simons, GA.
Davis, V., T. Bonvechio, R. Bringolf, P. Sakaris, and M. Hamel. 2023. Diet composition of introduced blue catfish populations in four major rivers of Georgia. Georgia Chapter of the American Fisheries Society, St. Simons, GA.

Phillips, M., B. Irwin, and **M. Hamel**. 2023.Growth and longevity of Lake Sturgeon in the Coosa River system in Georgia. Georgia Chapter of the American Fisheries Society, St. Simons, GA.

Amman, B., W. Gerrin, P. Hazelton, J. Shelton, B. Shamblin, and M. Hamel. 2023. CSI Warnell: Investigating the source, dispersal, and recruitment of the Weather Loach using otolith microchemistry. Georgia Chapter of the American Fisheries Society, St. Simons, GA.

Perry, S., B. Irwin, and **M. Hamel**. 2023. Movement and habitat use of Lake Sturgeon in the Coosa River system in Georgia. Georgia Chapter of the American Fisheries Society, St. Simons, GA.

McNair, S., W. Gerrin, J. Shelton, B. Shamblin, M. Hamel, and P. Hazelton. 2023. Approach of the loach: Using genetics to better understand a newly invasive species, the Weather Loach (*Misgurnus anguillicaudatus*), in Georgia. Georgia Chapter of the American Fisheries Society, St. Simons, GA.

D'Ercole M., **M. Hamel**, P. Hazelton, A. Kaeser, and A. Fox. 2023. Flow regime and recruitment in Gulf Sturgeon in the Apalachicola River. Georgia Chapter of the American Fisheries Society, St. Simons, GA.

Carroll-Everett, L., N. Nibbelink, C. Cox, **M. Hamel**, R. Guy, and J. Flowers. 2023. Interpreting partial information provided by fishery-independent surveys towards a holistic understanding of estuarine fishes. Georgia Chapter of the American Fisheries Society, St. Simons, GA.

Phillips, M., and **M. Hamel**. 2022. Coosa River Lake Sturgeon Reintroduction. Invited speaker for the Oconee River Chapter of Trout Unlimited, Athens, GA.

Phillips, M., S. Perry, and **M. Hamel**. 2022. Population dynamics of reintroduced Lake Sturgeon (Acipenser fulvescens) in the Coosa River, GA-AL. Lake Sturgeon Working Group annual meeting – virtual.

Perry, S., M. Phillips, and **M. Hamel**. 2022. Lake Sturgeon movement and habitat use in the Coosa River system. Lake Sturgeon Working Group annual meeting – virtual.

Gerrin, W., J. Shelton, B. Shamblin, **M. Hamel**, and P. Hazelton. 2022. Dirty loaches: an update on the Georgia Oriental Weatherfish (*Misgurnus anguillicaudatus*) invasion. Georgia Chapter of the American Fisheries Society, Jekyll Island, GA.

D'Ercole, M. A. Fox, **M. Hamel**, and A. Kaeser. 2022. Flow regime and recruitment in Gulf Sturgeon in the Apalachicola River, FL. Georgia Chapter of the American Fisheries Society, Jekyll Island, GA.

Hamel, M.J., H.J. Roop, P.C. Sakaris, A.S. Williams, and J. Page. 2022. Where have all the snakehead gone? Two years of monitoring of a wild population of Northern Snakehead *Channa argus* in Gwinnett County, Georgia. Georgia Chapter of the American Fisheries Society, Jekyll Island, GA.

Werner, J.P., Q.D. Dean, **M.J. Hamel**, and M.A. Pegg. 2022. Patterns in special use and movement of Silver Carp among tributaries and main-stem rivers: Insight from otolith microchemistry analysis. Nebraska Chapter of the American Fisheries Society, Grand Island, NE.

Yeager, J.W., T.F. Bonvechio, and **M.J. Hamel**. 2022. Suwannee bass movement, life-history, and angler exploitation in Georgia. Georgia Chapter of the American Fisheries Society, Jekyll Island, GA.

Glomb, J.C., R.C., Lowe, J.L. Shelton, and **M.J. Hamel**. 2022. Novel methods for assessing hydrilla spread in Lake Sinclair, Georgia. Georgia Chapter of the American Fisheries Society, Jekyll Island, GA.

Hamel, M.J., J. Koch, D. Buckmeier, and M.A. Pegg. 2022. A proposed publicly available known-age fish structure repository. Georgia Chapter of the American Fisheries Society annual meeting, Jekyll Island, GA.

Buckmeier, D., **M.J. Hamel**, J. Koch, and M.A. Pegg. 2022. A proposed publicly available known-age fish structure repository. Southern Division of the American Fisheries Society annual meeting, Charlestown, SC.

Koch, J., **M.J. Hamel**, D. Buckmeier, and M.A. Pegg. 2021. A proposed publicly available known-age fish structure repository. American Fisheries Society annual meeting, Baltimore, MD.

Yeager, J.W., T.F. Bonvechio, and **M.J. Hamel**. 2021. Movement dynamics and habitat use of Suwannee Bass in Georgia. Georgia DNR Research Meeting - virtual.

Yeager, J.W., T.F. Bonvechio, and **M.J. Hamel**. 2021. Movement dynamics and habitat use of Suwannee Bass in Georgia. American Fisheries Society annual meeting, Baltimore, MD.

Glomb, J.C., R.C., Lowe, and **M.J. Hamel**. 2021. Assessing hydrilla and its impacts on sportfish communities. American Fisheries Society annual meeting, Baltimore, MD.

Yeager, J.W., T.F. Bonvechio, and **M.J. Hamel**. 2021. Suwannee Bass movement and life-history in the Withlacoochee River, Georgia. Southern Division of the American Fisheries Society – Virtual Conference *Invited symposium speaker.

Yeager, J.W., T.F. Bonvechio, and **M.J. Hamel**. 2021. Suwannee Bass movement and life-history in the Withlacoochee River, Georgia. Florida Chapter of the American Fisheries Society – Virtual Conference.

Yeager, J.W., T.F. Bonvechio, and **M.J. Hamel**. 2021. Movement dynamics of Suwannee Bass in the Withlacoochee River, Georgia. Georgia Chapter of the American Fisheries Society – Virtual Conference.

