

CURRICULUM VITAE

Jennifer S. Rehage, Ph.D.

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AREA OF EXPERTISE

Behavioral, population & community ecology, aquatic, wetland, estuarine & fish ecology, invasion ecology, effects of anthropogenic disturbance on ecological processes, responses of fish communities to hydrological disturbance, species interactions, effects of novelty on species interactions, invasion success and impact by nonnative fishes.

EDUCATION

<i>Degree</i>	<i>Institution</i>	<i>Field</i>	<i>Dates</i>
Ph.D.	University of Kentucky	Biology	July 2003
	Dissertation: Traits underlying invasiveness: A comparison of widespread & endemic species in the genus <i>Gambusia</i> (Poeciliidae). Advisor: Andrew Sih, University of California, Davis, CA.		
B.S.	Florida International University	Environmental Studies	Dec 1995

FULL-TIME ACADEMIC EXPERIENCE

<i>Institution</i>	<i>Rank</i>	<i>Field</i>	<i>Dates</i>
Florida International University	Assistant Professor	Ecology	Aug 2008 - present
Nova Southeastern University	Assistant Professor	Ecology	Aug 2006 - Jul 2008
U.S. Geological Survey	Postdoc	Ecology	Aug 2004 - Jul 2006
Florida International University	Postdoc	Ecology	Aug 2003 - Aug 2004

PART-TIME ACADEMIC EXPERIENCE

<i>Institution</i>	<i>Rank</i>	<i>Field</i>	<i>Dates</i>
University of California-Davis	Research Assistant	Ecology	Aug 2002 – Aug 2003
University of Kentucky	National Science Foundation Fellow		Aug 1999 – Aug 2002

PUBLICATIONS

(underlined names are supervised graduate students, * are undergraduate students)

Peer-reviewed Articles:

17. Kline, J.L., W. F. Loftus, K. Kotun, J.C. Trexler, **J.S. Rehage**, J.J. Lorenz & M. Robinson. *Accepted*. Recent fish introductions into Everglades National Park: An unforeseen consequence of water-management? Wetlands.
16. **Rehage, J.S.**, K.J. Dunker, S.E. Liston & W.F. Loftus. *Accepted*. Fish community responses to the combined effects of decrease hydroperiod and non-indigenous fish invasions in a karst wetland: Are Everglades solution holes sinks for native fishes? Wetlands.
15. Boucek, R.E. & **Rehage, J.S.** *Accepted*. No free lunch: Consumers from a donor marsh community regulate marsh prey subsidies to estuarine consumers in a Southwest Everglades Estuary. *Oikos*.
14. **Rehage, J.S.**, A. Saha, M. Cook, R.E. Boucek, E. Cline & M. Kobza. *Accepted*. A novel method for examining fish habitat choice and fine-scale movement in the field: combining passive tagging with enclosures techniques. *Acta Ethologica*.
13. McCarthy, L.M., W.F. Loftus & **J.S. Rehage**. *In press*. Species segregation, trophic function & isotopic niche breadth in palaemonid shrimp along a subtropical estuary. *Bulletin of Marine Science*. DOI: <http://dx.doi.org/10.5343/bms.2011.1058>
12. Gandy, D.A., **J.S. Rehage**, J.W. Munyon, K.B. Gestring & J.I. Galvez. 2012. Canals as vectors for fish movement: potential southward range expansion of *Lepisosteus osseus* L. (Longnose Gar) in South Florida. *Southeastern Naturalist* 11: 253-262.
11. Lopez, D.P., A.A. Jungman* & **J.S. Rehage**. 2012. Nonnative African jewelfish are more fit but not bolder at the invasion front: a trait comparison across an Everglades range expansion. *Biological Invasions* 14: 2159-2174.

10. Porter-Whitaker, A., **J.S. Rehage**, W. F. Loftus & S.E. Liston. 2012. Multiple predator effects & native prey responses to two non-native Everglades cichlids. *Ecology of Freshwater Fishes* 21: 375-385.
9. Dunlop, K.L. & **J.S. Rehage**. 2011. Antipredator behavior and cue recognition of multiple Everglades prey to a novel cichlid predator. *Behaviour* 148: 795-823.
8. Sih, A., D.I. Bolnick, B. Luttbeg, J.L. Orrock, S.D. Peacor, L.M. Pintor, E. Preisser, **J.S. Rehage** & J.R. Vonesh. 2010. Predator-prey naiveté, antipredator behavior, & the ecology of predator invasions. *Oikos* 119: 610-621.
7. **Rehage, J.S.**, K.L. Dunlop, & W.F. Loftus. 2009. Antipredator responses by native mosquitofish to non-native cichlids: an examination of the role of prey naivete. *Ethology* 115: 1-11.
6. **Rehage, J.S.** & W.F. Loftus. 2007. Seasonal fish community variation in mangrove creeks in the southwestern Everglades: an examination of their role as dry-down refuges. *Bulletin of Marine Science*. 80: 625-645.
5. **Rehage, J.S.** & J.C. Trexler. 2006. Assessing the net effect of anthropogenic disturbance on aquatic communities in wetlands: Community structure relative to distance from canals. *Hydrobiologia* 569:359-373.
4. **Rehage, J.S.**, B.K. Barnett*, & A. Sih. 2005. Foraging behavior & invasiveness: Do invasive *Gambusia* exhibit higher feeding rates & broader diets than their non-invasive relatives? *Ecology of Freshwater Fish* 14: 352-360.
3. **Rehage, J.S.**, B.K. Barnett*, & A. Sih. 2005. Behavioral responses to a novel predator & competitor of invasive mosquitofish & their non-invasive relatives (*Gambusia* sp.). *Behavioral Ecology & Sociobiology* 57: 256-266.
2. **Rehage, J.S.** & A. Sih. 2004. Dispersal behavior, boldness & the link to invasiveness: A comparison of four *Gambusia* species. *Biological Invasions* 6: 379-391.
1. **Rehage, J.S.**, S.G. Lynn, J.I. Hammond, B.D. Palmer, & A. Sih. 2002. Effects of larval exposure to Triphenyltin on the survival, growth, & behavior of larval & juvenile *Ambystoma barbouri*. *Environmental Toxicology & Chemistry* 21: 807-815.

