

Curriculum Vitae

Joseph N. Boyer

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Education

Ph.D., 1987, Marine Science, College of William & Mary, Williamsburg, VA
Dissertation: Degradation and Mineralization of Chitin in an Estuary
B.S., 1978, Microbiology, The American University, Washington, DC

Professional Experience

2003-present Associate Director, SERC, Florida International University
2001-present Associate Scholar/Scientist, SERC, Florida International University
1995-2001 Assistant Scholar/Scientist, SERC, Florida International University
1992-1995 Postdoctoral Ecologist, Institute of Ecosystem Studies, Millbrook, NY
Summer 1994 Instructor, Bard College, New York
1990-1992 Aquatic Biologist, Waterline Ltd., Prince Edward Island, Canada
1989-1990 Instructor, Biology Dept., East Carolina University, Greenville, NC
1987-1990 Assistant Scientist, Institute for Coastal and Marine Resources, ECU
1986-1987 Marine Scientist A, Virginia Institute of Marine Science, William & Mary
Summer 1981 Microbiologist, EPA, Monticello Research Station, MN
1979-1986 Graduate Research Assistant, Virginia Institute of Marine Science

Professional Activities

Journal Reviewer

Limnology and Oceanography, Estuaries, Marine Ecology Progress Series, Marine Environmental Research, L&O: Methods, Estuarine, Coastal and Shelf Science, Journal of the World Aquaculture Society, Cary Conference Proceedings, Journal of Environmental Quality, Soil Biology and Biochemistry, Water Resources Research Institute of UNC, Marine and Freshwater Research, Marine Pollution Bulletin

Proposal Reviewer

NSF, NSF Graduate Research Fellowship Program (panel 2002-2004), EPA, NOAA, CICEET, National Undersea Research Program (panel), National Sea Grant Program, CALFED

Ad hoc Reviewer

EPA National Coastal Condition Report II, Comprehensive Everglades Restoration Plan – RECOVER, Army Corp of Engineers Water Quality Model of Florida Bay, Conservancy of Southwest Florida - Estuaries Report Card

Advisory Panels

Florida Coastal Ocean Observing System Caucus (FL COOS), Southeast Coastal Ocean Observing Regional Association (SEACORA), Gulf of Mexico Coastal Ocean Observing System Regional Association (GCOOS-RA), Florida Keys National Marine Sanctuary Technical Advisory Committee, Southeast Florida Coral Reef Initiative Technical

Advisory Committee, Big Cypress Basin Science Panel, Science Group for Biscayne Bay Partnership Initiative, Rookery Bay NERR Research Advisory Committee
RECOVER Southern Estuaries Module, EPA Technical Expert Panel on Gulf of Mexico Estuarine Hypoxia (2000), NOAA Gulf of Mexico Estuarine Eutrophication Assessment (1996)

Science Teams

Southwest Florida Regional Water Quality Monitoring Consortium, Florida Bay Nutrient/Biogeochemistry Team, Florida Bay Physical Science Team, Florida Bay Phytoplankton Team, Florida Bay Modeling Evaluation Group

University Service

Radiation Control Committee, FIU Honors College, Sponsored Research Management Council, Arts & Sciences Council of Chairs and Directors, School of Environmental and Marine Studies Planning Committee

Other activities

Scientific Advisory Council for SeaKeepers International, Manager of SERC water quality monitoring network <http://serc.fiu.edu/wqmnetwork/>

Refereed Publications (excluding abstracts)

1. BOYER, J. N. AND M. IKENAGA. (in prep.). Effects of nutrient fertilization on bacterial community structure in seagrass sediments. *Limnology and Oceanography*.
2. IKENAGA, M. AND J. N. BOYER. (in prep.). Changes in sediment bacterial community structure along the Florida Coastal Everglades marsh-mangrove-seagrass gradient. *Environmental Microbiology*.
3. Gibson, P., J. N. Boyer, and N. P. Smith. (in prep.). Nutrient mass flux between Florida Bay and the Florida Keys National Marine Sanctuary. *Marine Ecology progress Series*.
4. CACCIA, V. G. AND J. N. BOYER. (submitted). A Nutrient Loading Budget for Biscayne Bay, Florida. *Marine Pollution Journal*.
5. COLLADO-VIDES, L., V. GONZALEZ-CACCIA, J. N. BOYER, AND J. W. FOURQUREAN. (submitted). Spatiotemporal distribution of macroalgal groups and its relation with water quality using monitoring data in the Florida Keys National Marine Sanctuary. *Marine Ecology Progress Series*.
6. ROGERS, M. T., J. N. BOYER, AND F. J. JOCHEM. (submitted). Bacterial abundance, growth rates, and grazing losses in Florida Bay. *Aquatic Microbial Ecology*
7. BOYER, J. N. (in press). What we know about water quality of the Florida Keys National Marine Sanctuary. In Keller, B. D., and F. C. Wilmot (eds), Connectivity: Science, People and Policy in the Florida Keys National Marine Sanctuary. Colloquium proceedings, 19-21 August 2004, Key West, FL.
8. BOYER, J. N., S. K. DAILEY, R. JAFFÉ, N. MAIE. (in press). Biological Availability of Organic Nitrogen Along an Oligotrophic Marsh/Mangrove/Estuary Ecotone in South Florida, USA. *Hydrobiologia*.
9. WILLIAMS, C. J., J. N. BOYER, AND F. J. JOCHEM. (in press). Sequential hurricane disturbances to the pelagic Florida Bay microbial system: Consequences for bacterial aminopeptidase activity and microbial nitrogen cycling. *Marine Ecology Progress Series*.
10. MAIE, N., J. N. BOYER, C. YANG, AND R. JAFFÉ. (in press). Spatial, geomorphological, and seasonal variability of CDOM in estuaries of the Florida Coastal Everglades. *Hydrobiologia*.

