

John Vincent Gatto

Mobile: 225-436-0029

Email: jvgatto89@gmail.com

Work Experience

Postdoctoral Research Associate (GS-0482-12/ZP-0482-03 Equivalent) 01/2020 – Present

University of Illinois at Urbana-Champaign

Illinois Natural History Survey-Great Rivers Field Station

Alton, IL 62002

Hours per week: 40

Supervisor: John Chick (618-975-3918)

Okay to contact Supervisor: Yes

Duties, Accomplishments and Related Skills:

I worked independently as part of the Science and Monitoring element of the Science and Monitoring element of the Long Term Resource Monitoring Program (LTRM) to assess restoration needs of fish communities in the Upper Mississippi River System (UMRS). The Science and Monitoring Team is a large, multi-state, multidisciplinary group which includes several state agencies within the Midwest. This partnership includes four federal agencies (USFWS, USEPA, USGS, and USACE) which aims to improve the resources of the UMRS in response to ecosystem and natural resource management projects. The Science and Monitoring Team combines environmental monitoring, research, systemic data acquisition, and modeling to provide a solid scientific foundation to develop environmental policy on the UMRS. This informs habitat restoration projects which are carried out by the Habitat Rehabilitation and Enhancement Projects (HREP). I provided administration and technical support activities in a role equivalent to a Research Fish Biologist (GS-0482-12/ZP-0482-03). Responsibilities included:

- Leading the Fish component at the 2020 and 2022 LTRM All Science meeting to develop proposals investigating UMRS fish communities
 - Supported the assessment of LTRM data to improve fish habitats and river management
 - Secured and directed funding (\$93,422) for additional monitoring of UMRS fish species from a functional perspective to achieve the prevention of invasive Carp expansion
 - Negotiating budgets for dispersal among several state and federal agencies
- Balancing multiple projects simultaneously and recommending program policies, objectives and plans
- Analyzing LTRM data to identify gaps in our knowledge and understanding of the UMRS
- Established partnerships with the USACE, USGS, and several state agencies to promote scientific inquiry and management of the UMRS from proposed infrastructure and water management practices
- Providing technical leadership as scientific expert for the fish component of the LTRM program
 - Supervised and provided direction of fish ecologists in data collection, QA/QC, analysis, and report writing
 - Improved effectiveness of program activities by identifying data errors and assisted in the implementation of data correction
 - Represented the Illinois Natural History Survey and the University of Illinois at Urbana-Champaign as an expert at several academic conferences
 - Communicated research-based conservation actions to a national audience
- Community- and population-based modeling of LTRM fish data to make management recommendations of natural resources to high-level scientists, and managers
 - Involved taking a lead role in analyzing biological data and interpreting LTRM data to propose restoration initiatives
 - Collaborated with USGS scientists to review long and short-range plans to ensure consistency with various UMRS program strategies and priorities.

- Supervising junior staff in the development of literature reviews
- Managing new analytical and statistical techniques to improve our understanding of the management and restoration of UMRS fish communities

Postdoctoral Research Associate (GS-0482-11/ZP-0482-03 Equivalent) 01/2020 – Present

Florida International University

Department of Biological Sciences

Miami, FL 33199

Hours per week: 40

Supervisor: Joel Trexler (305-926-8181)

Okay to contact Supervisor: Yes

Duties, Accomplishments and Related Skills:

I started as a Postdoctoral Researcher during my last semester as a Doctoral Candidate. I worked directly under my supervisor to manage a recently funded project by the South Florida Water Management District (SFWMD). The funded project included a large-scale field study tracking changes in water quality via otolith microchemistry. The main goals of this project were to evaluate the ecological impacts of the DECOMP Physical Model, a large-scale infrastructure project designed to restore water in the Florida Everglades authorized by the Water Resources Development Act. Responsibilities included:

- Conducting field on airboats to work in large wetlands and canals to collect live fish and water samples
- Developing a habitat conservation and restoration study to identify the consequences of phosphorus loading on the Everglades ecosystem.
- Designing a field study to address life-history differences in habitat use of phosphorus enriched habitats
- Evaluating an unconventional method of tracking phosphorus loading via otolith microchemistry as a biological marker for nutrient loading.
- Time series analysis and life history tracking of growth and water quality data collected via laser ablation on fish otoliths
- Acting as a statistical expert for data analysis and interpretation of water quality and fish otolith data
- Preparing technical reports for the SFWMD as part of this study in response to a landscape-scale infrastructure project.
- Recommending future study initiatives to state scientists and high-level supervisors
 - Included adaptive management strategies to address the uncertainties associated with the DECOMP project.
- Supervising field technicians in the deployment of field cages, collection of environmental data, and airboat prep.
 - Directly supervised an incoming PhD student and trained him on otolith processing techniques, the use of Laser Ablation Inductively Coupled Plasma Mass Spectrometry (LA-ICP-MS).
- Representing Florida International University as an expert at several academic conferences and communicated research-based conservation actions to a national audience.
- Teaching seminars to several graduate student on otolith extraction techniques, the development of Agent Based Models in Netlogo, and how to use a LA-ICP-MS.

Graduate Research Assistant (GS-0482-09/ZP-0482-02 Equivalent) 01/2020 – Present

Florida International University

Department of Biological Sciences

Miami, FL 33199

Hours per week: 40

Supervisor: Joel Trexler (305-926-8181)

Okay to contact Supervisor: Yes

Duties, Accomplishments and Related Skills:

I designed and conducted a self-managed dissertation research project while completing my PhD at Florida International University. My dissertation research focused on applying fisheries modeling approaches to long-term monitoring data of fish communities in the Florida Everglades. I used a combination of fishery science and traditional ecological theory to describe complex recruitment processes of several species of small fish across a large spatial scale. My experience with long-term monitoring data helped develop a strong quantitative and data management skill set. Responsibilities included:

- Working with an interdisciplinary team of biologists and hydrologists from the National Park Service (Everglades National Park) and SFWMD on hydrological restoration projects for the Florida Everglades
- Conducting field work on airboats at remote sites in large wetlands to assess fish population size
- Analyzing long-term monitoring data collected by the NPS for the Modified Waters Deliveries project
 - Dataset included fish community data collected over 20 years at 21 study locations and hydrology data from local water gauges
 - Identified data errors and assisted in the implementation of data correction
- Community- and population-based modeling of six common marsh fish species across 21 study sites
 - Included stock-recruitment analysis, growth and mortality parameter estimation, recruitment estimation, virtual population analysis, movement/dispersal model simulation
- Securing funding from Florida International University (\$16,600), the South Florida Water Management District (\$9984.75), and a small hobbyist organization, the George Maier Fund (\$3,315).
 - Developed comprehensive work plans and tracked expenditures against an approved budget.
 - Analyzed scientific data via statistical approaches
 - Prepared technical reports in fulfillment of my funding obligations and for final funding approval
- Recommending restoration initiatives to improve hydrological flow and fish population size
- Scheduling and coordinating field work with field technicians, graduate students, and visiting scientists
- Supervising technicians in the field and laboratory in data management, input, and standard operating procedures for field sampling
- Mentoring graduate students in otolith extraction and preparation techniques
- Co-authoring papers with my advisor, the Lead Fish Biologist at Everglades National Park, Jeff Kline, and other scientists from state and federal agencies for peer reviewed publications
- Representing Florida International University as an expert at several academic conferences

Education

Florida International University Miami, FL United States

Doctorate 12/2019

Major: Biological Sciences

Dissertation: *Incorporating Early Life History and Recruitment in Analysis of Population Dynamics of Wetland Fishes*

Relevant Coursework, Licenses and Certificates

Advanced Ecology I (Populations and Communities), Advanced Ecology II (Ecosystems), Fish Population Dynamics, R Programming for Biologists, Biostatistics, Multivariate Statistics, Nonparametric Statistics, Behavioral Ecology, Regression Analysis

Florida International University Miami, FL United States
Major: Biological Sciences