In Review:

Boucek, R.E. & **Rehage, J.S.** *In review*. A tale of two fish: using recreational angler records to examine the link between fish catches and freshwater inflows in a subtropical mangrove estuary. *Estuaries & Coasts*.

In Preparation:

Rehage, J.S. & R.E. Boucek. *In revision.* Seasonal wetland hydrology drives predator and prey co-occurrence in a subtropical estuary: Implications for trophic dynamics. To be submitted to Journal of Ecology.

Rehage, J.S., D.P. Lopez, M. Anderson* & J. Serafy. *In preparation.* Incorporating behavior into the study of habitat suitability: salinity preference of nonnative African jewelfish. To be submitted to Environmental Biology of Fishes.

B. Robertson, **J.S. Rehage** and A. Sih. *In preparation.* Global change, ecological novelty, and the emergence of evolutionary traps. To be submitted to Trends in Ecology and Evolution (Paper proposal accepted).

Rehage, J.S., J.J. Lorenz et al. *In preparation.* Extreme climate events reset invasions: effects of a severe cold snap on Everglades fish invaders. To be submitted to Conservation Biology.

Government Reports:

J.S. Rehage, A. Saha† & A. Narducci. Habitat selection & movement of everglades fishes in response to seasonal hydrology. Reports to the South Florida Water Management District under PO 4500056829, September 2011 & January 2012.

J.S. Rehage & M. Robblee. Role of Marsh-Mangrove Interface Habitats as Aquatic Refuges for Wetland Fishes and other Aquatic Animals. Annual reports to the US Army Corps of Engineers (Jacksonville District) under CERPMAP Activity 3.1.4.7, May 2011 & January 2012.

Rehage, J.S. & D.A. Gandy. Assessing the impact & potential for containment of non-native fishes across Everglades habitats. Annual report to the National Park Service under Cooperative agreement H5000065040, January 2011 & February 2012.

Rehage, J.S., & B.M. Gallagher. Habitat selection & movement of Everglades fishes in response to dry-down: Implications for landscape patterns of prey availability. Annual report to the SFWMD under PO 4500048589, September 2010.

Rehage, J.S. & M. Robblee. Role of Marsh-Mangrove Interface Habitats as Aquatic Refuges for Wetland Fishes & other Aquatic Animals. Annual Report to the US Army Corps of Engineers, Jacksonville, & the South Florida Water Management District, West Palm Beach. MAP Activity 3.1.4.7, October 2009.

Rehage, J.S., & W.F. Loftus. Role of Marsh-Mangrove Interface Habitats as Aquatic Refuges for Wetland Fishes & other Aquatic Animals. Annual Report to the US Army Corps of

Engineers, Jacksonville, & the South Florida Water Management District, West Palm Beach. MAP Activity 3.1.4.7, October 2008.

Loftus, W.F. & **J.S. Rehage**. Role of Marsh-Mangrove Interface Habitats as Aquatic Refuges for Wetland Fishes & other Aquatic Animals. Final Report to US District. Work Order No. 12 for CERP-MAP Activity 3.1.4.7, October 2007.

Loftus, W.F., J.C. Trexler, **J.S. Rehage**, K. Dunker & S.E. Liston. Introduced Fishes in Short-Hydroperiod Wetlands: Evaluation of Sampling, Status, & Potential Effects. Final Report to Critical Ecosystem Studies Initiative, Agreement # CESI IA F5284-04-0039, December 2006.

OTHER PUBLICATIONS

Gandy, A. & **J.S. Rehage**. FIU researchers ask for anglers' help in fish tagging study. The City Fisher 47: Jan-Mar 2012. <http://myfwc.com/news/resources/columns/city-fisher/>

Harvey, R.G., W.F. Loftus, **J.S. Rehage** & F.J. Mazzotti. 2011. Effects of canals and levees on Everglades ecosystems. *UF/IFAS Publication WEC304*.
<http://edis.ifas.ufl.edu/uw349>

Rehage, J.S., E. Gaiser, M. Heithaus, M. Ross & P. Ruiz. 2010. Effects of a rare cold snap on Everglades biota: what are the long-term consequences for the ecosystem? *ILTER Newsletter* 23-1, http://news.lternet.edu/previous_issues.

PRESENTED PAPERS & LECTURES (since 2008)

*Presentations at FIU (underlined names are graduate students, * are undergraduate students, † are postdocs, ‡ are high school students †)*

Rehage, J.S. Seasonal wetland hydrology drives consumer dynamics at the marsh-mangrove ecotone: Implications for predator-prey interactions and trophic dynamics. Intecol/GEER meeting, Orland, FL, June 2012.

Rehage, J.S. & J.A. Ferraz de Lima. Effects of seasonal hydrology on fish dynamics in subtropical wetlands, comparing the Pantanal & Everglades. Intecol/GEER meeting, Orland, FL, June 2012.