Glomb, J., R. Lowe III, J. Shelton, and **M.J. Hamel**. 2021. Assessing hydrilla spread and subsequent impacts on sportfish communities in Lake Sinclair, Georgia. Florida Chapter of the American Fisheries Society – Virtual Conference.

Glomb, J., R. Lowe III, J. Shelton, and **M.J. Hamel**. 2021. Assessing hydrilla spread and subsequent impacts on sportfish communities in Lake Sinclair, Georgia. Southern Division of the American Fisheries Society – Virtual Conference.

Glomb, J., R. Lowe III, J. Shelton, and **M.J. Hamel**. 2021. Into the weeds: Assessing hydrilla occurrence using novel methods in Lake Sinclair, Georgia. Georgia Chapter of the American Fisheries Society – Virtual Conference.

Dean, Q.D., J.P. Werner, M.A. Pegg, and **M.J. Hamel**. 2021. Efficacy and temporal capture patterns of bank poles in the Kansas River: a novel sampling tool for catfish managers. Texas Chapter of the American Fisheries Society 2021 Virtual Annual Meeting.

Hamel, M.J, Q.D. Dean, and J.P. Werner**.** 2020. Connectivity across altered riverscapes: understanding how scale influences fish populations. American Fisheries Society national meeting – virtual.

Hamel, M.J. 2020. Connectivity: Bridging the gap between research, management, and people. Invited speaker for the Oconee River Chapter of Trout Unlimited, Athens, GA.

Werner, J.P., Q.D. Dean, **M.J. Hamel**, and M.A. Pegg. 2020. Variability in silver carp population demographics in the Kansas River, Kansas. Wyoming/Colorado Chapter of the American Fisheries Society, Laramie, WY.

Werner, J.P., Q.D. Dean, **M.J. Hamel**, and M.A. Pegg. 2020. Variability in silver carp population demographics in the Kansas River, Kansas. Kansas Natural Resources Conference, American Fisheries Society, Manhattan, KS.

Werner, J.P., Q.D. Dean, **M.J. Hamel**, and M.A. Pegg. 2020. Variability in silver carp population demographics in the Kansas River, Kansas. Nebraska Chapter of the American Fisheries Society, Lincoln, NE.

Dean, Q.D., J.P. Werner, **M.J. Hamel**, and M.A. Pegg. 2020. Population Characteristics and Movement Patterns of Blue Catfish in the Kansas River, Kansas. Nebraska Chapter of the American Fisheries Society, Lincoln, NE**.**

Hamel, M.J., J.J. Spurgeon, M.A. Pegg, and K.D. Steffensen. 2020. Plasticity in life-history traits: adaptations of pallid sturgeon to human perturbations. Southern Division of the American Fisheries Society, Little Rock, AK.

Hamel, M.J., and M.A Pegg. 2020. Large-river catfish fisheries: insight into catfish community dynamics across varying spatial and temporal patterns. Catfish 2020: The Third International Catfish Symposium, Little Rock, AK.

Dean, Q.D., J.P. Werner, **M.J. Hamel**, and M.A. Pegg. 2020. Population Characteristics and Movement Patterns of Blue Catfish in the Kansas River, Kansas. Catfish 2020: The Third International Catfish Symposium, Little Rock, AK.

Dean, Q.D., **M.J. Hamel**, and M.A. Pegg. 2020. Temporal patterns of capture, retention rates and efficacy of bank poles in the Kansas River. Catfish 2020: The Third International Catfish Symposium, Little Rock, AK.

Hamel, M.J., J.P. Werner, Q.D. Dean, and M. A. Pegg. 2020. The influence of connectivity on native and invasive fish populations in the Kansas River. Georgia Chapter of the American Fisheries Society, Augusta, GA.

Werner, J.P., Q.D. Dean, **M.J. Hamel**, and M.A. Pegg. 2019. Variability in silver carp population demographics in the Kansas River. American Fisheries Society national meeting, Reno, NV.

Dean, Q.D., J.P. Werner, **M.J. Hamel**, and M.A. Pegg. 2019. Population Characteristics and Movement Patterns of Blue Catfish in the Kansas River, Kansas. American Fisheries Society national meeting, Reno, NV.

Werner, J.P., Q.D. Dean, **M.J. Hamel**, and M.A. Pegg. 2019. Status of invasive carps in the Kansas River. Nebraska Rivers and Streams Technical Committee meeting. Wood River, NE.

Dean, Q.D., J.P. Werner, **M.J. Hamel**, and M.A. Pegg. 2019. Blue catfish management in the Kansas River. Nebraska Rivers and Streams Technical Committee meeting. Wood River, NE.

Hamel, M.J., J.J. Spurgeon, M.A. Pegg, and K.D. Steffensen. 2018. Linking differential life-history traits of pallid sturgeon throughout the Missouri River basin. International Conference on the Biology of Fishes, Calgary, Alberta.

Hamel, M.J., J.J. Spurgeon, M.A. Pegg, and K.D. Steffensen. 2018. Linking differential life-history traits of pallid sturgeon throughout the Missouri River basin. American Fisheries Society national meeting, Atlantic City, NJ.

Hamel, M.J., J.J. Spurgeon, M.A. Pegg, and K.D. Steffensen. 2018. Diverging life history characteristics of pallid sturgeon throughout the Missouri River basin. Midwest Fish and Wildlife Conference, Lincoln, NE.

Uerling, C.C., **M.J. Hamel**, M.A. Pegg. 2017. Fish community response to restored side channels on the Lower Platte River, Nebraska. Midwest Fish and Wildlife Conference, Lincoln, NE.

Spurgeon, J.J., **M.J. Hamel**, and M.A. Pegg. 2017. Origin and movement patterns of channel catfish using otolith microchemistry. Midwest Fish and Wildlife Conference, Lincoln, NE.

Hamel, M.J., J.J. Spurgeon, M.A. Pegg, and K.D. Steffensen. 2017. Examination of life history characteristics of pallid sturgeon throughout the Missouri River basin. Midwest Fish and Wildlife Conference, Lincoln, NE.

Hamel, M.J. 2016. University of Nebraska-Lincoln Research. 2017. What we have learned and where we are going. Nebraska Rivers and Streams Technical Committee meeting. Gretna, NE.