Master's Degree 12/2017

University of South Carolina Columbia, SC United States
Major: Marine Science

Bachelor's Degree 12/2011

Emphasis: Biological Oceanography

Relevant Coursework, Licenses and Certificates

Ichthyology, Invertebrate Zoology, Population Genetics, Organic Chemistry I & II, Cell and Molecular Biology, Ecology and Evolution, Behavior of Marine Organisms, Physical & Chemical Oceanography, Biological Oceanography, Ocean Data Analysis, Marine Ecology, Advanced Ecology

Skills

Program management: leadership, project balancing, graduate student mentoring, supervising technicians, scope of work, budgeting, proposal/grant writing, manuscript preparation and reviewing

Computer Programs: SAS, R, Adobe Illustrator, Microsoft Office (Word, PowerPoint, Access, and Excel), Primer-e,

Habitat: boat electrofishing, throw trapping, dip netting, fyke netting, hoop netting

Instruments: Laser Ablation Inductively Coupled Plasma Mass Spectrometry (LA-ICP-MS)

Population: stock-recruitment modeling, stock assessment, population modeling, community analyses, fish aging techniques, age and growth modeling

Data: Quantitative experience working with large, long-term biological, hydrological, and water quality datasets

Professional Service: reviewer for scientific journals including *Oecologia*, *Hydrobiologia*, and *Environmental Biology of Fishes*

Recent Publications and Reports

Gatto, J.V., B. S. Ickes, and J.H. Chick. Evidence of alternative trophic pathways for fish consumers in a large river system in the face of invasion. *River Research and Applications*. *In press*

Gatto, J. V., J. L. Kline, W. F. Loftus, and J. C. Trexler. 2021. Linking demographic transitions to population dynamics in a fluctuating environment. *Canadian Journal of Fisheries and Aquatic Sciences*. 78(7): 797-808.

Gatto, J. V. and J. C Trexler. 2020. Speed and Directedness Predict Colonization Sequence Post-Disturbance. *Oecologia*. 193(3): 713-727.

Gatto, J.V. and J. C Trexler. 2020. Investigating Phosphorus as a Spatial Marker Using Otolith Microchemistry as Part of the DECOMP Physical Model. Agreement # 4600004007 / PO 9500008051. South Florida Water Management District

Gatto, J. V. and J. C Trexler. 2019. Seasonality of Fish Recruitment in a Pulsed Wetland Ecosystem: Estimation and Hydrological Effects. *Environmental Biology of Fishes*. 102 (4): 595-613.

Gatto, J.V. and J. C Trexler. 2019. Investigating Phosphorus as a Spatial Marker Using Otolith Microchemistry in Everglades Fish Final Report. PO # 4500102397. South Florida Water Management District

Recent Presentations

Gatto, J. V. and Chick, J. H. Environmentally driven shifts in fish community structure along a large regulated river. Mississippi River Research Consortium, La Crosse, WI. April 2021.

Hine, E. C., Gatto, J. V., and Chick, J. H. Effects of Habitat Connectivity on Diversity and Abundance of Fishes in the Main Channel of the Mississippi and Illinois Rivers. Mississippi River Research Consortium, La Crosse, WI. April 2021.

Gatto, J. V. Incorporating Early Life History and Recruitment in the Analysis of Population Dynamics of Wetland Fishes. Illinois Natural History Survey Seminar Series, University of Illinois at Urbana-Champaign. October 2020. (Invited Seminar).

Gatto, J. V. Long-term Monitoring Reveals Controls of Fish Population Dynamics and Recruitment. South Florida Natural Resource Center Science Series, Homestead, FL. October 2020. (Invited Seminar).

Gatto, J. V. and Chick, J. H. Environmentally driven shifts in fish community structure along a large regulated river. Ecological Society of America Annual Meeting, Salt Lake City, UT. August 2020. (Late Breaking Poster in Communities).

References

Name	Position	Phone	E-mail
Brian Ickes*	USGS/Principal Investigator UMRR LTRM Fish component	608-385-5182	bickes@usgs.gov
Dr. Joel Trexler*	Director of the FSU Coastal and Marine Laboratory	305-926-8181	jtrexler@fsu.edu
Dr. John Chick*	Principal Research Scientist/Field Station Director	618-975-3918	chick@illinois.edu

*Indicates Professional Reference