- Edwards, C.E., **J.S. Rehage** & J. Heinen. Everglades fish talk: finding angler perspectives on nonnative fish species and mercury advisories. LTER ASM, September 2012, Estes Park, CO.
- Soula, M.J.*, R.E. Boucek, S. Santos† & **J.S. Rehage**. Healthy snack or junk food: examining the nutritional quality of freshwater and estuarine prey in a southwest Everglades estuary. LTER ASM, Estes Park, CO, September 2012.
- Gandy, D.A., **J.S. Rehage**, J. Kline, K.T. Whelan & R. Urgelles. Non-native fishes in canals of the Florida Everglades: Implications for Management. Intecol/GEER conference, June 2012, Orlando, FL & LTER ASM, Estes Park, CO, September 2012.
- Boucek, R.E. & **J.S. Rehage**. Decoupled populations of common snook in the oligohaline & mesohaline regions of the Shark River Estuary. Intecol/GEER conference, June 2012, Orlando, FL & LTER ASM, Estes Park, CO, September 2012.
- Boucek, R.E. & **J.S. Rehage**. Resource partitioning among fish mesoconsumers along a marsh-mangrove ecotone: A response to a pulsed seasonal resource subsidy American Fisheries Society, Ecology Society of America, Portland, OR, August 2012.
- Rehage, J.S.** Seasonal wetland hydrology drives predator and prey co-occurrence in a subtropical estuary: Implications for predator-prey interactions and trophic dynamics. Ecological Society of America annual meeting, Austin, TX, August 2011.
- Saha†, A.K., M.B. Gallagher, A. Narducci, M. Kobza, M. Cook & **J.S. Rehage**. Quantifying the movement and habitat use of native sunfishes in response to seasonal hydrological variation in the Everglades. Ecological Society of America annual meeting, Austin, TX, August 2011.
- Rehage, J.S.**, J.P. Perea, M.B. Gallagher, & J. Chianesse*. Prevalence of a parasitic isopod, *Probopyrus* spp, on palaemonid shrimp along a marsh estuarine gradient. Ecological Society of America annual meeting, Austin, TX, August 2011.
- Boucek, R.E. & **J.S. Rehage**. Resource partitioning among fish mesoconsumers along a marsh-mangrove ecotone: A response to a pulsed seasonal resource subsidy. Ecological Society of America annual meeting, Austin, TX, August 2011.
- J.S. Rehage**. Snook dynamics in headwater mangrove creeks of Everglades National Park: What is the relative role of biotic vs. abiotic factors? American Fisheries Society, Southern Division annual conference, Tampa, FL, January 2011, Snook Symposium, co-organized with Ron Taylor (FWC).
- Jungman, A.*, D.P. Lopez & **J.S. Rehage**. Life is good in the frontier: population-level differences in life history traits across the invaded range of African jewelfish in the

Everglades. Florida Coastal Everglades Long-Term Ecological Research All Scientists Annual Meeting, Miami, FL, January 2011.

Lopez, D.P. & **J.S. Rehage**. Boldness and Dispersal across multiple populations of non- native African Jewelfish in the Florida Everglades. Animal Behavior Meeting, Florida Coastal Everglades Long-Term Ecological Research All Scientists Annual Meeting, Miami, FL, January 2011. **3rd place for Best Student Poster Presentation.**

Anderson*, M., **J.S. Rehage**, D.P. Lopez & J. Serafy. Incorporating behavior into the study of habitat suitability: salinity preference of nonnative African jewelfish. Florida Coastal Everglades Long-Term Ecological Research All Scientists Annual Meeting, Miami, FL, January 2011.

Gandy, D.A., **J.S. Rehage** & J. Kline. How do canals function as habitat for native & nonnative fishes in the Everglades ecosystem? Poster presented at:

- Greater Everglades Restoration Conference, Naples, FL, July 2010.
- Florida Coastal Everglades Long-Term Ecological Research All Scientists Annual Meeting, Miami, FL, January 2011.
- American Fisheries Society, Southern Division annual conference, Tampa, FL, January 2011.

Boucek, R.E. & **J.S. Rehage**. Resource partitioning among four mesoconsumers at the marsh-mangrove ecotone: responses to dry-season resource pulses. Poster presented at:

- Greater Everglades Restoration Conference, Naples, FL, July 2010.
- Florida Coastal Everglades Long-Term Ecological Research All Scientists Annual Meeting, Miami, FL, January 2011.
- American Fisheries Society, Southern Division annual conference, Tampa, FL, January 2011.

Lopez, D.P. & **J.S. Rehage**. Boldness & dispersal across multiple populations of non-native African jewelfish in the Florida Everglades. Animal Behavior Meeting, College of William & Mary, Williamsburg, VA, August 2010.

Rehage, J.S., D.P. Lopez, M. Anderson* & J. Serafy. Incorporating behavior into the study of habitat suitability: salinity preference of nonnative African jewelfish. Animal Behavior Meeting, College of William & Mary, Williamsburg, VA, August 2010.

Gallagher, M.B., R.E. Boucek & **J.S. Rehage**. Effects of seasonal hydrology and the 2010 cold snap on spatiotemporal patterns of abundance of common snook (*Centropomus undecimalis*) in the upper Shark River, Everglades National Park. Greater Everglades Restoration Conference, Naples, FL, July 2010.

Rehage, J.S. Effects of abiotic drivers on the distribution and abundance of fishes at the marsh-mangrove ecotone: implications for predator-prey interactions. Greater Everglades Restoration Conference, Naples, FL, July 2010.