Hamel, M.J., J.J. Spurgeon, M.A. Pegg, and K.D. Steffensen. 2016. Examination of life history characteristics of pallid sturgeon throughout the Missouri River basin. American Fisheries Society annual meeting – Invited symposium speaker. Kansas City, MO.

Uerling, C.C., **M.J Hamel**, and M.A. Pegg. 2016. Monitoring a Restored Side Channel on the Lower Platte River, NE. American Fisheries Society annual meeting, Kansas City, MO.

Hamel, M.J., and J.D. Koch. 2016. Age and Growth Workshop for the NE/KS AFS joint chapter meeting. Manhattan, KS.

Uerling, C.C., **M.J. Hamel,** and M.A. Pegg. 2016. Monitoring a Reconnected side channel on the Lower Platte River Nebraska. Nebraska and Kansas Joint Chapter Meeting of the American Fisheries Society, Manhattan, KS.

Turner, D., M. Pegg, and **M.J. Hamel**. 2016. Diet analysis of flathead catfish in the Red River of the North. Nebraska and Kansas Joint Chapter Meeting of the American Fisheries Society, Manhattan, KS.

Uerling, C.C., **M.J. Hamel**, and M.A. Pegg. 2016. Monitoring fish and macroinvertebrate response to a restored side channel on the Platte River. Midwest Fish and Wildlife Conference, Grand Rapids, MI.

Hamel, M.J., J.J. Spurgeon, C. Chizinski, and M.A. Pegg. 2015. Ignorance is bliss: poor aging precision from an un-validated fish aging structure has deleterious effects on understanding population dynamics. Nebraska Chapter Meeting of the American Fisheries Society, Nebraska City, NE.

Hamel, M.J., J.J. Spurgeon, C.J. Chizinski, K.D. Steffensen, and M.A. Pegg. 2015. Ignorance is bliss: Poor aging precision from an un-validated fish aging structure has deleterious effects on understanding population dynamics. Missouri River Natural Resources Conference, Nebraska City, NE.

Uerling, C.C., K. Turek, M.A. Pegg, and **M.J. Hamel**. 2015. A Biological assessment of the Shell Creek watershed. Nebraska Chapter Meeting of the American Fisheries Society, Nebraska City, NE

Spurgeon, J.J., **M.J. Hamel**, and M.A. Pegg. 2015. Inter-annual variability in climate and anthropogenic stressors drive hydrological character of the Platte River, NE. Nebraska Chapter Meeting of the American Fisheries Society, Nebraska City, NE.

Hamel, M.J., M.A. Pegg, R.R. Goforth, Q.E. Phelps, K.D. Steffensen, J.J. Hammen, and M.L. Rugg. 2014. Range-Wide Age and Growth Characteristics of Shovelnose Sturgeon from Mark-Recapture Data: Implications for Conservation and Management. Midwest Fish and Wildlife Conference, Kansas City, MO.

Hamel, M.J., M.A. Pegg, R.R. Goforth, Q.E. Phelps, K.D. Steffensen, J.J. Hammen, and M.L. Rugg. 2014. Using Mark-Recapture to Determine Population Dynamics of *Scaphirhynchus* Sturgeon: Implications for Pallid Sturgeon Recovery. Missouri River Natural Resources Conference, Nebraska City, NE.

Hogberg, N.P., **M.J. Hamel**, and M.A. Pegg. 2014. Channel catfish first-year growth in relation to environmental conditions in the Missouri River, Nebraska. Joint Meeting of the Nebraska and Iowa Chapters of the American Fisheries Society. Council Bluffs, IA.

Hogberg, N.P., **M.J. Hamel**, and M.A. Pegg. 2014. Long Term Trends in Age-0 Channel Catfish Growth in the Channelized Missouri River, Nebraska. 74th Annual Midwest Fish and Wildlife Conference. Kansas City, MO.

Hamel, M.J., J.J. Hammen, M.L. Rugg, and M.A. Pegg. 2013. Hydrologic Variability Influences Distribution and Occurrence of Pallid Sturgeon in the Lower Platte River. The Missouri River Natural Resources Conference, Jefferson City, MO.

Rugg, M., **M.J. Hamel**, J.J. Hammen, and M.A. Pegg. 2013. Reproductive potential of shovelnose sturgeon in the Lower Platte River, Nebraska. The Missouri River Natural Resources Conference, Jefferson City, MO.

Rugg, M., **M.J. Hamel**, J.J. Hammen, and M.A. Pegg. 2013. Reproductive potential of shovelnose sturgeon in the Lower Platte River, Nebraska. NE Chapter of the American Fisheries Society, Gretna, NE.

Hamel, M.J., J.J. Hammen, M.L. Rugg, and M.A. Pegg. 2013. Hydrologic Variability Influences Distribution and Occurrence of Pallid Sturgeon in the Lower Platte River. NE Chapter of the American Fisheries Society, Gretna, NE.

Hamel, M.J., J.J. Hammen, and M.A. Pegg. 2012. Sturgeon growth characteristics: The good, the bad, and the ugly. NE Chapter of the American Fisheries Society, Gretna, NE.

Hammen, J.J., **M.J. Hamel**, and M.A. Pegg. 2012. Geomorphology and instream habitat associations of shovelnose sturgeon in the lower Platte River, NE. NE Chapter of the American Fisheries Society, Gretna, NE.

Hamel, M.J., J.J. Hammen, and M.A. Pegg. 2012. Sensitivity of using fin rays for shovelnose sturgeon age, growth, and dynamic rate functions. American Fisheries Society national meeting, St. Paul, MN.

Hamel, M.J., K.D. Steffensen, J.J. Hammen, and M.A. Pegg. 2012. Evaluation of two tagging locations for injection of PIT tags in pallid sturgeon. Missouri River Natural Resources Conference, Pierre, SD.

Goto, D., **M.J. Hamel**, J.L. Hammen, M.L. Rugg, M.A. Pegg, and V. Forbes. Spatially Explicit Hydrological Influences on Individual Variation in Shovelnose Sturgeon Reproduction and Recruitment in a Regulated River. American Fisheries Society national meeting, St. Paul, MN.