12. BOYER, J. N. (in press). Shifting N and P limitation along a north-south gradient of mangrove estuaries in South Florida. *Hydrobiologia*.
13. WILLIAMS, C. J., J. N. BOYER, AND F. J. JOCHEM. (in press). Sequential hurricane disturbances to the pelagic Florida Bay microbial system: Consequences for phytoplankton composition and production. *Marine Ecology Progress Series*.
14. BOYER, J. N., S. K. DAILEY, P. J. GIBSON, M. T. ROGERS, D. MIR-GONZALEZ. (in press). The role of DOM bioavailability in promoting cyanobacterial blooms in Florida Bay: Competition between bacteria and phytoplankton. *Hydrobiologia*.
15. BOYER, J. N., AND B. KELLER. (in press). Nutrient Dynamics, p. . In W. K. Nuttle (ed.), Synthesis of Research Activities in Florida Bay. Florida Marine Research Institute Technical Report TR-XX.
16. CHILDERS, D. L., J. N. BOYER, S. E. DAVIS, C. J. MADDEN, D. T. RUDNICK, AND F. H. SKLAR. 2006. Relating precipitation and water management to nutrient concentrations in the oligotrophic "upside-down" estuaries of the Florida Everglades. *Limnology and Oceanography* 51: 602-616.
17. CACCIA, V. G. AND J. N. BOYER. 2005. Spatial patterning of water quality in Biscayne Bay, Florida as a function of land use and water management. *Marine Pollution Bulletin* 50: 1416-1429.
18. KELBLE, C. R., P. B. ORTNER, G. L. HITCHCOCK, AND J. N. BOYER. 2005. A re-examination of the light environment of Florida Bay. *Estuaries* 28: 560-571.
19. SCULLEY, N. M., N. MAIE, S. K. DAILEY, J. N. BOYER, AND R. JAFFÉ. 2004. Photochemical and microbial transformation of plant derived dissolved organic matter in the Florida Everglades. *Limnology and Oceanography* 49: 1667-1678.
20. JAFFÉ, R., J. N. BOYER, X. LU, N. MAIE, C. YANG, N. M. SCULLY AND S. MOCK. 2004. Source characterization of dissolved organic matter in a subtropical mangrove-dominated estuary by fluorescence analysis. *Marine Chemistry* 84: 195-210.
21. FOURQUREAN, J. W., J. N. BOYER, AND M. J. DURAKO. 2003. The influence of water quality on seagrass distribution and abundance in Florida Bay: predictive models from long-term monitoring programs. *Ecological Applications* 13: 474-489.
22. HU, C., F. E. MULLER-KARGER, Z.-P. LEE, K. L. CARDER, B. ROBERTS, J. J. WALSH, R. H. WEISBERG, R. HE, E. JOHNS, T. LEE, N. KURING, J. PATCH, J. IVEY, P. G. COBLE, C. HEIL, G. A. VARGO, R. G. ZEPP, K. STEIDINGER, G. MCRAE, J. BOYER, R. JONES, G. KIRKPATRICK, E. MUELLER, R. PIERCE, J. CULTER, B. KELLER, J. HUNT. 2002. Satellite images track "black water" event off Florida coast. *EOS* 83: 281, 285.
23. BOYER, J. N., AND R. D. JONES. 2001. A view from the bridge: External and internal forces affecting the ambient water quality of the Florida Keys National Marine Sanctuary, p. 601-620. In J. W. Porter and K. G. Porter (eds.), The Everglades, Florida Bay, and Coral Reefs of the Florida Keys. CRC Press, Boca Raton, FL.
24. CHILDERS, D. L., R. D. JONES, J. TREXLER, C. BUZZELLI, J. BOYER, A. EDWARDS, E. GAISER, K. JAYACHANDARAN, D. LEE, J. MEEDER, J. PECHMANN, J. RICHARDS AND L. SCINTO. 2001. Quantifying the effects of low level phosphorus enrichment on unimpacted Everglades wetlands with in situ flumes and phosphorus dosing, p. 127-152. In J. W. Porter and K. G. Porter (eds.), The Everglades, Florida Bay, and Coral Reefs of the Florida Keys CRC Press, Boca Raton, FL.