Perea-Rodriguez*, J.P., **J.S. Rehage**, & M.B. Gallagher. Prevalence of a parasitic isopod, *Probopyrus* spp, on palaemonid shrimp along a marsh-estuarine gradient in the Southern Everglades. Greater Everglades Restoration Conference, Naples, FL, July 2010.

Rehage, J.S. & M.B. Gallagher. Patterns of fish abundance & distribution along an Everglades ecotone: hydrologic variation creates context-dependent predator-prey interactions. NSF LTER Network, All Scientists Meeting, Estes Park, Colorado, September 2009.

McCarthy, L.M. & **J.S. Rehage**. Species segregation, trophic function & isotopic niche breadth in Palaemonid shrimp along a subtropical estuary. Ecological Society of America annual meeting, Albuquerque, New Mexico, August 2009.

Dunlop, K.L. & **J.S. Rehage**. Antipredator responses to the non-native African Jewelfish, *Hemichromis letourneuxi*, by naive Everglades prey. Ecological Society of America annual meeting, Albuquerque, New Mexico, August 2009.

Seese, M.R., C.A. Layman, & **J.S. Rehage**. Evaluation of the habitat-enhancement role of the macroalgae *Laurencia* spp. for seagrass fauna in Abaco, The Bahamas. Ecological Society of America annual meeting, Albuquerque, New Mexico, August 2009.

McCarthy, L.M. & **J.S. Rehage**. Distribution & trophic placement of Palaemonid shrimp species in the Shark River, Everglades National Park. Florida Coastal Everglades Long-term Ecological Research All Scientists Annual Meeting, Miami, FL, March 2009 (Student award for best poster presentation).

Rehage, J.S. & W.F. Loftus. Spatiotemporal dynamics of the fish community of mangrove-marsh ecotonal habitats in Everglades National Park. Presentation to the RECOVER AT Meeting, CERP, August 2008.

Presentations prior to joining FIU (underlined names are supervised graduate students)

Rehage, J.S. & W.F. Loftus. Predator-prey dynamics at marsh-mangrove ecotone, Greater Everglades Restoration Conference, Naples, FL, July 2008.

Porter, A., **J.S. Rehage**, W.F. Loftus & S.E. Liston. Interactions between two invasive cichlids & native biota in the Everglades aquatic community. Greater Everglades Restoration Conference, Naples, FL, July 2008.

McCarthy, L.M. & **J.S. Rehage**. Segregation of caridean shrimp (*Palaemonetes* sp). along a salinity gradient in Everglades National Park: implications for Everglades restoration. Greater Everglades Restoration Conference, Naples, FL, July 2008.

Dunlop, K.L., & J.S. Rehage. Cue recognition & novel predator: antipredator responses to non-native jewel fish. Greater Everglades Restoration Conference, Naples, FL, July 2008.

Invited Seminars

School of Forest Resources and Conservation Fisheries and Aquatic Sciences, University of Florida: Long Term fish dynamics at the Everglades marsh-mangrove ecotone: drydowns, subsidies, coldsnaps & the links to recreational fisheries, November 2012.

Invited speaker at Panel Discussion on Nonnative Fishes, American Fisheries Society, Southern Division annual conference. Understanding nonnative fish impact in the Everglades: what do we know & where do we need to go? Tampa, FL, January 2011.

SERC Brown Bag Seminar, FIU. Effects of & biotic & abiotic drivers on the distribution & abundance of fishes at ecotone: implications across multiple ecological scales, Dec. 2010.

Florida Fish and Wildlife Commission, Non-Native Fish Laboratory, Non-Native Fishes Workshop, Predator-prey interactions among native Everglades fishes and non-native cichlids: consumptive and non-consumptive effects. Boca Raton, Florida, Sept. 2009.

Marine Biology Program, FIU, BBC. Examining species interactions in an anthropogenic context: Everglades native fish responses to hydrologic disturbance & invasion, October 2008.

Environmental Studies, FIU. Examining species interactions in an anthropogenic context: Everglades native fish responses to hydrologic disturbance & invasion, October 2007.

Zoology, Weber State University, Ogden, UT. The ecology of fish invasions: understanding the factors underlying invasiveness & impact, March 2006.

Oceanographic Center, NSU, Dania, FL. Examining species interactions in an anthropogenic context: species invasions & hydrologic disturbance, February 2006.

Biological Sciences, Hobart & William Smith Colleges, Geneva, NY. The ecology of invasions: understanding the factors underlying invasiveness & impact among fishes, December 2005.

Biological Sciences, Florida Atlantic University, Ft. Lauderdale, FL. Understanding anthropogenic impact at multiple scales: from traits affecting invasion success to community-level consequences of hydrological disturbance, April 2005.

Environmental Studies, FIU. Towards a trait-mediated understanding of invasiveness: Trait comparisons between invasive *Gambusia* & their relatives, January 2004.

Biological Sciences, FIU. The role of traits to understanding species' invasiveness: A case study in a Poeciliid fish, November 2003.

Center for Population Biology, University of California, Davis, CA. Traits underlying invasion ability: A comparison of widespread & endemic fishes in the genus *Gambusia*, April 2003.

FUNDED RESEARCH

Funding at FIU (\$ 1,077,100 awarded to J.S. Rehage; Aug. 2008-October 2012, underlined names are graduate students, † are postdocs)

Nelson, J., L. Deegan, R.E. Boucek & **J.S. Rehage**. Coastal subsidy synthesis. A comparisons of resource subsidies across coastal LTER sites. National Science Foundation, LTER synthesis initiative, \$ 50,000 pending.