Hamel, M.J., M.A. Pegg, and J.J. Hammen. 2011. Tag retention of T-bar anchor tags and PIT tags in shovelnose sturgeon. American Fisheries Society national meeting, Seattle, WA**.**

Hammen, J.L., **M.J. Hamel**, and M.A. Pegg. 2011. Seasonal distributions, characteristics, and population dynamics of shovelnose sturgeon in the Lower Platte River, NE. American Fisheries Society national meeting, Seattle, WA**.**

Hamel, M.J., M.A. Pegg, and J.J. Hammen. 2011. Tag retention of T-bar anchor tags and PIT tags in shovelnose sturgeon. Missouri River Natural Resources Committee meeting, Nebraska City, NE.

Hamel, M.J., M.A. Pegg, and J.J. Hammen. 2011. Tag retention of T-bar anchor tags and PIT tags in shovelnose sturgeon. NE chapter of the American Fisheries Society, Gretna, NE.

Hammen, J.J., **M.J. Hamel**, and M.A. Pegg. 2011. Shovelnose sturgeon movements within the lower Platte River, NE. NE chapter of the American Fisheries Society, Gretna, NE.

Hamel, M.J., M.A. Pegg, J.J. Hammen, and T.L. Anderson. 2010. Population characteristics of pallid sturgeon in the lower Platte River, Nebraska. NE chapter of the American Fisheries Society, Ponca, NE.

Hammen, J.L., **M.J. Hamel**, T.L. Anderson, and M.A. Pegg. 2010. Population dynamics of shovelnose sturgeon in the Lower Platte River, Nebraska. NE chapter of the American Fisheries Society, Ponca, NE.

Anderson, T.L., **M.J. Hamel**, and M.A. Pegg. 2010. Age and growth of shovelnose sturgeon in the lower Platte River, Nebraska. NE chapter of the American Fisheries Society, Ponca, NE.

Hamel, M.J., M.A. Pegg, J.J. Hammen, and T.L. Anderson. 2010. Population characteristics of pallid sturgeon in the lower Platte River, Nebraska. Missouri River Natural Resources Committee meeting, Nebraska City, NE.

Hammen, J.J., **M.J. Hamel**, and M.A. Pegg. Shovelnose sturgeon movements within the lower Platte River, NE. Midwest Fish and Wildlife Conference, Minneapolis, Minnesota.

Anderson, T.L., **M.J. Hamel**, J.J. Hammen, and M.A. Pegg. 2010. Shovelnose sturgeon, *Scaphirhynchus platorynchus* in the Lower Platte River. Thesis Defense.

Hammen, J.J., **M.J. Hamel**, T.L. Anderson, and M.A. Pegg. 2010. Shovelnose sturgeon population dynamics and seasonal population characteristics in the Lower Platte River. Missouri River Natural Resources Conference, Nebraska City, Nebraska.

Hamel, M.J., M.A. Pegg, J.J. Hammen, and T.L. Anderson. 2010. Sturgeon management in the lower Platte River, Nebraska. Platte River Symposium – University of Nebraska-Lincoln, Lincoln, NE.

Hamel, M.J., M.A. Pegg, J.J. Hammen, and T.L. Anderson. 2009. Population characteristics of pallid sturgeon in the lower Platte River. Platte River Symposium – University of Nebraska-Lincoln, Lincoln, NE.

Hamel, M.J., M.A. Pegg, J.J. Hammen, and T.L. Anderson. 2009. Population characteristics of pallid sturgeon in the lower Platte River, Nebraska. Midwest Fish and Wildlife Conference, Springfield, IL.

Hammen, J.L. **M.J. Hamel**, T.L. Anderson, and M.A. Pegg. 2009. Shovelnose sturgeon population dynamics and seasonal population characteristics in the Lower Platte River, Nebraska. Midwest Fish and Wildlife Conference, Springfield, IL.

Hamel, M.J., and K.D. Steffensen. 2008. Age and growth of shovelnose sturgeon in the Missouri River. American Fisheries Society national meeting, Ottawa, Ontario.

Hamel, M.J., and K.D. Steffensen. 2008. Influence of mesh size and trawling techniques on catch of benthic fish species of the Missouri River. NE chapter of the American Fisheries Society, Gretna, NE.

Hamel, M.J., K.D. Steffensen, P. Horner, and S. Stukel. 2008. Influence of mesh size and trawling techniques on catch of benthic fish species of the Missouri River. Missouri River Natural Resources Conference (MRNRC) & BiOp Forum, Nebraska City, NE.

Hamel, M.J., and K.D. Steffensen. 2007. Influence of mesh size and trawling techniques on catch of benthic fish species of the Missouri River. Midwest Fish and Wildlife Conference, Madison, WI.

Hamel, M.J., M.L. Brown, and S.R. Chipps. 2007. Use of hydroacoustics to assess free-ranging rainbow smelt responses to sensory deterrents. Midwest Fish and Wildlife Conference, Madison, WI – Invited symposium speaker.

Hamel, M.J., D.W. Everitt, and J.D. Haas. 2007. Intensive and extensive tracking of pallid and shovelnose sturgeon movements in the middle Missouri River. MRNRC & BiOp Forum, Nebraska City, NE.

Hamel, M.J., D.W Everitt, and J.D. Haas. 2007. Intensive and extensive tracking of pallid and shovelnose sturgeon movements in the middle Missouri River. AFS Tri-State (Nebraska, Kansas, and Iowa) Chapter Annual Meeting, Council Bluffs, IA.

Hamel, M.J., M.L. Brown, and S.R. Chipps. 2006. Behavioral Responses of Rainbow Smelt to Sensory Deterrence Systems. Midwest Fish and Wildlife Conference, Omaha, NE.

Hamel, M.J., N.S. Richards, M.L. Brown, and S.R. Chipps. 2006. Rainbow Smelt Responses to Sensory Deterrence Systems. AFS Dakota Chapter Annual Meeting, Chamberlain, SD.

Hamel, M.J., and N.S. Richards. 2005. Influence of Underwater Sound and Strobe Lights on Deterrence Behavior of Rainbow Smelt in Lake Oahe, South Dakota. SDGFP Annual Winter Fisheries Meeting. Yankton, SD.

INVITED PRESENTATIONS/SEMINARS

Yeager, J.W., T.F. Bonvechio, and **M.J. Hamel**. 2021. Suwannee Bass movement and life-history in the Withlacoochee River, Georgia. Southern Division of the American Fisheries Society – Virtual Conference *Invited symposium speaker.