25. BOYER, J. N., P. STERLING, AND R. D. JONES. 2000. Maximizing information from estuarine and coastal water quality monitoring networks by diverse visualization approaches. *Estuarine, Coastal and Shelf Science* 50: 39-48.
26. BOYER, J. N., J. W. FOURQUREAN, AND R. D. JONES. 1999. Seasonal and long-term trends in water quality of Florida Bay (1989-97). *Estuaries* 22: 417-430.
27. RUDNICK, D., Z. CHEN, D. CHILDERS, T. FONTAINE, AND J. N. BOYER. 1999. Phosphorus and nitrogen inputs to Florida Bay: the importance of the Everglades watershed. *Estuaries* 22: 398-416.
28. BOYER, J. N., AND R. D. JONES. 1999. Effects of freshwater inputs and loading of phosphorus and nitrogen on the water quality of Eastern Florida Bay, p. 545-561. In K. R. Reddy, G. A. O'Connor, and C. L. Schelske (eds.) Phosphorus biogeochemistry in sub-tropical ecosystems. CRC/Lewis Publishers, Boca Raton, Florida.
29. PENNOCK, J. R., J. N. BOYER, J. A. HERERRA-SILVEIRA, R. L. IVERSON, T. E. WHITLEDGE, B. MORTAZAVI, AND F. A. COMIN. 1999. Nutrient behavior and pelagic processes, p. 109-162. In T. S. Bianchi, J. R. Pennock, and R. R. Twilley (eds.), Biogeochemistry of Gulf of Mexico Estuaries. Wiley, New York.
30. BOYER, J. N., J. W. FOURQUREAN, AND R. D. JONES. 1997. Spatial characterization of water quality in Florida Bay and Whitewater Bay by principal component and cluster analyses: Zones of similar influence (ZSI). *Estuaries* 20:743-758.
31. BOYER, J. N., AND P. M. GROFFMAN. 1996. Bioavailability of water extractable organic carbon fractions in forest and agricultural soil profiles. *Soil Biology and Biochemistry* 28:783-790.
32. BOYER, J. N., D. W. STANLEY, AND R. R. CHRISTIAN. 1994. Dynamics of ammonium and nitrate uptake in the Neuse River estuary, NC. *Estuaries* 17:360-370.
33. BOYER, J. N. 1994. Aerobic and anaerobic degradation and mineralization of ¹⁴C-chitin in water column and sediments of the York River estuary, Virginia. *Applied and Environmental Microbiology* 60:174-179.
34. BOYER, J. N., AND W. VAN TOEVER. 1994. Effect of photoperiod on growth of Arctic char (*Salvelinus alpinus*) under commercial grow-out conditions. *Progressive Fish Culturist* 56:44-46.
35. BOYER, J. N., R. R. CHRISTIAN, AND D. W. STANLEY. 1993. Patterns of phytoplankton primary productivity in the Neuse River estuary, North Carolina. *Marine Ecology Progress Series* 97:287-297.
36. BOYER, J. N., AND W. VAN TOEVER. 1993. Reconditioning of Arctic char (*Salvelinus alpinus*) after spawning. *Aquaculture* 110:279-284.
37. CHRISTIAN, R. R., J. N. BOYER, D. W. STANLEY, AND W. M. RIZZO. 1992. Network analysis of nitrogen cycling in an estuary. p. 217-247. In C. Hurst (ed.), Modeling the Metabolic and Physiologic Activities of Microorganisms. Wiley.
38. CHRISTIAN, R. R., J. N. BOYER, AND D. W. STANLEY. 1991. Multi-year distributions of nutrients within the Neuse River estuary, North Carolina. *Marine Ecology Progress Series* 71: 259-274.
39. BOYER, J. N., D. W. STANLEY, R. R. CHRISTIAN, AND W. M. RIZZO. 1988. Modulation of nitrogen loading impacts within an estuary, p. 165-176. In W. L. Lyke and T. H. Hoban (eds.), Proceedings of the Symposium on Coastal Water Resources. American Water Resources Association, Wilmington, NC.

40. BOYER, J. N. 1986. Endproducts of anaerobic chitin degradation as substrates for dissimilatory sulfate reduction and methanogenesis by salt marsh bacteria. *Applied and Environmental Microbiology* 52: 1415-1418.
41. BOYER, J. N., AND H. I. KATOR. 1985. Method for measuring microbial degradation and mineralization of ^{14}C -labeled chitin obtained from the blue crab, *Callinectes sapidus*. *Microbial Ecology* 11: 185-192.

Technical Reports

1. BOYER, J. N., AND P. J. GIBSON. 2005. SFP2002: Nutrient Mass Flux Between Florida Bay and the Florida Keys National Marine Sanctuary. Final Report for NOAA Grant #NA16OP2551. SERC Tech. Report T-. [NA16OP2551_Final_Report.pdf](#)
2. JAFFÉ, R., J. N. BOYER, S. K. DAILEY, N. MAIE, AND D. CHILDERS. 2005. SFP2002: Dissolved Organic Nitrogen in the Taylor Slough, Taylor River and Florida Bay: Molecular Biogeochemistry, Bioavailability, and Potential Contribution to the Microbial Loop. Final Report for NOAA Grant #NA16OP2549. SERC Tech. Report T-. [NA16OP2549_FINAL_REPORT.pdf](#)
3. BOYER, J. N. 2005. FY2004 Annual Report of the South Florida Coastal Water Quality Monitoring Network. SFWMD/SERC Cooperative Agreement #C-15397. SERC Tech. Rep. T-265. [2004CWQMN.pdf](#)
4. BOYER, J. N. 2005. FY2004 Annual Report of the Water Quality Monitoring Project for the Florida Keys National Marine Sanctuary. EPA Agreement #X994621-94-0. SERC Tech. Report T-259. [2004FKNMS.pdf](#)
5. BOYER, J. N., B. PETERSON, AND D. MIR-GONZALEZ. 2005. Water Quality Monitoring and Analysis for the Florida Keys National Wildlife Refuge. Final Report for US-FWS Grant #401812M584. SERC Tech. Report T-244. [GWHR_FINAL_2005.pdf](#)
6. BOYER, J. N., S. K. DAILEY, P. J. GIBSON, M. T. ROGERS, D. MIR-GONZALEZ. 2004. The Importance of Organic Phosphorus in Promoting Cyanobacterial Blooms in Florida Bay: Competition Between Bacteria and Phytoplankton. Final Report for NOAA Grant #NA06OP0517. SERC Tech. Report T-241. [NA06OP0517_FINAL_REPORT.pdf](#)
7. BOYER, J. N., D. MIR-GONZALEZ, AND R. D. JONES. 2004. Final Report of the Benthic Community Monitoring Project for Little Venice. SERC Tech. Report T-231. [LVB2004FINALREPORT.pdf](#)
8. J. N. BOYER. 2004. FY2003 Annual Report of the South Florida Coastal Water Quality Monitoring Network. SFWMD/SERC Cooperative Agreement #C-115397. SERC Tech. Rep. T-227. [2003CWQMN.pdf](#)
9. BOYER, J. N. AND R. D. JONES. 2004. FY2003 Annual Report of the Water Quality Monitoring Project for the Florida Keys National Marine Sanctuary. EPA Agreement #X994621-94-0. SERC Tech. Report T-228. [2003FKNMS.pdf](#)
10. BOYER, J. N., R. D. JONES, AND D. MIR-GONZALEZ. 2004. Final Report of the Water Quality Monitoring Project for Little Venice: Phase 1 Results. EPA Agreement #X994621-94-0. SERC Tech. Report T-218. [LV2003FinalRpt.pdf](#)
11. Boyer, J. N., R. Jaffé, S. K. Dailey, and N. Maie. 2003. Biological Availability of Organic Nitrogen in Florida Bay. Final Report for SFWMD Agreement #C-C20306A. [C-C20306A%20Final%20Report.pdf](#)