M. Ross & **J.S. Rehage**. Ecohydrology, hardwood succession & Key Largo endangered wood rat habitat use. **U.S. Fish and Wildlife Service**, \$ 40,760, pending (\$ 22,500 to J.S. Rehage).

M. Sukop, R. Jaffe, **J.S. Rehage**, M. Bhat, & P. Mozumder. **National Science Foundation**, WSC-Category 2: Robust decision-making for south Florida water resources by ecosystem service valuation, hydro-economic optimization, and conflict resolution modeling, 2012-2017, \$ 4,589,000 (\$ 264,800 to J.S. Rehage).

J.S. Rehage. Inventory of fishes in the Homestead Air Force Base, US Air Force, 2012, \$ 5,400.

J.S. Rehage. Fish community dynamics along the marsh-mangrove ecotone in coastal Florida. **U.S Army Corps of Engineers**, Comprehensive Everglades Restoration Plan, Monitoring & Assessment Program, 2011-2012, \$ 59,800.

R.E. Boucek, M. Heithaus & **J.S. Rehage**. Integration of mesoconsumers into FCE movement and trophic dynamics. **National Science Foundation FCE LTER** (DBI-0620409) Supplemental Funding, 2011, \$ 10,000.

J.S. Rehage & M.B. Robblee (USGS). Fish community dynamics along the marsh-mangrove ecotone in coastal Florida. **U.S Army Corps of Engineers**, Comprehensive Everglades Restoration Plan, RECOVER, 2011, \$ 130,000 to J.S. Rehage under cooperative agreement with USGS.

J.S. Rehage & A. Saha†. Habitat selection & movement of Everglades fishes in response to seasonal hydrology-empirical study at LILA (Loxahatchee Impoundment Landscape Assessment). **South Florida Water Management District**, \$ 26,000, 2011-2012.

Sukop, M., W. Anderson, M. Bhat, R. Jaffe, **J.S. Rehage**, D.T. Ho & J.D. Fuentes. Collaborative Research: WSC-Category 1 - Linking freshwater inputs to ecosystem functioning and services provided by a large mangrove estuary. **National Science Foundation**, 2010-2011, \$ 124,225 (\$ 10,000 to **J.S. Rehage**).

J.S. Rehage. Movement & habitat use of Everglades fishes in response to seasonal hydrology at LILA (Loxahatchee Impoundment Landscape Assessment). **South Florida Water Management District**, 2010-2011, \$ 25,000.

J.S. Rehage. Movement & habitat use of Everglades fishes in response to seasonal hydrology at LILA-Pilot Study (Loxahatchee Impoundment Landscape Assessment). **South Florida Water Management District**, 2010, \$ 42,000.

J.S. Rehage. Assessing the impact & potential for containment of non-native fishes across Everglades habitats. **Critical Ecosystem Studies Initiative (CESI), National Park Service**, 2010-2013, \$ 295,206. (Funding rate = 9%; 8 projects funded out of 89 proposals).

J.S. Rehage & M.B. Robblee (USGS). Fish community dynamics along the marsh-mangrove ecotone in coastal Florida. **U.S Army Corps of Engineers**, Comprehensive Everglades Restoration Plan, Monitoring & Assessment Program, 2009 - 2010, \$ 317,845 (\$ 192,000 to **J.S. Rehage** via cooperative agreement with USGS).

Funding awarded at NSU (\$ 154,904 - 2006-2008, underlined names are graduate students)

J.S. Rehage. Mangroves as habitat & dry-season refuges for freshwater fishes. **South Florida Water Management District**, 2008, \$ 69,904.00.

J.S. Rehage & K.L. Dunlop. Cue recognition & prey responses to non-native Everglades fishes. **Nova Southeastern University President's Faculty Research & Development Grant**, 2008, \$ 10,000.

J.S. Rehage & L.M. McCarthy. Distribution of Palaemonid shrimp along the Shark River Estuary **Nova Southeastern University President's Faculty Research & Development Grant**, 2008, \$ 10,000.

J.S. Rehage. Fish dynamics at the marsh-mangrove ecotone in the Shark River Estuary, Everglades National Park. **U.S. Geological Survey**, Florida Integrated Science Center, 2007, \$ 70,000.

Funding awarded as a postdoc

W.F. Loftus, **J.S. Rehage**, & S.E. Liston. An evaluation of the impact of two introduced cichlids on native fish communities in Everglades wetlands. **U.S. Geological Survey Park-Oriented Biological Support**, 2006-2007, \$ 40,000.

W.F. Loftus, **J.S. Rehage** & J.C. Trexler. Introduced fishes in short-hydroperiod wetlands: evaluation of sampling, status, & potential effects. **Critical Ecosystem Studies Initiative (CESI), National Park Service**, 2005, \$ 30,130.

Funding awarded as a graduate student

J.S. Rehage, A. Sih, & P. Crowley. Traits underlying invasiveness: A comparison of widespread & endemic species in the genus *Gambusia*. **Doctoral Dissertation Improvement Grant, National Science Foundation**: 2002-2003, \$ 10,000.

J.S. Rehage. Traits underlying invasiveness: A comparison of widespread & endemic species in the genus *Gambusia*. **National Science Foundation Doctoral Fellowship**, 1999-2002 (Tuition, travel & research funding for 3 yrs.).

J.S. Rehage. Traits underlying invasiveness: A comparison of widespread & endemic species in the genus *Gambusia*. E.C. & C.E. Raney Award, **American Society of Ichthyologists & Herpetologists**. 2001, \$ 200.