Hamel, M.J, Q.D. Dean, and J.P. Werner**.** 2020. Connectivity across altered riverscapes: understanding how scale influences fish populations. Invited speaker to the American Fisheries Society annual virtual conference to be presented in the symposium entitled, “Confronting present and emerging stressors in rivers for global fisheries conservation.”

Hamel, M.J. 2020. Connectivity: Bridging the gap between research, management, and people. Invited speaker for the Oconee River Chapter of Trout Unlimited, Athens, GA

Hamel, M.J. 2019. Plasticity in life history traits in a long-lived sturgeon. Invited presentation to the American Fisheries Society student sub-unit of the University of Georgia. Athens, GA, October 2019.

Hamel, M.J. 2018. Connectivity – Bridging the gap between research, management, and people. Invited seminar presented to the University of Wisconsin-LaCrosse. LaCrosse, WI, November 2018

Hamel, M.J. 2018. How do we assess fishes in rivers and streams? Invited seminar presented to the University of Nebraska-Kearney, November 2018.

Hamel, M.J. 2018. Connectivity – Bridging the gap between research, management, and people. Invited seminar presented to the University of Illinois Champaign-Urbana, Champaign, IL, October 2018

Hamel, M.J., J.J. Spurgeon, M.A. Pegg, and K.D. Steffensen. 2018. Linking differential life-history traits of pallid sturgeon throughout the Missouri River basin. Invited presentation to the International Conference on the Biology of Fishes, Calgary, Alberta 2018

Hamel, M.J., M.A. Pegg, J.J. Hammen, and T.L. Anderson. 2010. Population characteristics of pallid sturgeon in the lower Platte River, Nebraska. Invited presentation to the Nebraska Game and Parks Commission, Lincoln, NE, January 2010

Hamel, M.J., M.A. Pegg, J.J. Hammen, and T.L. Anderson. 2009. Population characteristics of pallid sturgeon in the lower Platte River, Nebraska. Invited presentation to the Nebraska Game and Parks Commission, Lincoln, NE, January 2009

Hamel, M.J., M.L. Brown, and S.R. Chipps. 2006. Behavioral Responses of Rainbow Smelt to Sensory Deterrence Systems. Invited presentation to the Midwest Fish and Wildlife Conference, Omaha, NE.

WORKSHOPS/CONFERENCE SYMPOSIA

2024 Co-organizer of "Views on Undergraduate Curricula in Fisheries" symposium for the American Fisheries Society annual meeting in Honolulu, HI.

2024 Co-organizer of "Atlantic Sturgeon Recovery" workshop for the Southern Division of the American Fisheries Society annual meeting in Chattanooga, TN.

2024 Co-organizer of "Atlantic and Gulf Sturgeon Aging" workshop for the Southern Division of the American Fisheries Society annual meeting in Chattanooga, TN.

2024 Co-organizer of "Atlantic and Gulf Sturgeon Status, Conservation, and Management" symposium for the Southern Division of the American Fisheries Society annual meeting in Chattanooga, TN.

2022 Co-organizer of "Experiences with and Views of Online Learning in the Aftermath Campus Shutdowns" symposium for the American Fisheries Society annual meeting in Spokane, WA.

2021 Getting into graduate school. Workshop prepared for the UGA American Fisheries Society student sub-unit and presented to the Warnell School of Forestry and Natural Resources fisheries and wildlife majors (February 18, 2021).

2020 Co-organizer of "Black Bass Biodiversity, Conservation, and Management" symposium for the Southern Division meeting of the American Fisheries Society – virtual.

2019 Organizer of "Sturgeon population dynamics: a compilation of techniques, tools, and research" symposium for the Southern Division meeting of the American Fisheries Society in Little Rock, AR.

2016 Fish age and growth considerations and procedures. Presented as part of the continuing education program for the 2016 joint conference between the Nebraska and Kansas chapters of the American Fisheries Society, Manhatten, KS.

ACADEMIC EXPERIENCE

Courses taught:

Estimating Reproductive Parameters in Fish; Co-instructor with Dr. Pete Hazelton (FISH 8950) – Spring 2024 (4 hr)
Age and Growth of Fishes (FISH 8300) – Spring 2023 (2 hr)
Fisheries Management/Lab (FISH 5360/7360 & FISH 5360L/7360L) – Fall 2019-2022 (3 hr)
Teaching Practicum (FANR 8900) – Fall 2022 (3 hr)
Conservation Conversations (FYOS 1001) – Spring 2021 & Fall 2022 (1 hr)
Information and Strategies for Pursuing a Successful Career in Fisheries (FYOS 1001) – Spring & Fall 2020, and Fall 2021 (1 hr)
Fisheries Problems: How to Develop a Scientific Review Paper (FISH 7980) – Spring 2020 & Spring 2022 (3 hr)
Senior Project in Forestry and Natural Resources Management – Spring 2020 (1 hr)
Ichthyology (NRES 489/889) – Spring 2019 (3 hr)
Stream Ecology (NRES 481/881) – Fall 2015 (3 hr)
Exploring Fisheries Opportunities and Research; Co-Instructor with Dr. Mark Pegg (NRES 163) – Annually 2013-2019 (1 hr)

Guest lectures:

Society and Natural Resources (FANR 3400): University of Georgia – Fall 2023
Georgia Fishes Field Study (Maymester course): University of Georgia – Spring 2021
Environmental Biology of Fishes: University of Georgia – Spring 2020
Freshwater Management Techniques: University of Nebraska-Kearney (Invited, 11/2018)
Fisheries Science (NRES 463/863): Annual guest lectures (2013-2018)
Ichthyology (NRES 489/889): Annual guest lectures (2013-2018)
Topics in Applied Ecology (NRES 801): Fall 2017

Graduate students supervised:

Alan Bond, University of Georgia – Ph.D. (anticipated 2027)
Hunter Rider, University of Georgia – M.S. (anticipated 2025)
Joseph Nolan, University of Georgia – M.S. (anticipated 2025)
Russell Wilson (co-advised with Dr. Fox), University of Georgia – M.S. (anticipated 2024)
Savannah Perry, University of Georgia – M.S. (anticipated 2024)
Matthew Phillips, University of Georgia – M.S. (anticipated 2024)
Victoria Davis, University of Georgia – M.S. (2023)
(Presently employed by the University of Georgia)
Mark D'Ercole (co-advised with Dr. Fox), University of Georgia – M.S. (2023)
Joel Yeager, University of Georgia – M.S. (2022)
(Current PhD student at the University of Southern Mississippi)
Jackson Glomb, University of Georgia – M.S. (2022)
(Presently employed by the University of Illinois)
Jacob Werner, University of Nebraska-Lincoln – M.S. (2020)
(Presently employed by the Nebraska Game and Parks Commission)
Quintin Dean, University of Nebraska-Lincoln – M.S. (2020)
(Presently employed by the Texas Parks and Wildlife Department)
Caleb Uerling, University of Nebraska-Lincoln - M.S (2018)
(Presently employed by Montana Fish, Wildlife, and Parks)

Employees supervised:

David Higginbotham, University of Georgia – Research Professional III (2019-present)
Victoria Davis, University of Georgia – Research Professional I (2023-present)
Joel Yeager, University of Georgia – Research Professional I (2022-2023)
Troy Simon, University of Georgia – Research Professional III (2021-2022)

Graduate student committee member:

Andrew Lyons, University of Georgia – Ph.D. (anticipated spring 2028)
Sarah Weaver – M.S. (anticipated fall 2026)
Zachary Schumber – M.S. (anticipated fall 2024)
Lauren Carroll, University of Georgia – M.S. (2023)
Kieran Merritt, University of Georgia – M.S. (2022)
Zach Horstman, University of Nebraska-Lincoln – M.S. (2020)
Henry Hansen, University of Nebraska-Lincoln – M.S. (2019)
Dylan Turner, University of Nebraska-Lincoln – M.S. (2018)
Stephen Siddons, University of Nebraska-Lincoln – M.S. (2016)

Undergraduate Senior/Honors Thesis Advisor:

Brendan Amman, University of Georgia (2023)
Brandon Filaski, University of Georgia (2021)
Kaitlyn Elder, University of Nebraska-Lincoln (2019)

ACADEMIC SERVICE

2020-2022 & 2023-present	Administrative Leadership Committee for the Warnell School of Forestry and Natural Resources - UGA
2023	Dean Greene 5-year Administrative Review Committee, UGA
2023	Warnell Outstanding Teaching Assistantship Ad Hoc Awards Committee - UGA
2023	Search Committee for Wildlife Lecturer position – Warnell School of Forestry and Natural Resources - UGA
2023-present	University Libraries Committee - UGA
2020-present	Graduate Affairs Committee for the Warnell School of Forestry and Natural Resources - UGA
2020-2021	Curriculum Committee for the Warnell School of Forestry and Natural Resources - UGA
2021	Search Committee for Landscape Conservation Genetics position - Warnell School of Forestry and Natural Resources - UGA
2015-2019	Community Engagement Committee for the UNL School of Natural Resources
2015-2019	Safety and Facilities Committee for the UNL School of Natural Resources
2012-2013	Staff Advisory Professional Development Committee for the UNL School of Natural Resources
2012-2013	Staff and Professional/Managerial Committee for the UNL School of Natural Resources

CONTINUING EDUCATION, JOB-RELATED TRAINING COURSES, AND AWARDS

Warnell Fall Graduation Commencement Speaker, University of Georgia (2022)
Teaching & Learning Conference, University Systems of Georgia, Athens, GA (2023)
Active Learning Workshop, Center for Teaching & Learning, University of Georgia (2023)
Perusall Exchange – An event for innovators in social learning, virtual (2022)
Biennial Conference on University Education in Natural Resources, UNL – virtual (2022)
Teaching Academy Fellows Program, University of Georgia (2020)
Creating a Sustainable Writing Practice, University of Georgia (Fall 2020)
Faculty Search Committee Training, University of Georgia (11/16/2020)
Promotion and Tenure Dossier Preparation Workshop, University of Georgia (5/19/2020)
Promotion and Tenure Procedure Workshop, University of Georgia (12/17/210)
Active Learning workshop, University of Georgia, Athens, GA (11/2019)
Leadership workshop, Midwest Fish and Wildlife Conference, Lincoln, NE (02/2017)

Leadership workshop, *Becoming an EPIIC Leader*, by Marquita Qualls - Entropia Consulting (10/2016)
Mentoring workshop, *Enhancing Productivity and Professional Relationships,* UNL, (09/2016)
Leadership workshop, Midwest Fish and Wildlife Conference, Grand Rapids, MI (02/2016)
Personal Income Taxation, CYAF 840, University of Nebraska-Lincoln, Spring semester 2017
Principles of Risk Management, CYAF 824, University of Nebraska-Lincoln, Spring semester 2016
Foundations in Financial Planning CYAF 821, University of Nebraska-Lincoln, Spring semester 2016
Investing for the Family's Future, CYAF 883, University of Nebraska-Lincoln, Summer semester 2016
Estate Planning, CYAF 823, University of Nebraska-Lincoln, Fall semester 2016

Awards:
2024 –Professional of the Year in Fisheries Science and Research, Georgia Chapter of the American Fisheries Society (Runner-up).
2024 – Professional Team of the Year, Georgia Chapter of the American Fisheries Society.
2023 – Early Career Fisheries Education Award, American Fisheries Society.
2022 – Creative Teaching Award nomination from the Warnell School, University of Georgia (not awarded).
2021 – Creative Teaching Award nomination from the Warnell School, University of Georgia (not awarded).
2021 – Alumni Award for Early Career Teaching, University of Georgia.
2018 – Institute of Agriculture and Natural Resources Travel Award, University of Nebraska.
2018 – Early Career Professional Award, Education Section of the American Fisheries Society.
2016 – Institute of Agriculture and Natural Resources Travel Award, University of Nebraska.
2016 – Award of Merit – Fish Management Section of the American Fisheries Society. Awarded for significant achievement and contribution to fisheries science.
2015 – Service Award – Nebraska Chapter of the American Fisheries Society. Awarded for recognition of personal contributions to the achievement and enhancement of fisheries science.
2011 – Best Oral Presentation – Nebraska Chapter of the American Fisheries Society. Awarded for the presentation entitled, "Tag retention of t-bar anchor tags and PIT tags in shovelnose sturgeon."
2007 – Best Professional Poster Presentation Award. Missouri River Natural Resource Conference