12. JONES, R. D., AND J. N. BOYER. 2003. FY2002 Annual Report of the South Florida Estuarine Water Quality Monitoring Network. SFWMD/SERC Cooperative Agreement #C-10244. SERC Tech. Rep. T-199. [2002EWQS.pdf](#)
13. JONES, R. D., AND J. N. BOYER. 2003. FY2002 Annual Report of the Water Quality Monitoring Project for the Florida Keys National Marine Sanctuary. EPA Agreement #X994621-94-0. SERC Tech. Report T-192. [2002FKNMS.pdf](#)
14. GARDINALI, P., Y. CAI, R. JAFFE, AND J. N. BOYER. 2002. Effects of increased urban and agricultural landuse on the anthropogenic loading to Southwest Florida estuaries: Volume I – Technical Report to Collier County. SERC Tech. Report T-191.
15. JONES, R. D., AND J. N. BOYER. 2002. FY2001 Annual Report of the Water Quality Monitoring Project for the Florida Keys National Marine Sanctuary. EPA Agreement #X994621-94-0. SERC Tech. Report T-181. [2001FKNMS.pdf](#)
16. JONES, R. D., AND J. N. BOYER. 2002. FY2001 Annual Report of the South Florida Estuarine Water Quality Monitoring Network. SFWMD/SERC Cooperative Agreement #C-10244. SERC Tech. Rep. T-177. [2001EWQS.pdf](#)
17. BOYER, J. N., AND R. D. JONES. 2002. The State of Florida Bay Water Quality (1989-2001). SERC Technical Report T-174. [StateofFB2001.pdf](#)
18. JAFFÉ, R., D. GENEREUX, J. BOYER, AND P. GARDINALI. 2001. Effects of the Flamingo wastewater treatment facility and Eco Pond on the water quality of Florida Bay. Final report to the National Park Service.
19. JONES, R. D., AND J. N. BOYER. 2001. Cumulative Report of the South Florida Estuarine Water Quality Monitoring Network: FY 2000. SFWMD/SERC Cooperative Agreement #C-10244. [2000ewqs.pdf](#)
20. JONES, R. D., AND J. N. BOYER. 2001. Water quality monitoring project for the Florida Keys National Marine Sanctuary: FY 2000 annual report. US-EPA Agreement #X994621-94-0. [2000FKNMS.pdf](#)
21. BOYER, J. N., AND R. D. JONES. 2001. Trends in water quality of Florida Bay (1989-2000). State of Water Quality in Florida Bay. Report to Everglades National Park.
22. MEEDER, J., AND J. N. BOYER. 2001. Total ammonia concentrations in soil, sediments, surface water, and groundwater along the western shoreline of Biscayne Bay with the focus on Black Point and a reference mangrove site. Final Report to the National Park Service #BISC-N-011.000. [BBAmmoniaRpt2000.pdf](#)
23. JONES, R. D., AND J. N. BOYER. 2000. Cumulative Report of the South Florida Estuarine Water Quality Monitoring Network: FY 1999. NPS/SERC Cooperative Agreement #5280-2-9017 and NPS/SFWMD Cooperative Agreement #C-7919.
24. JONES, R. D., AND J. N. BOYER. 2000. Water quality monitoring project for the Florida Keys National Marine Sanctuary: FY 1999 annual report. US-EPA Agreement #X994621-94-0. [FKNMS99annual.pdf](#)
25. BOYER, J. N., AND R. D. JONES. 1999. Trends in water quality of Florida Bay (1989-1999). State of Florida Bay, NPS - Everglades National Park.
26. JONES, R. D., AND J. N. BOYER. 1999. Cumulative Report of the South Florida Estuarine Water Quality Monitoring Network: FY 1998. NPS/SERP Cooperative Agreement #5280-2-9017 and NPS/SFWMD Cooperative Agreement #C-7919.
27. JONES, R. D., AND J. N. BOYER. 1999. Water quality monitoring project for the Florida Keys National Marine Sanctuary: FY 1998 annual report. US-EPA Agreement #X994621-94-0.

28. JONES, R. D., J. N. BOYER, AND N. BLACK. 1998. Cumulative Report of the South Florida Estuarine Water Quality Monitoring Network: FY 1997. NPS/SERP Cooperative Agreement #5280-2-9017 and NPS/SFWMD Cooperative Agreement #C-7919.
29. JONES, R. D., AND J. N. BOYER. 1998. Water quality monitoring project for the Florida Keys National Marine Sanctuary: FY 1997 annual report. US-EPA Agreement #X994621-94-0.
30. BOYER, J. N., R. D. JONES, AND S. P. KELLY. 1997. Overestimation of chlorophyll *a* concentrations in Florida Bay waters by the fluorometric method (EPA 445.0). Report to Florida Bay Program Management Committee and Science Oversight Panel.
31. JONES, R. D., AND J. N. BOYER. 1997. Water quality monitoring project for the Florida Keys National Marine Sanctuary: FY 1996 annual report. US-EPA Agreement #X994621-94-0.
32. JONES, R. D., AND J. N. BOYER. 1996. Water quality monitoring project for the Florida Keys National Marine Sanctuary: FY 1995 annual report. US-EPA Agreement #X994621-94-0.
33. BOYER, J. N., AND W. VAN TOEVER. 1992. Development and evaluation of closed system technology for commercial aquaculture. Final report to the Industrial Research Application Program, National Research Council, Canada.
34. VAN TOEVER, W., AND J. N. BOYER. 1991. Commercial Arctic char aquaculture manual. Final report to the Atlantic Fisheries Adjustment Program, DFO, Canada.

