

NSF - CURRICULUM VITAE (January 2022)

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EXPERTISE: Kevin L. Erwin is an internationally recognized ecosystem ecologist specializing in large-scale ecological restoration, biodiversity conservation, watershed evaluation and management to improve the functional capacity of watersheds, improve livelihoods and mitigate the impacts of climate change.

CURRICULUM VITAE

B.S. (Zoology), University of South Florida (USF), 1973; Research Associate, USF (1971-1973); Marine Research Scientist, National Marine Fisheries Service Biological Laboratory (1971-1973); Marine Biologist/Area Supervisor, Florida Department of Natural Resources (1974-1975); Ecologist, Florida Department of Environmental Regulation (1975-1980); President and Principal Ecologist, Kevin L. Erwin Consulting Ecologist, Inc., (1980 - present); Graduate Faculty, Department of Ecology and Environmental Studies, Florida Gulf Coast University (2020 - present); Master of Ecological Restoration, Peoples Republic of China (2013 - present).

STATEMENT OF ACCOMPLISHMENTS

Since 1974 Kevin Erwin has evaluated, designed, managed, constructed and monitored hundreds of wetlands ecological restoration and management, water management and

biodiversity projects around the world for local, state and national governments, industry and NGOs. He pioneered the science and practice of wetland restoration and creation and ecological engineering. He is considered an international authority on these subjects, troubleshooting for UN agencies and testifying in international courts and tribunals.

Kevin is an Ecological Society of America Certified Senior Ecologist (1985). He was a member of the ESA Board of Professional Certification where he served as chairman in 2003–04. At that time Kevin worked to implement new initiatives for certified ecologists and organized evening sessions at two annual ESA meetings (Professional Certification in the Workplace-2003 and Ethics and Ecologists-2004). Kevin Erwin has also testified in congressional hearings on behalf of the ESA and other organizations as an expert on wetlands. He is also certified by the Society of Wetland Scientists as a Professional Wetland Scientist (1984).

A few of his current and recent projects include: an international wetland restoration and climate change mitigation project for Ramsar and IUCN in west Africa; lead scientist on several mega-watershed projects including: the Density Reduction-Groundwater Resource study in southwest Florida, USA; lead scientist on the evaluation of phosphate mining and reclamation impacts on the Peace River watershed, USA; lead the design and permitting of Florida Gulf Coast University (FGCU) for the State of Florida Board of Regents, teaching water management and wetland restoration courses and workshops for national governments and NGOs; design and restoration of two (public/private) wetland mitigation banks, coordinating the ecological assessments and coastal wetland restoration efforts in thirteen nations following the 2004 Indian Ocean tsunami; leading a team of conservation agencies on biodiversity projects in the Belum Tropical Rainforest and Taman Negara National Park in Malaysia; development of the Ontario (Canada) Headwaters Restoration Initiative, and lead wetland scientist, expert witness and advisor to the Republic of Costa Rica.

In 2014, Kevin Erwin implemented a water resource restoration and management initiative in the People's Republic of China. This work involved mentoring graduate students, post docs and faculty, lecturing and networking with the top-tier universities, state-owned enterprises, central, provincial, and local governments. Based in Shanghai, he conducted ecological planning and restoration projects currently underway in various provinces.

Kevin is currently leading a research initiative in the oligotrophic wetlands of the historical Everglades for local government. This research includes designing and implementing biodiversity studies, periphyton and water quality analysis, hydrological modeling, and a comprehensive study of a previously undescribed population of the

Everglades Snail Kite. The results of this work will provide the science to protect and manage this area.

In early 2019 FGCU honored Kevin Erwin by creating the Erwin Environmental Ecology Collection. His works will serve as the foundation for this environmental research collection at FGCU Library's Archives and Special Collections.

In 2020 the Southwest Florida Community Foundation honored Kevin Erwin with distinction as Trustee Emeritus.

Kevin is currently working with a publisher on "A Synthesis of Global Mangrove Restoration Literature". This work will be very useful for researchers, practitioners and land managers reporting and discussing work by country, restoration practice, and ecological success.

Kevin has organized numerous international symposia on wetlands such as: Wetland Creation and Restoration, Global Wetlands Old World and New at INTECOL Ohio State University(1992); Wetland Restoration for the New Millennium at the Millennium Wetlands Conference in Quebec, Canada (2000); Temperate Wetland Restoration in a Southern Ontario Watershed Context at the A.D. Latornell Conservation Symposium, Alliston, Ontario, Canada (2007); Achieving Carbon Offsets through Mangroves and other Wetlands, Ramsar Convention, Gland, Switzerland (2009) and The Status of Wetland Restoration in China at INTECOL Orlando, USA (2012); Presented An Introduction to Ecosystem Mitigation Banking at the TEEB (The Economics of Ecosystems and Biodiversity) International Meeting, UNEP, Beijing January 2015). He presented on Wetland Restoration in China at the 2016 INTECOL meeting in Changshu, China. He will be presenting two papers at the CLRA/SWS/SER Conference, June 2020 in Quebec City. In addition, he has conducted numerous wetland and watershed restoration workshops in South Korea, The Netherlands, Brazil, France, China, Australia, Switzerland, Canada, The Bahamas, Belgium, England, Scotland, Malaysia, Japan, Spain, Seychelles, Senegal, Luxembourg, Vietnam, Costa Rica and the USA.