Student awards:
2024 – Best Student Presentation (2nd place) – Georgia Chapter of the American Fisheries Society – Matt Phillips, M.S.
2024 – Best Student Presentation (3rd place) – Georgia Chapter of the American Fisheries Society – Hunter Rider, M.S.
2024 – Ronnie J. Gilbert Scholarship award winner – Hunter Rider
2024 – Georgia AFS travel grant recipient – Hunter Rider
2023 – Selected recipient for the annual travel award presented by the Invasive and Introduced Species Section of the American Fisheries Society – Victoria Davis
2021 – First Runner Up for Best Student Presentation – Southern Division of the American Fisheries Society virtual conference. M.S. Student – Jackson Glomb
2021 – Overall winner for Best Student Presentation – American Fisheries Society annual conference in Baltimore, MD. M.S. Student – Jackson Glomb
2021 – Runner Up for the Skinner Award from the American Fisheries Society. M.S. Student – Joel Yeager

PROFESSIONAL SERVICE

2023-present	President, American Fisheries Society, Education Section
2023-present	Governing Board member, American Fisheries Society
2022:	Standing declaration for the litigation of Center of Biological Diversity vs. US Department of Transportation Maritime Administration's America's Marine Highway Program

2022: Standing declaration for the litigation of Center of Biological Diversity vs. US Army Corps of Engineers Nationwide Permit 12 regarding the Keystone XL Pipeline
2021: Symposium Moderator, Southern Division of the American Fisheries Society
2021-present Appointed member of the AFS Financial Planning and Procedures Committee
2020-present Advisory Board for Field Sciences, Upper Iowa University
2020-present: Independent Science Advisory Panel member – Advisor to the Missouri River Recovery Implementation Committee
2020-2021: Associate Editor, Special Issue: Catfish 2020 – the 3rd International Catfish Symposium in *North American Journal of Fisheries Management*
2020: Session Moderator, Southern Division of the American Fisheries Society
2020: Standing declaration for the litigation of Center of Biological Diversity vs. US Army Corps of Engineers
2020: Standing declaration for the litigation of Center of Biological Diversity vs. US Environmental Protection Agency
2019-present Faculty advisor for the UGA student subunit of the American Fisheries Society
2016-2023: Secretary/Treasurer, American Fisheries Society, Education Section
2004-present: Member, American Fisheries Society
2020-present: Member, North American Sturgeon and Paddlefish Society
2014-2019: Early Career professional committee of the North Central Division of the American Fisheries Society
2014-2019: Faculty advisor for the UNL archery club
2007-2019: Member, Nebraska Chapter of the American Fisheries Society
2015-2018: Member, Communications Strategic Planning Committee, American Fisheries Society
2014-2018: Member, Awards Committee for the North Central Division of the American Fisheries Society
2017: Session Moderator, Midwest Fish and Wildlife Conference, Lincoln, NE
2015-2016: President, Nebraska Chapter of the American Fisheries Society
2011-2014: Member, Iowa Chapter of the American Fisheries Society

CONSULTING

2023 Suwannee River Water Management District. Peer reviewer for “The minimum flow and minimum water levels” reports for the upper and middle Suwannee River.

2017 U.S. Army Corps of Engineers. Peer Reviewer of “Middle Mississippi River Sturgeon Chub Model”

MANUSCRIPT REVIEWS*:*

2024 *North American Journal of Fisheries Management (2), Journal of Oceanology and Limnology (1)*

Previous

Ecohydrology, Ecology of Freshwater Fishes, North American Journal of Fisheries Management, Transactions of the American Fisheries Society, Canadian Journal of Fisheries and Aquatic Sciences, Environmental Biology of Fishes, Journal of Applied Ichthyology, Fisheries Management and Ecology, River Research and Applications, Lakes and Reservoirs

TECHNICAL REPORTS

Hamel, M.J., S. Perry, and B. Irwin. 2023. Movement and Distribution of Lake Sturgeon in the Coosa River. Annual Performance Review, US Fish and Wildlife Service Science Support Program.

Hamel, M.J., S. Perry, and M. Phillips. 2023. Population demographics and dynamics of introduced Lake Sturgeon in the Coosa River basin, Georgia. Annual Performance Review, Georgia Department of Natural Resources.

Hamel, M.J., S. Perry, and B. Irwin. 2022. Movement and Distribution of Lake Sturgeon in the Coosa River. Annual Performance Review, US Fish and Wildlife Service Science Support Program.

Hamel, M.J., S. Perry, and M. Phillips. 2022. Population demographics and dynamics of introduced Lake Sturgeon in the Coosa River basin, Georgia. Annual Performance Review, Georgia Department of Natural Resources.

Hamel, M.J., and J. Yeager. 2022. Determining movement dynamics, life history attributes, and angler exploitation of Suwannee Bass in Georgia. Completion Report, Georgia Department of Natural Resources, Atlanta, GA

Hamel, M.J., and J. Yeager. 2021. Determining movement dynamics, life history attributes, and angler exploitation of Suwannee Bass in Georgia. Annual Performance Review, Georgia Department of Natural Resources, Atlanta, GA

Hamel, M.J., and M.A. Pegg. 2019. Riverine Sportfish Ecology and Management. Project completion report (No. F-75-R) to Nebraska Game and Parks Commission, Lincoln, NE

Hamel, M.J., and M.A. Pegg. 2018. Sturgeon Management in the Platte River, Nebraska: Implications to a Declining Sportfish Population. Project completion report to Nebraska Game and Parks Commission, Lincoln, NE

Hamel, M.J., and M.A. Pegg. 2018. Sturgeon Management in the Platte River, Nebraska. Annual Performance Review, U.S. Fish and Wildlife Service, Endangered Species Permitting – Denver, CO.

Hamel, M.J., and M.A. Pegg. 2017. Sturgeon Management in the Platte River, Nebraska: Implications to a Declining Sportfish Population. Annual Performance Report to Nebraska Game and Parks Commission, Lincoln, NE

Hamel, M.J., and M.A. Pegg. 2017. Sturgeon Management in the Platte River, Nebraska. Annual Performance Review, U.S. Fish and Wildlife Service, Endangered Species Permitting – Denver, CO.