Research Grants and Contracts

Total Funded Projects – FY05-06 to date: \$1,402,119

1. National Science Foundation/Long Term Ecological Research – Coastal oligotrophic ecosystems research - the Florida Coastal Everglades (FCE). \$700,000 total, \$74,597 to JB (continuing).
2. NOAA/Coastal Ocean Program – CO₂ and O₂ air-water exchange in Florida Bay: Hydrodynamic controls on the gas transfer velocity (k) and linkages to biological production. \$31,510 (continuing).
3. NOAA/COP – Seagrass derived dissolved organic matter in Florida Bay: Molecular biogeochemistry and microbial availability. \$73,000, NOAA-COP (continuing).
4. US-Environmental Protection Agency – Water quality monitoring for the Florida Keys National Marine Sanctuary. \$350,000 (continuing).
5. Department of the Interior/National Park Service – Developing numeric non-degradation water quality standards for Biscayne national Park. \$58,700 (continuing)
6. South Florida Water Management District – An integrated water quality monitoring program for the South Florida coastal waters. \$676,662 (continuing).
7. Florida Department of Environmental Protection – Water quality monitoring in Little Venice. \$13,650 (additional).
8. NOAA-CSCOR - SFP 2006: Volume Transport and Nutrient Loading to Florida Bay through East Cape Channel. \$124,000 (new).

Total Funded Projects – FY04-05: \$1,516,592

1. NOAA/Coastal Ocean Program – CO₂ and O₂ air-water exchange in Florida Bay: Hydrodynamic controls on the gas transfer velocity (k) and linkages to biological production. \$31,510 (new).
2. NOAA/COP – Seagrass derived dissolved organic matter in Florida Bay: Molecular biogeochemistry and microbial availability. \$73,000, NOAA-COP (new).

3. National Science Foundation/Long Term Ecological Research – Coastal oligotrophic ecosystems research - the Florida Coastal Everglades (FCE). \$700,000 total, \$57,138 to JB (continuing).
4. US-Environmental Protection Agency – Water quality monitoring for the Florida Keys National Marine Sanctuary. \$375,000 (continuing).
5. South Florida Water Management District – An integrated water quality monitoring program for the South Florida coastal waters. \$647,244 (continuing).
6. US Congressional Appropriation (through EPA) for Research in restoration ecology of the Florida Everglades. \$200,000 (new).
7. Department of the Interior/National Park Service – Developing numeric non-degradation water quality standards for Biscayne national Park. \$32,700 (new)
8. Florida Department of Environmental Protection – Water quality monitoring in Little Venice. \$100,000 (new)

Total Funded Projects – FY03-04: \$1,631,874

1. SFWMD – Biological availability of organic nitrogen in Florida Bay. \$45,000 (new).
2. NSF/LTER – Coastal oligotrophic ecosystems research - the Florida coastal Everglades (FCE). \$700,000 total, \$62,984 to JB (continuing).
3. NOAA/COP – Dissolved organic nitrogen in the Florida Coastal Everglades: molecular biogeochemistry, bioavailability and potential contribution to the microbial loop. \$160,000 (continuing).
4. NOAA/COP – Nutrient mass fluxes between Florida Bay and the Florida Keys National Marine Sanctuary through Florida Keys passes. \$114,002 (continuing).
5. US-EPA – Water quality monitoring for the Florida Keys National Marine Sanctuary. \$350,000 (continuing).
6. SFWMD – An integrated water quality monitoring program for the South Florida coastal waters. \$628,392 (continuing).
7. SFWMD – Florida Keys National Marine Sanctuary water quality protection program monitoring project. \$100,000 (continuing).
8. SFWMD – Benthic community monitoring for the Little Venice sewage collection and treatment project in Marathon, Florida. \$50,000 (continuing).
9. Monroe County – Little Venice water quality monitoring. \$121,496 (continuing).

Total Funded Projects – FY02-03: \$1,400,092

1. NOAA/COP – Coastal Ocean Program. Dissolved organic nitrogen in the Florida Coastal Everglades: molecular biogeochemistry, bioavailability and potential contribution to the microbial loop. \$160,000 (new).
2. NOAA/COP – Coastal Ocean Program. Nutrient mass fluxes between Florida Bay and the Florida Keys National Marine Sanctuary through Florida Keys passes. \$114,002 (new).
3. US-Fish and Wildlife Service – Survey of marine sponge distribution and biomass in the Florida Keys Wildlife Refuge. \$10,000 (new).
4. NSF/LTER – Coastal oligotrophic ecosystems research - the Florida coastal Everglades (FCE). \$700,000 total, \$58,090 to JB (continuing).
5. NSF/LTER – A cross-site comparison of the relative importance of organic matter vs. local environmental conditions on microbial decomposer communities. \$299,959 (collaborator).