J.S. Rehage. Traits underlying invasiveness: A comparison of widespread & endemic species in the genus *Gambusia*. Endowment Research Award, **North American Benthological Society**, 2001, \$ 700.

Ribble Research & Travel Grant, Biological Sciences, **University of Kentucky**, 1999-2002. \$ 1,000/yr.

R.A. Kuehne Research Grant, Biological Sciences, **University of Kentucky**, 2000, \$ 150.

J.S. Rehage. **National Science Foundation Training Fellowship Research Funds**. 1998-1999, \$ 1,660.

MENTORING

Graduate Student Training

Current students: 4 M.S. (Earth & Environment) & 3 Ph.D. (Biology)

- Jesse Blanchard, Ph.D. Biology. Mechanisms of impact by nonnative fishes on native fishes. Expected completion: Summer 2017.
- Vanessa Trujillo, Ph.D. Biology. The effects of stress caused by nonnative African jewelfish: implications for invasion success & impact. Expected completion: 2016.
- Ross Boucek, Ph.D. Biology. Resource use and movement of key recreational fisheries in coastal Everglades in relation to hydrology. Expected completion: 2015. *Cristina Menendez Fellowship, SERC, FIU, \$7,500, 2012.*
- Lauren Barth, M.S. Environmental Studies. Habitat use in relation to forest structure by the endangered Key Largo woodrat. Expected completion: 2014.
- Jessica Lee, M.S. Environmental Studies. Integration of recreational anglers into fisheries research: using citizen science to expand a mark-recapture study in the coastal Everglades. Expected completion: 2014. *Recipient of Everglades Foundation Graduate Fellowship, 2012 (\$ 5,000).*
- Christopher Edwards, M.S. Environmental Studies. Fisherman's values and awareness of nonnative fishes. Expected completion: Summer 2013.
- David Gandy, M.S. Environmental Studies. Everglades canals as habitat for nonnative fishes. Expected completion: Spring 2013. *Recipient of Everglades Foundation Graduate Fellowship, 2011 (\$ 10,000). Cristina Menendez Fellowship, SERC, FIU, \$7,500, 2012.*

Completed students at FIU

- Ross Boucek, M.S. Environmental Studies, Fall 2011. Resource partitioning among four mesoconsumers at the marsh-mangrove ecotone: responses to dry-season resource pulses. *Best MS student poster award at FCE LTER ASM, March 2012.*
- Diana Lopez, M.S. Environmental Studies, Summer 2011. Examination of the spread, dispersal & boldness of nonnative African jewelfish in the Everglades. Recipient of Everglades Fellowship, SERC, FIU, 2009-2011. *3rd place award for poster presentation at FCE LTER annual meeting, January 2011.*
- Shelby Moneysmith, non-Thesis M.S. Environmental Studies, Fall 2010. Utility of creel data to examine fisheries trends in Biscayne National Park.

Completed students at NSU

Thesis students:

- Tiffany Trent, M.S. NSU Spring 2010. Effects of periphyton nutrient content on the

growth & survivorship of Florida apple snails in the Loxahatchee National Wildlife Refuge. Presently at St. Johns Water Management District.

- Kate Dunlop, M.S. NSU Fall 2009. Examination of cue utilization & anti-predator responses by native Everglades taxa to a non-native predator, the African jewelfish. Currently at NSU Grants & Contracts.
- Megan Seese, M.S. NSU completed Fall 2009. Evaluation of the role of *Laurencia* spp in *Thalassia testudinum* beds in Abaco, Bahamas as habitat for juvenile fishes & macroinvertebrates.
- Lauren McCarthy, M.S. NSU Summer 2009. Segregation of palaemonid shrimp species along a salinity gradient in Shark River, Everglades National Park. Presently a Ph.D. student at Eastern Carolina University, Greenville, NC.
- Ashley Porter-Whitaker, M.S. NSU Fall 2008. Comparison of predatory effects of two non-native cichlid predators in Everglades marshes. Currently at NSU Grants & Contracts.

Non-Thesis Students:

- Deborah Zeyen, M.S. NSU Spring 2010. Evaluation of action plans to restore oysters to the Chesapeake Bay based on an assessment of possible outcomes.
- Dina Benes, M.S. NSU Fall 2010. The evidence for invasional meltdown: the Great Lakes as a case study.

Current graduate committees at FIU: 6 Ph.D. & 1 M.S. (6 FIU, 1 UF)

- Philip Matich, Ph.D. FIU Biology. Major professor: M. Heithaus. Habitat use, diet & movements of juvenile bull sharks (*Carcharinus leucas*) in the Shark River Slough. Expected completion Fall 2012.
- Elizabeth Stoner, Ph.D. FIU Biology. Major professor: C. Layman. Distribution & role of *Cassiopea* spp. jellyfish in reference to nutrient inputs in coastal habitats. Expected completion: Fall 2013.
- Lauren Yaeger, Ph.D. FIU Biology. Major professor: C. Layman. Effects of seascape surrounding mangroves on the habitat value of mangrove regions for commercially & ecologically important reef fishes. Expected completion Spring 2012.
- Amanda Bourque, Ph.D. FIU Biology. Major professor: J. Fourqurean. En examination of ecological processes in ecosystems relevant to improving the success of restoration practices in seagrass ecosystems. Expected completion: Spring 2012.