Hamel, M.J., and M.A. Pegg. 2016. Sturgeon Management in the Platte River, Nebraska: Implications to a Declining Sportfish Population. Annual Performance Report to Nebraska Game and Parks Commission, Lincoln, NE

Hamel, M.J., and M.A. Pegg. 2016. Sturgeon Management in the Platte River, Nebraska. Annual Performance Review, U.S. Fish and Wildlife Service, Endangered Species Permitting – Denver, CO.

Hamel, M.J., and M.A. Pegg. 2015. Sturgeon Management in the Platte River, Nebraska: Implications to a Declining Sportfish Population. Annual Performance Report Nebraska Game and Parks Commission, Lincoln, NE

Hamel, M.J., and M.A. Pegg. 2015. Sturgeon Management in the Platte River, Nebraska. Annual Performance Review, U.S. Fish and Wildlife Service, Endangered Species Permitting – Denver, CO.

Hamel, M.J., and M.A. Pegg. 2014. Sturgeon Management in the Platte River, Nebraska: Implications to a Declining Sportfish Population. Annual Performance Report to Nebraska Game and Parks Commission, Lincoln, NE

Hamel, M.J., and M.A. Pegg. 2014. Sturgeon Management in the Platte River, Nebraska. Annual Performance Review, U.S. Fish and Wildlife Service, Endangered Species Permitting – Denver, CO.

Hamel, M.J., and M.A. Pegg. 2013. Sturgeon Management in the Platte River, Nebraska: Implications to a Declining Sportfish Population. Annual Performance Report to Nebraska Game and Parks Commission, Lincoln, NE

Hamel, M.J., and M.A. Pegg. 2013. Sturgeon Management in the Platte River, Nebraska. Annual Performance Review, U.S. Fish and Wildlife Service, Endangered Species Permitting – Denver, CO.

Hamel, M.J. and M.A. Pegg. 2012. Sturgeon Management in the Platte River, Nebraska. Annual Performance Report. Nebraska Game and Parks Commission, Lincoln, NE.

Hamel, M.J., and M.A. Pegg. 2012. Sturgeon Management in the Platte River, Nebraska. Annual Performance Review, U.S. Fish and Wildlife Service, Endangered Species Permitting – Denver, CO.

Hamel, M.J. and M.A. Pegg. 2011. Sturgeon Management in the Platte River, Nebraska. Annual Performance Report. Nebraska Game and Parks Commission, Lincoln, NE.

Hamel, M.J., and M.A. Pegg. 2011. Sturgeon Management in the Platte River, Nebraska. Annual Performance Review, U.S. Fish and Wildlife Service, Endangered Species Permitting – Denver, CO.

Hamel, M.J. and M.A. Pegg. 2010. Sturgeon Management in the Platte River, Nebraska. Annual Performance Report. Nebraska Game and Parks Commission, Lincoln, NE.

Hamel, M.J., and M.A. Pegg. 2010. Sturgeon Management in the Platte River, Nebraska. Annual Performance Review, U.S. Fish and Wildlife Service, Endangered Species Permitting – Denver, CO.

Hamel, M.J. and M.A. Pegg. 2009. Sturgeon Management in the Platte River, Nebraska. Annual Performance Report. Nebraska Game and Parks Commission, Lincoln, NE.

Hamel, M.J., and M.A. Pegg. 2009. Sturgeon Management in the Platte River, Nebraska. Annual Performance Review, U.S. Fish and Wildlife Service, Endangered Species Permitting – Denver, CO.

PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM (PRRIP -or- Program)
EXHIBIT A: PRRIP Conflict of Interest Form – ISAC Members

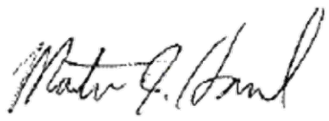
The PRRIP developed guidance regarding the avoidance of conflicts of interest in accordance with the ISAC Charter (Attachment 6, Appendix I) and the Peer Review Guidelines (Adaptive Management Plan, Appendix A) contained in the PRRIP Final Program Document. As stated in the ISAC Charter: "The ISAC must retain as much independence from the adaptive management program as possible. This independence requires that their role focus on reviewing products produced by the Program."

Potential conflicts of interest include but are not limited to:

- Financial interest in the restoration and management activities associated with the PRRIP.
- Familial relationship with any of the scientists conducting research and/or monitoring associated with the PRRIP.
- Bias, for personal reason for or against the scientists mentioned above and/or the entities involved in the implementation of the PRRIP.
- Professional connection with any entities involved with PRRIP implementation.
- Impacts of lobbying or political pressure exerted by person(s) looking for a particular result or more work with the PRRIP.
- Has conducted, is conducting, or intends to conduct work for or on behalf of the Program, or work that directly overlaps with Program scientific and technical priorities, which could result in an ISAC member reviewing and commenting on her/his own work product(s).

As a candidate proposed for participation on the ISAC, I hereby state that I do not have any conflicts of interest with the Platte River Recovery Implementation Program as outlined above and (if necessary) explained on the following page. I can serve effectively on the ISAC without any financial, familial, personal, or professional bias in order to further the goals and objectives of the PRRIP and the implementation and evaluation of the Extension Science Plan and associated scientific and technical activities, analyses, and syntheses.

FOR THE CONSULTANT:



NAME	DATE
	2/19/2024

PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM (PRRIP -or- Program)
EXHIBIT B – Certification Regarding Lobbying

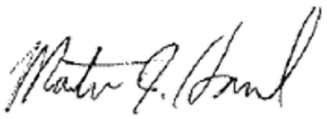
The undersigned certifies, on behalf of the Consultant, that to the best of his or her knowledge and belief:

1. No federal appropriated funds have been paid or will be paid, by or on behalf of the Consultant, to any person for influencing or attempting to influence an officer or employee of any federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, or the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement.

2. No registrant under the Lobbying Disclosure Act of 1995 has made any lobbying contacts on behalf of the Consultant with respect to the federal grant or cooperative agreement under which the Consultant is receiving monies.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who makes an expenditure prohibited by Section 1 above or who fails to file or amend the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

FOR THE CONSULTANT:



_____ 2/19/2024

NAME DATE

I affirm that I am not disbarred from doing work for the federal government. I intend to conduct work as a private consultant and my federal tax ID number is pending.