6. US-EPA – Water quality monitoring for the Florida Keys National Marine Sanctuary. \$250,000 (continuing).
7. SFWMD – An integrated water quality monitoring program for the South Florida coastal waters. \$558,000 (continuing).
8. SFWMD – Florida Keys National Marine Sanctuary water quality protection program monitoring project. \$100,000 (continuing).
9. SFWMD – Benthic community monitoring for the Little Venice sewage collection and treatment project in Marathon, Florida. \$50,000 (continuing).
10. Monroe County – Little Venice water quality monitoring. \$100,000 (continuing).

Total Funded Projects –FY01-02: \$1,143,176

1. SFWMD – Florida Keys National Marine Sanctuary water quality protection program monitoring project. \$100,000 (new).
2. SFWMD – Benthic community monitoring for the Little Venice sewage collection and treatment project in Marathon, Florida. \$50,000 (new).
3. Monroe County – Little Venice water quality monitoring. \$100,000 (new).
4. NSF/LTER – Coastal oligotrophic ecosystems research - the coastal Everglades (FCE). \$700,000 total, \$59,576 to JB (continuing).
5. NSF/LTER – A cross-site comparison of the relative importance of organic matter vs. local environmental conditions on microbial decomposer communities. \$299,959 (collaborator).
6. NOAA/COP – The importance of organic phosphorus in promoting cyanobacterial blooms in Florida Bay: competition between bacteria and phytoplankton. \$110,120 (continuing).
7. US-EPA – Water quality monitoring for the Florida Keys National Marine Sanctuary. \$250,000 (continuing).
8. SFWMD – An integrated water quality monitoring program for the South Florida coastal waters. \$473,480 (continuing).

Total Funded Projects – FY00-01: \$1,288,946

1. NSF/LTER – Coastal oligotrophic ecosystems research - the coastal Everglades (FCE). \$672,915 total, \$48,896 to JB (new).
2. NSF/LTER – A cross-site comparison of the relative importance of organic matter vs. local environmental conditions on microbial decomposer communities. \$299,959 (collaborator).
3. NOAA/COP – The importance of organic phosphorus in promoting cyanobacterial blooms in Florida Bay: competition between bacteria and phytoplankton. \$110,120 (new).
4. Collier County – Effects of increased urban and agricultural landuse on the anthropogenic loading to southwest Florida estuaries: baseline information to address changing watersheds. \$88,000 (new).
5. FDEP – Water quality sampling program for the Little Venice sewage collection and treatment project in Marathon, Florida. \$91,000 (new).
6. US-EPA – Water quality monitoring for the Florida Keys National Marine Sanctuary. \$400,000 (continuing).
7. SFWMD – An integrated water quality monitoring program for the South Florida coastal waters. \$550,930 (continuing).

Total Funded Projects - FY99-00: \$1,096,323

1. SFWMD – An integrated water quality monitoring program for the Cape Romano to Pine Island Sound region. \$128,000 (new).
2. DOI/NPS – Total ammonia concentrations in soil, sediments, surface water, and groundwater along the western shoreline of Biscayne Bay with the focus on Black Point and a reference mangrove site. \$49,946 (new).
3. DOI/NPS – Effects of the Flamingo wastewater treatment facility and Eco Pond on the water quality of Florida Bay. \$74,895 (new).
4. DOI/NPS – The statistical relationship between benthic habitats and water quality in Florida Bay: an ecologically relevant performance measure for responding to the USACOE Restudy. \$28,942 (new).
5. US-EPA – Water quality monitoring for the Florida Keys National Marine Sanctuary. \$450,000 (continuing).
6. SFWMD – An integrated water quality monitoring program for the South Florida coastal waters. \$364,597 (continuing).

Total Funded Projects - FY98-99: \$833,540

1. US-EPA – Water quality monitoring for the Florida Keys National Marine Sanctuary. \$490,000 (continuing).
2. SFWMD – An integrated water quality monitoring program for the South Florida coastal waters. \$343,540 (continuing).

Total Funded Projects - FY97-98: \$789,030

1. US-EPA – Water quality monitoring for the Florida Keys National Marine Sanctuary. \$450,000 (continuing).
2. SFWMD – An integrated water quality monitoring program for the South Florida coastal waters. \$339,030 (continuing).

Total Funded Projects - FY96-97: \$769,022

1. US-EPA – Water quality monitoring for the Florida Keys National Marine Sanctuary. \$400,000 (new).
2. FDEP – Ambient water quality monitoring in Western Florida Bay. \$29,992 (new).
3. SFWMD – An integrated water quality monitoring program for the South Florida coastal waters. \$339,030 (continuing).

Funded Projects - Prior to 1996

1. Canadian Department of Fisheries and Oceans, Atlantic Fisheries Adjustment Program – Effect of light intensity on growth of Arctic char (*Salvelinus alpinus*) under commercial grow-out conditions. 1992 - \$14,000.
2. Canadian Department of Fisheries and Oceans, Atlantic Fisheries Adjustment Program – Reconditioning of Arctic char (*Salvelinus alpinus*) after spawning. 1991 - \$40,000.
3. Canadian Department of Fisheries and Oceans, Atlantic Fisheries Adjustment Program – Effect of photoperiod on growth of Arctic char (*Salvelinus alpinus*) under commercial grow-out conditions. 1991 - \$17,000.
4. National Research Council, Canada, Industrial Research Assistance Program – Development and evaluation of closed system technology for commercial aquaculture. 1990 - \$64,000.

5. Department of Fisheries and Oceans, Atlantic Fisheries Adjustment Program – Effect of feed type on low temperature growth and flesh quality of Arctic char. 1990 - \$31,000.
6. North Carolina Sea Grant College Program – Effects of increased nitrogen loading on estuarine primary productivity and microbial nitrogen cycling. 1990 - \$88,000
7. North Carolina Sea Grant College Program – Effect of increased nitrogen loading on estuarine primary productivity and nitrogen cycling: an experimental approach using the MERL mesocosms. 1988 - \$52,000.
8. Virginia Sea Grant College Program – Potential of fermenting crab waste for production of methane. 1984 - \$5,000.