- Laura Bhatti, Ph.D. FIU Biology. Major professor: D. Burkepile. Impacts of habitat use choice and diet of herbivorous fish on marine benthic communities. Expected completion Spring 2015.
- Jennifer Sweatman, Ph.D. FIU Biology. Major professor: J. Fourqurean. Community response to nutrient enrichment and decreased connectivity. Expected completion: Fall 2016.
- Jacqueline N. Langston, M.S. Wildlife Ecology & Conservation, University of Florida. Major professor: P. Schofield. Effects of Mayan cichlids on the nesting behavior of spotted sunfish. Expected completion: Fall 2012.

Past Graduate Committees

- Elizabeth Lacey, Ph.D. FIU Biology 2012. Major professor: J. Fourqurean. The role of resilience in the management of a Mexican tropical coral reef ecosystem: effects of *Diadema antillarum* on algae & coral benthic coverage.
- Meenakshi Jerath. M.S. FIU Environmental Studies 2012. Major professor: M. Bhat. Carbon sequestration services provided by mangrove forests in Everglades National Park.
- Shannon Bayse, M.S. Thesis, NSU 2009. Major professor: D. Kerstetter. Comparison of catches & catch rates in pelagic longlines in the Mid-Atlantic to determine their bycatch reduction potential.

Undergraduate students supervised

- Mari Soula, Biology, FIU, **REU-funded project** through FCE LTER. Prey quality along the Shark River Estuary: Junk or health food. Summer 2012, poster presented at LTER ASM, Estes Park, CO.
- Jessica Chianesse, Environmental Studies, FIU. Prevalence of a parasitic isopod, *Probopyrus* spp, palaeomonid shrimp along a marsh-estuarine gradient in the southern Everglades. Spring 2011. Poster presented at ESA 2011 Austin, TX.
- Melissa Anderson, Environmental Studies, FIU. Salinity preferences of non-native cichlids in the Everglades. Fall 2010 & Spring 2011. Poster presented at FCE-LTER ASM 2011.
- Andrew Jungman, Environmental Studies, FIU. Fall 2009 & Spring 2010. Trait variation

among populations of the African jewelfish in the Everglades. Poster presented at GEER 2010, & FCE-LTER ASM 2011. Currently a graduate student in the EVR Agroecology Program at FIU.

- Claudia Castillo, Environmental Studies, FIU. Spring 2010. Incorporating behavior into the study of invasive species. Currently Nature Interpretator for the National Park Service, New Mexico.
- Andrew Whitaker, Environmental Studies, NSU, Summer & Fall 2008. Intraguild predation among Everglades non-native cichlids.
- Claudia McLeroy, Environmental Studies, NSU, Spring 2008. Assessment of the abundance of *Lygodium microphyllum* spores in tree islands in the Loxahatchee National Wildlife Refuge (jointly with L. Brandt, Ft Lauderdale Research & Education Center, UF).
- Elizabeth Bragger, Environmental Studies NSU, Summer 2008. Pre-restoration assessment of the fishes of Rachel's Creek, Crane Point Hammock, Marathon, FL.
- Beverly K. Barnett, Biological Sciences, University of Kentucky, 1999-2000. Comparing the foraging plasticity & opportunism of invasive & non-invasive *Gambusia* species. Currently at NOAA Fisheries, Panama City, FL.
- Ryan Holliday, Biological Sciences, University of Kentucky, 2000-2001. Dispersal tendencies of four *Gambusia* species: influences of flow & group size.
- Elizabeth N. Fischer, Biological Sciences, University of Kentucky, 2001-2002. Population performance & establishment success among *Gambusia* species of varying invasion success.

Summer High School Interns

Summer 2012:

Terra SH, Miami, FL: Roger Salgado

Varela SH, Miami, FL: Steven Santos, Heather Sanchez, Pablo Almagro

All students funded by RAHSS through FCE LTER

Summer 2011:

Terra SH, Miami, FL: Tori Burnstein

TEACHING

Undergraduate Teaching

Earth & Environment, FIU

- EVR3011, Environmental Resources & Pollution (Fall 2008): Non-majors course, focusing on dynamics of pollution & environmental toxicology with emphasis on energy consumption & production, climate change & natural resource degradation.
- EVR4026, Biotic Resources (Spring 2009, Spring 2010, Fall 2011): Majors course that examines people-resources using an ecosystem function-services-human well-being framework.
- EVR3013, Ecology of South Florida (Fall 2010, Spring 2011-12): Course for nonscience majors, offering an introduction to the ecology of South Florida & emphasizes natural resource conservation and management.

Farquhar College of Arts & Sciences, NSU

- BIO1040: Environmental Studies (Fall 2006, Winter 2007, Fall 2007): Non-majors course that provides an overview of environmental science that integrates social, economic, technical, & political issues.
- ENVS3100: Environmental Issues (Fall 2007, Fall 2006): Majors course that examines issues in environmental science as multifaceted & complex & uses a dialectical approach to examining environmental problems.
- ENVS3170: Everglades Ecology & Conservation (Winter 2008): Elective course for Environmental Studies, Marine Biology & Biology majors examining key biological & physical features of South Florida, the ecological processes that make it unique, and challenges to its management & restoration.

Graduate Teaching

Earth & Environment, FIU

- Ecology & Management of Invasive Species (jointly with Dr. Hong Liu, Fall 2009): Cross-listed undergraduate/graduate course that provide students with an overview of the key ecological, social, & management questions surrounding introduced invasive species.

- Marine Protected Areas (course co-organized with Dr. L. Collado, FIU Biology, Summer 2006-9): Intensive, hands-on field course on the ecological & socioeconomic challenges of designing & managing marine protected areas. with guest lectures by scientists, managers & practitioners & field trips. Taught in conjunction with UNAM, Puerto Morelos, Mexico.

