Dr. Shirley Baker

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School of Forest, Fisheries, and Geomatics Sciences
Fisheries and Aquatic Sciences Program
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EDUCATION

Ph.D., Marine Science, The College of William and Mary, 1994

M.S., Biology, University of Oregon, 1988

B.S., Biology, Seattle Pacific University, 1986

ACADEMIC APPOINTMENTS

Professor, School of Forest, Fisheries, and Geomatics Sciences, University of Florida, 2021-Present

Associate Professor, Fisheries and Aquatic Sciences, University of Florida, 2008-2021

Assistant Professor, Fisheries and Aquatic Sciences, University of Florida, 1999-2008

Research Assistant Professor, Ecology and Evolution, State University of New York, 1996-1999

Visiting Assistant Professor, Department of Biology, Macalester College, 1993-1996

ADMINISTRATIVE AND LEADERSHIP ROLES

Associate Director, Fisheries and Aquatic Sciences Program, School of Forest, Fisheries, and Geomatics Sciences, University of Florida, 2024-Present

Associate Program Leader, Natural Resources Extension, Institute of Food and Agricultural Sciences, University of Florida, 2021-2023

Chair, Faculty Assembly, UF Institute of Food and Agricultural Sciences, 2019-2020

RESEARCH INTERESTS

- Shellfish physiology and aquaculture
- Climate resilience and thermal tolerance in clams
- Ecosystem services
- Invasive species

GRANTS AND FUNDING (since 2020)

Co-PI, "Shellfish Aquaculture in Florida: A Workshop to Identify Emerging Opportunities for Expanding Aquaculture Research and Extension," Florida Sea Grant, $14,741, 2024-2025

PI on Subaward, "Thermal Tolerances and Physiological/Behavioral Responses of Clams: Addressing Summer Mortalities of Cultured Shellfish," Florida Sea Grant, $10,000, 2024-2025

Co-PI, Understanding and Managing Effects of Nuisance and Phytophagous Snail and Slug Species in Horticultural Crops: Research and Extension Planning Project," USDA, $49,956, 2024-2025

PI, "FY24 Wading Bird and Waterfowl Prey Analysis," South Florida Water Management District, $6,240, 2024

PI, "Impacts of Anthropogenic Sound on Bivalve Behavior," Florida Sea Grant, $10,000, 2023-2024

Co-PI, "2023 Graduate Student Coastal and Ocean Fellowship Competition," Florida Sea Grant, $25,000, 2023-2024

Co-Technical Lead, "Using Collaborative Open Science Tools to Improve Engagement with the Ecology of the Guana River Estuary," $99,988, National Estuarine Research Reserve System, 2022-2024

Co-PI, "A Holistic Assessment of Using Shellfish Aquaculture for Water Quality Improvement Initiatives in Florida," The Nature Conservancy, $99,964, 2021-2023

Co-PI, "Exploring the potential for upstream copper-based algicide application to exacerbate downstream eutrophication and compromise shellfish production and safety in Florida estuaries," Florida Sea Grant, $5,000, 2021

Co-PI, "The Current and Potential Role of Shellfish in Improving Water Quality Along a Gradient of Contaminants, Nutrients, and Salinity in the Guana River Estuary," National Estuarine Research Reserve System, $594,966, 2020-2024

PI, "Evaluating the Abiotic and Biotic Factors Influencing Hard Clam Seed Production in Florida," Florida Sea Grant, $199,752, 2020-2023

Co-PI, "Prescribed Fire Effects on Wetland Ecosystems in Southeastern Pine Savannas," University of Florida, Institute of Food and Agricultural Sciences, $49,956, 2020-2022

PUBLICATIONS (Since 2020)

Book Chapters

Baker, S.M. and J. Dill-Okubo. 2024. Gonadal Neoplasia. *In* Bivalve Diseases. R. Smolowitz (ed). Elsevier.

Peer-Reviewed

Alford, K.R., N.L.P. Stedman, J.C. Bunch, **S. Baker**, and T.G. Roberts. 2024. A paradigm shift towards systems thinking in colleges of agriculture. *NACTA Journal* 68: 227-236.

Alford, K. , N. Stedman, J.C. Bunch, **S. Baker**, and G. Roberts. 2024. Exploring factors that contribute to the development of systems awareness. *The Journal of Agricultural Education and Extension* DOI: 10.1080/1389224X.2024.2351568

Alford, K.R., N.L.P. Stedman, J.C. Bunch, **S. Baker**, and T.G. Roberts. 2024. Exploring systems thinking typologies and paradigms. *SAGE Open* DOI: 10.1177/21582440241255180

Alford, K.R., N.L.P. Stedman, J.C. Bunch, **S. Baker**, and T.G. Roberts. 2024. Real-world experiences in higher education: Contributing to the developing a systems thinking paradigm. *Journal of Experiential Education* DOI: 10.1177/10538259241259626

Barnett, C.P. , J. Loizzo, J.C. Bunch, **S. Baker**, and M.P. Anderson. 2024. Influence of charismatic animals on youths' environmental knowledge and connection to water through the application of virtual reality. *The Journal of Environmental Education* DOI: 10.1080/00958964.2024.2349561

Krebs, C.L., J. Loizzo, C.P. Barnett, and **S. Baker**. 2024. Climate change cyber activism: A visual communication content analysis of youth activist Greta Thunberg's Instagram. *International Journal of the Arts, Humanities and Social Sciences*. 10.56734/ijahss.v5nlal

Lieurance, D., S. Canavan, D.C. Behringer, A.E. Kendig, C.R. Minteer, L.S. Riesinger, C.M. Ramagosa, S.L. Flory, J.L. Lockwood, P.J. Anderson, **S.M. Baker**, J. Bojko, K.E. Bowers, K. Canavan, K. Carruthers, W.M. Daniel, D.R. Gordon, JE. Hill, J.G. Howeth, B.V. Iannone III, L. Jennings, L.A. Gettys, E.M. Kariuki, J.M. Kunzer, H.D. Laughinghosue IV, N.E. Mandrak, S. McCann, T. Morawo, C.R. Morningstar, M. Neilson, T. Petri, I.A. Pfingsen, R.H. Reed, L.W. Waters, and C. Wanamaker. 2023. Identifying invasive species threats, pathways, and impacts to improve biosecurity. *Ecosphere* 2023;14:e4711.