Teaching Experience

Florida International University
 Microbial Ecology (graduate)
 Institute of Ecosystem Studies
 Fundamentals of Ecosystem Ecology (graduate)
 Bard College
 Ecosystem Ecology (graduate)
 East Carolina University
 Environmental Biology (undergraduate)
 Man and the Sea Seminar (graduate)
 Principles of Biology (undergraduate)
 Survey of the Coastal Marine Environment (undergraduate)
 Microbial Ecology (graduate) - lectures
 College of William & Mary
 Ecosystem Modeling (graduate) – selected lectures

Graduate Student Supervision

Lonnie Kaczmarzsky	Ph. D. (FIU Biology – current, committee member)
Ania Wachnicka	Ph.D. (FIU Biology – current, committee member)
Jun Shi	M.S. (FIU Chemistry – current, committee member)
Clayton Williams	M.S. (FIU Marine Biology – current, committee member)
Danielle L. Mir	M.S. (FIU Biology – current, major professor)
Matt Rogers	M.S. (FIU Biology – 2005)
Patrick Gibson	M.S. (FIU Biology – 2005)
Kathryn Stanaway	M.S. (FIU Environmental Studies – 2005)
Ralph Mead	Ph.D. (FIU Chemistry – 2003)
Chris Kelble	M.S. (Univ. Miami – 2003)
Meredith Ferdie	M.S. (FIU Biology – 2002)
Susan Dailey	Ph.D. (FIU Biology – 2001)
Greg Lackey	M.S. (East Carolina Univ. – 1992)
Wade Moore	M.S. (East Carolina Univ. – 1990)

Selected Scientific Presentations (of 78)

1. Bioavailability of Dissolved Organic Nitrogen in Florida Bay, Florida bay and Adjacent Marine Systems Science Conference – Duck Key, FL.

2. Bioavailability of DON from Everglades Marsh, Mangroves, and Florida Bay, ERF Meeting – Norfolk, VA.
3. Nutrient mass flux through Long Key Channel, Florida Bay. ERF Meeting – Norfolk, VA.
4. Spatial Changes in Sediment Bacterial Communities in the Everglades and Florida Bay. ERF Meeting – Norfolk, VA.
5. Effect of landuse and water management on water quality of Biscayne Bay, USA, ASLO Aquatic Sciences Meeting – Feb. 20-25, 2005.
6. Bacterial abundance, growth rates, and grazing losses in Florida Bay, ASLO Aquatic Sciences Meeting – Feb. 20-25, 2005.
7. The role of microbial mats in the internal nutrient cycling of Florida Bay, FCE-LTER All Scientists Meeting – Mar 25, 2005.
8. Long term water quality monitoring in South Florida. Coral Reef Joint Task Force Special Session, Miami Beach, FL. – Sept. 2004.
9. Water Quality Issues in the FKNMS. Keys Connectivity Meeting, Key West, FL. Aug. 2004
10. Biological availability of dissolved organic nitrogen entering Florida Bay from the Everglades and fringing mangroves. ASLO Meeting, Savannah, GA. - June 2004.
11. Microbial Dynamics in Florida Bay: A New Paradigm for the Microbial Loop in Oligotrophic Marine Waters. Joint Conference on the Science and Restoration of the Greater Everglades and Florida Bay Ecosystem, Palm Harbor, FL. - April 2003.
12. Uncoupling autotrophic and heterotrophic microbial response to increased DOM in Florida Bay. Joint Conference on the Science and Restoration of the Greater Everglades and Florida Bay Ecosystem, Palm Harbor, FL. - April 2003.
13. Trace Determination of Caffeine in Coastal Waters from the Florida Keys. SETAC, Nov. - 2002.
14. Microbial dynamics in Florida Bay and the Florida Coastal Everglades LTER. Southeastern Estuarine Research Society, Myrtle Beach, SC. - May 2002
15. Influence of freshwater discharge and nutrient loading on inshore benthic community structure in Biscayne Bay, FL. Estuarine Research Federation, St. Pete Beach, FL. - 2001
16. A LOICZ nutrient budget for Florida Bay. In the workshop: Comparative Analysis of Biogeochemical Budgets for Estuaries of the World," at the Estuarine Research Federation, St. Pete Beach, FL. - 2001
17. Interfacing Ecological Research with Resource Management: Examples from South Florida Reefs and Estuaries. Invited seminar presented at the Virginia Institute of Marine Science, VA. - 2001
18. Trends in water quality of Florida Bay. Florida Bay Science Conference, Key Largo, FL. - 2001
19. We Already know About the Water Quality/Nutrient Status of the Florida Coastal Everglades LTER and Its Environs. LTER All Scientists Meeting, Snowbird, UT. - 2000
20. Relative influence of Florida Bay on the water quality of the Florida Keys National Marine Sanctuary. Florida Bay Science Conference, Key Largo, FL.- 1999
21. An ecotone of estuaries? Influence of watershed characteristics on the mangrove estuaries in southwest Florida. ERF, New Orleans, LA. - 1999
22. A view from the bridge: the influence of Biscayne Bay, Florida Bay, and the Southwest Shelf on the reefs in the Florida Keys National Marine Sanctuary. ASLO/ESA, St. Louis, MO. - 1998