Oceanographic Center, NSU

- Wetland Ecology (Spring 2008): An overview of the ecology of wetland ecosystems, covering anthropogenic impacts on wetland habitats & the management of wetland ecosystems, with a particular emphasis on our own 'backyard' wetland, the Greater Everglades Ecosystem.
- Ecology & Evolution of Invasive Species (Winter 2007): Course provides students with an overview of the key ecological, evolutionary, genetic, & behavioral questions surrounding the study of invasive species. Emphasis is place examining how species invade, interact & impact recipient communities.

New Course Development:

- Ecology & Management of Invasive Species (graduate/undergraduate), FIU (jointly with Dr. H. Liu).
- Everglades Ecology & Conservation (undergraduate), NSU.
- Wetland Ecology (graduate), NSU Oceanographic Center.
- Ecology & Evolution of Invasive Species (graduate), NSU Oceanographic Center.

PROFESSIONAL HONORS, PRIZES & FELLOWSHIPS

Featured at the 2011 Ecological Society of America (ESA) Focus on Ecologists series & CAREERS section of ESA website: <http://www.esa.org/ecologist/members/jsrehage/profile/>. The Focus on Ecologists project (http://www.esa.org/education_diversity/explore.php) provides an opportunity for students interested in ecological careers, the ESA community at large, and the general public to learn more about the science of ecology through the experiences of ecologists.

Summer Research Award, College of Arts & Sciences, FIU, 2009.

Doctoral Dissertation Improvement Grant, National Science Foundation, 2002-2003.

Lyman T. Johnson Minority Fellowship, University of Kentucky Graduate School, 2002-2003.

National Science Foundation Graduate Research Fellowship, 1999-2002.

Doctoral Dissertation Qualifying Exam passed with distinction, Fall 2001.

National Science Foundation Graduate Research Training Fellowship (IGERT Fellow),
University of Kentucky, 1998-1999.

Magna Kum Laude, Environmental Studies, Florida International University, 1995.

OTHER PROFESSIONAL & SERVICE ACTIVITIES

Journal reviewer for:

- Ecology
- Oecologia
- Ecology Letters
- Evolution
- Behavioral Ecology
- Animal Behaviour
- Functional Ecology
- Evolutionary Ecology
- Ecology of Freshwater Fish
- Bulletin of Marine Science
- Biological Invasions
- Archiv Für Hydrobiologie
- Copeia
- Aquatic Ecology
- Southeastern Naturalist
- Hydrobiologia
- Florida Scientist
- Ethology
- Evolutionary Ecology
- Marine Ecology Progress Series
- Restoration Ecology
- Methods in Ecology & Evolution
- Journal of Applied Ecology
- Estuary & Coasts
- American Midland Naturalist
- Aquatic Conservation: Marine & Freshwater Ecosystems

Member of editorial board:

- Southeastern Naturalist, since 2010.

Grant proposal reviewer:

- National Science Foundation
- Florida Fish & Wildlife Conservation Commission Wildlife Legacy Grants
- Research Council of Norway

Reviewer panel:

- NSF, Panel 101053: Population & Community Ecology, DEB, April 2010.

Expert technical review:

- 2009 System Status Report (SSR) for the USACOE. The SSR reports progress on Everglades restoration to federal agencies, including Congress.
- Identifying key uncertainties in Everglades restoration for the SFMWD, 2011.

Other service activities to scientific & broader community:

- Speaker at Ocean Life 2012-2013 seminar series, 'Dangerous dry down refuges for marsh fishes: a feast for snook' FIU & Friends of Key Largo Cultural Center, Key Largo, FL, March 2013.
- Ecological Society of American Mentor for Aquatic Ecology Section, 2012 annual meeting, Portland, Oregon.
- Speaker at 2012 Summer High School Research Internship Program, 'Why do science?' May 2012, FIU, Miami, FL
- Meet the Scientists Presentation at Terra High School, Mar 2012.
- SEEDS Program Mentor (www.esa.org/seeds). SEEDS aims to increase the participation of underrepresented groups in Ecology. Ecology Society of America, 2007-Present.
- Symposium co-organizer (along with Ron Taylor, Florida Fish & Wildlife Conservation Commission) on the Ecology & Conservation of Snook: What have we learned in the past 20 yrs? American Fisheries Society, Southern Division, Tampa, FL, January 2011.
- Symposium co-organizer (along with K. Petren, University of Cincinnati) on Behavior & Invasions, Ecology Society Annual Meeting, August 2007.

University service

- Member of Environmental Policy Search Committee, SIPA, FIU, 2012-2013.
- Member of Sustainability Degree Committee, FIU, 2011-12.
- Member, Graduate committee, FIU E&E Dept., 2011-2013.
- Member of Urban Ecologist Search committee, FIU, 2011.
- Organizer of SERC Brown Bag Seminar Series, FIU, 2009-2010.
- Member, Undergraduate committee, FIU E&E Dept., 2009-2010.

- Member, Curriculum committee, FIU E&E Dept., 2008-2009.
- Member, Preserve committee, FIU E&E Dept., 2008-2009.
- Member, Internal review committee for Marine Environmental Sciences Master's degree, NSU OC, Fall 2007.
- Chair, Search committee for coastal environmental science position, NSU OC, 2008.
- Member, Search committee for environmental scientist position, NSU FCAS, 2008.
- Member, Research space committee, NSU OC, 2006.

Professional affiliations

- Collaborator, Florida Coastal Everglades LTER
- Ecological Society of America
- American Association for the Advancement of Science
- Estuarine Research Federation
- American Fisheries Society
- Animal Behavior Society