Bennett, H., M. Griffin, R. Francis-Floyd, **S. Baker**, A. Camus, C. Pelton, and J. Dill-Okubo. 2023. *Vibrio harveyi* in a Caribbean spiny Lobster (*Panulirus argus*) with hepatopancreas necrosis. *Veterinary Pathology* 60(5): 618-623.

Bai, J., **S.M. Baker**, R.M. Goodrich-Schneider, N. Montazeri, and P.J. Sarnoski. 2021. Development of a rapid colorimetric strip method for determination of volatile bases in mahi-mahi and tuna. Journal of Food Science 86: 2398-2409.

Iannone, B. V., III, S. Carnevale, M. Main, J. E. Hill, J. B. McConnel, S. A. Johnson, S.F. Enloe, M. Andreu, E. C. Bell, J. P. Cuda, and **S. M. Baker**. 2020. Invasive species terminology: Standardizing for stakeholder education. Journal of Extension 58(3): v58-3a3.

Extension Publications

Donnarumma, L., J. Henry, S. Krueger, L. Krimsky, **S. Baker**, J. Patterson. 2024. Ocean acidification: Effects on sponges. Electronic Data Information source (EDIS), UF/IFAS Extension. FA263

Melkani, S., N. Manirakiza, **S.M. Baker**, and J.H. Bhadha. 2023. Current and emerging protocols for carbon measurement in agricultural soils. Electronic Data Information source (EDIS), UF/IFAS Extension. SS721

Donnelly, H., A. Smyth, **S. Baker**, L. Reynolds, and A. Collins. 2023. How do oysters remove nitrogen? Electronic Data Information source (EDIS), UF/IFAS Extension. SS711

Love, G., **S. Baker**, and E.V. Camp. 2021. Oyster-predator dynamics and climate change. Electronic Data Information source (EDIS), UF/IFAS Extension. FA228

Iannone, B.V. III, E.C. Bell, S. Carnevale, J.E. Hill, J. McConnell, M. Martin, S.F. Enloe, S.A. Johnson, J.P. Cuda, **S.M. Baker**, and M. Andreu. 2021. Standardized invasive species terminology for effective outreach education. Electronic Data Information source (EDIS), UF/IFAS Extension. FR439

Francis-Floyd, R., J. Landsberg, R. Yanong, Y. Kiryu, **S. Baker**, D. Pouder, W. Sharp, G. Delgado, N. Stacy, T. Waltzek, H. Walden, R. Smolowitz, and G. Beck. 2020. Diagnostic methods for the comprehensive health assessment of the long-spined sea urchin, *Diadema antillarum*. Electronic Data Information source (EDIS), UF/IFAS Extension. VM 244

TEACHING (current)

Instructor, FNR6668 Natural Resources in a Changing Climate, 3 credits

Instructor, FAS4932/FAS6154 Marine Adaptations, 3 credits

Co-Instructor, FAS6256/VEM 5912 Fish and Aquatic Invertebrate Histology, 3 credits

Co-Instructor VME4013/VME6011/VEM5372 Aquatic Wildlife Health Issues, 3 credits

GRADUATE STUDENT MENTORSHIP (totals)

Graduate students advised: 23 MFAS, 12 MS, 3 PhD

Committee member: 31 MFAS, 19 MS, 32 PhD

PROFESSIONAL DEVELOPMENT (since 2020)

Advanced Leadership for Academics and Professionals (ALAP), University of Florida, 2024-2025

LEAD IFAS, Cohort 13, UF Institute of Food and Agricultural Sciences. 2021

AWARDS AND HONORS (since 2020)

Member, Sigma Xi, 2004-Present, The Scientific Research Honor Society

Long Publication – Bronze Award, National Association of Natural Resource Extension Professionals, 2022, Awarded to B.V. Iannone III, E.C. Bell, S. Carnevale, J.E. Hill, J.B. McConnell, M. Main, S.F. Enloe, S.A. Johnson, J.P. Cuda, S.M. Baker, and M. Andreu for "Standardized Invasive Species Terminology."

Educator Award, North American Colleges and Teachers of Agriculture, 2021, Recognizes individuals whose efforts represent the very best in agricultural higher education.

Long Publication – 2nd Place, Florida Association of Natural Resource Extension Professionals, 2021, Awarded to B.V. Iannone III, S. Carnevale, M. Main, J.E. Hill, J.B. McConnell, S.A. Johnson, S.F. Enloe, M Andreu, E.C. Bell, J.P. Cuda, S.M. Baker for "Invasive Species Terminology: Standardizing for Stakeholder Education."

Adaptive Teaching, School of Forest, Fisheries, and Geomatics Sciences, 2021, Nominated by students. Highlights members of the SFFGS community who have gone above and beyond in adapting with new methods of teaching in the past year.