23. Influence of coastal geomorphology and watershed characteristics on the water quality of mangrove estuaries in the Ten Thousand Islands - Whitewater Bay complex, Florida. Florida Bay Science Conference, Miami, FL. – 1998
24. Temporal trends in water chemistry of Florida Bay (1989-1995): Influence of water management activities. ASLO Aquatic Sciences Meeting, Santa Fe, NM. – 1997
25. The Florida Bay water quality monitoring program: assessing status and trends. Florida Bay Science Conference - Key Largo, FL. – 1996
26. Spatial analysis of long term water quality data from Florida Bay. Estuarine Research Federation - Corpus Christi, TX. – 1995
27. Benthic and pelagic community production and respiration in the Neuse River estuary, NC: a nearly balanced system? Estuarine Research Federation - Corpus Christi, TX. – 1995
28. Alternate stable states of the phytoplankton community of the Neuse River estuary, NC. Biology Dept. Seminar Series, FIU, Miami, FL. – 1995
29. Organic carbon dynamics in groundwater beneath agricultural and forested ecosystems. Second International Conference on Groundwater Ecology - Atlanta, GA. – 1994
30. Contribution of bacterial production to the carbon and nitrogen demand of an estuary. Estuarine Research Federation - Hilton Head, SC. – 1993
31. Phytoplankton primary productivity and microbial nitrogen demand in the Neuse River estuary, North Carolina. American Society of Limnology and Oceanography - Williamsburg, VA. – 1990
32. Importance of particulate chitin mineralization in estuarine ecosystems. Gordon Conference - New London, CT. – 1987
33. Nitrification rate determinations in the water column of the upper James River, VA: A stable isotope (¹⁵N) approach. Atlantic Estuarine Research Society - Newark, DE. – 1985
34. Chitin as sole source of carbon and hydrogen for methanogenesis and sulfate reduction by salt marsh bacteria. American Society for Microbiology - New Orleans, LA. – 1985
35. Fate and effects of p-cresol in outdoor stream channels: reproducibility in microcosms. SETAC - Washington, DC. - 1981

Selected Presentations at Regional Meetings (of 51)

1. FKNMS Technical Advisory Committee, Marathon – May 4, 2005.
2. Southeast Florida Coral Reef Initiative TAC Meeting, St. Petersburg – Apr. 19, 2005.
3. Science Coordination Group Meeting, Miami – Apr. 6, 2005.
4. FKNMS Steering Committee Meeting, Key Colony Beach – Mar. 4, 2005.
5. South Florida Estuarine Water Quality Monitoring Network Presentation, Big Cypress Basin Board Meeting, Naples – Feb. 18, 2005.
6. Florida Bay – Florida Keys Feasibility Study modeling sub-team meeting. May. 4, 2004 – Key Largo
7. FKNMS TAC Meeting. May. 25, 2004 – Marathon
8. Big Cypress Basin Board Meeting, April 23, 2004 – Naples
9. FKNMS WQPP Steering Committee Meeting. Marathon, FL - Mar. 2003.
10. Florida Keys National Marine Sanctuary, Steering Committee Meeting. Marathon, FL – Aug 21, 2002.
11. National Water Quality Monitoring Council. FMRI, St. Petersburg, FL – Feb. 5, 2002.
12. RET Workshop on Hydrologic and Other Performance Measures for Biscayne and Florida Bays to Model for Alternative Evaluation. SFWMD, Davie, FL – Dec. 11, 2001.

13. FKNMS: An Ecological Report Card. NOAA, Silver Springs, MD – Dec. 6, 2001.
14. NOAA National Undersea Research Center – Aquarius Lesson Plan Development Workshop. Key Largo, FL – Dec. 1, 2001.
15. LTER Nutrient & DOM Working Group Meeting. Miami, FL – Oct. 11, 2001.
16. SW Florida Regional Water Quality Monitoring Consortium. Naples, FL – Aug. 22, 2001.
17. Florida Keys National Marine Sanctuary, Steering Committee Meeting. Marathon, FL – Aug 1, 2001.
18. FKNMS Overview of Research and Monitoring Programs, Dec. 2000, Marathon
19. SW Florida Regional WQ Monitoring Consortium Meeting. Jun. 2000, Naples.
20. Southern Golden Gate Estates Restoration Workshop. Jun. 2000, Naples.
21. FKNMS WQPP Steering Committee Meeting. Mar. 2000, Marathon.
22. Florida Bay standard dataset workshop. Mar. 2000, Homestead.
23. FKNMS Technical Advisory Meeting. Feb. 2000, Marathon.
24. Big Cypress Basin Board Meeting. Jan. 2000, Naples.
25. Collier County Commission. Jan. 2000, Naples.
26. Water quality monitoring integration plan for Big Cypress Basin at BCB Board Meeting. Jun. 1999, Collier County Courthouse, Naples.
27. Water Quality Monitoring Project update at FKNMS Steering Committee Meeting. Feb. 1999, Duck Key.
28. Big Cypress Basin Board Meeting. Jan. 1999 - Naples, FL.
29. Collier County Commission. Jan. 1999 - Naples, FL.
30. WQ data at PMC Biogeochemistry and Phytoplankton Working Group meeting. Nov. 1998, NOAA/AOML, Key Biscayne.
31. Water Quality Monitoring Project update at FKNMS Technical Advisory Committee Meeting. Nov. 1998, Marathon.
32. Interviewed on “Tropical Ecology” TV show about water quality of Florida Bay and surrounding coastal waters. Sep. 1998 - Miami, FL

Awards and Honors

Helms Faculty Research Award presented by Sigma Xi (1994).

Professional Societies

American Geophysical Union, American Institute of Biological Sciences, American Society of Limnology and Oceanography, American Society for Microbiology, Association of Marine Laboratories of the Caribbean, Ecological Society of America, Estuarine Research Federation
National Association of Marine Laboratories