SELECT PUBLICATIONS

Leone, K., S. Komisar, E. Everham (eds). 2021. Making the Sustainable University, Trials and Tribulations, Education for Sustainability. Chapter 2. Springer Nature Singapore Pte Ltd.

A Synthesis of Global Mangrove Restoration Literature, (in-press).

Alexander, T. K.L. Erwin, et al. 2011. Opportunities and Challenges for Ecological Restoration within REDD+. In Restoration Ecology, Journal of the Society for Ecological Restoration International.

Erwin, K.L. 2009. Wetlands and Global Climate Change: The Role of Wetland Restoration in a Changing World. Wetlands Ecology and Management. Presented at: The Ramsar Convention on Wetlands Secretariat. Gland, Switzerland, January 25, 2008; Plenary Speaker, Wetlands and Climate Change, Association of State Wetland Managers Meeting, Portland, Oregon September 16, 2008.

Erwin, K.L. 2009. Wetlands and Global Climate Change: The Role of Wetland Restoration in a Changing World. Wetlands Ecology and Management. 17:71–84 DOI 10.1007/s11273-008-9119-1

Erwin, K.L., A. Norman and D. Mansell. 2007 The Ontario Headwaters Restoration Initiative; Landscape Level Wetland and Riparian Restoration in Southern Ontario, Canada. Watershed-Wide Strategies to Maximize Wetland Ecological and Social Services. Association of State Wetland Managers, Williamsburg, Virginia.

Erwin, K.L. 2006. A plan for Long-Term Ecological Monitoring of the Six Mile Cypress Slough and Watershed. South Florida Water Management District, West Palm Beach, Florida, USA.

Mansell, W.D., K.L. Erwin, M.D. Garraway, H.D. Howell, R.N. Jones and T.G. Harrison. 2004. Guide to the Restoration of Wetlands and Watershed Health. Saugeen Valley Conservation Authority Publication, Hanover, Ontario, Canada.

Mansell, W.D., K.L. Erwin, M.D. Garraway, H.D. Howell, R.N. Jones and T.G. Harrison. 2004. A Tale of Two Rivers: the development of wetland and watershed restoration concepts. Saugeen Conservation Publication, Hanover, Ontario, Canada.

Erwin, K.L., S.J. Doherty, M.T. Brown and G.R. Best (editors).1997. Evaluation of Constructed Wetlands on Phosphate Mined Lands in Florida. Vol. I Project Summary; Vol. II Hydrology, Soils, Water Quality and Aquatic Fauna; Vol. III Vegetation, Wildlife, Ecosystem and Landscape Organization. Florida Institute of Phosphate Research. Bartow, Florida. Publication No. 03-103-139.

Lewis, R. R., J. A Kusler and K. L. Erwin. 1995. Lessons learned from five-decades of wetland restoration and creation in North America. Ecological Basis of Restoration of Wetlands in the Mediterranean Basin, University of La Rabida, (Huelva) Spain, June 7-11, 1993. Pp. 107-122 in C. Montes, G. Oliver, F. Molina, and J. Cobos (eds.). Bases ecologicas para la Restauracion de humedales en la Cuenca Mediterranea, Junta de Andalucia, Spain. 348 pp.

Erwin, K.L. 1995. Wetland Restoration. Practical Guidelines for Successful Projects. In Prentice, P.C. & Jaensch, R.P. (eds.) 1997. Development Policies, Plans and Wetlands. Proceedings of Workshop 1 of the International Conference on Wetlands and Development held in Kuala Lumpur, Malaysia, 9-13, October 1995. Wetlands International, Kuala Lumpur.

Erwin, K.L. 1995. A Bibliography of Wetland Creation and Restoration Literature. Wetlands International and the Association of State Wetlands Managers.

Erwin, K.L. 1995. Examples of Wetland Restoration and Creation: Opportunities for International Application Through Wetlands International. In: Proceedings of the International Waterfowl and Wetlands Research Bureau (Wetlands International) International Conference on Wetlands and Development. Selangor, Malaysia. October 8-14-1995.

Erwin, K.L., C.M. Smith, W.R. Cox, and R.P. Rutter. 1995. Case Study #2: Charlotte County Correctional Institute, Florida. In: Native Plant Material Sources for Wetland Establishment: Freshwater Case Studies. Final Report August 1995. Vicksburg (MS): U.S. Army Corps of Engineers Waterways Experiment Station. Wetlands Research Program Technical Support WRP-RE-5. p.36-46.

Erwin, K.L., C.M. Smith, W.R. Cox, and R.P. Rutter. 1994. Successful Construction of a Freshwater Herbaceous Marsh in South Florida, USA. In: Global Wetlands, Old World and New, William Mitsch, ed. Elsevier.

Lewis, III, R.R., J.A. Kusler, and K.L. Erwin. 1993. Lessons Learned From Five Decades of Wetland Restoration and Creation in North America. Presented at The Ecological Basis of Restoration of Wetlands in the Mediterranean Basin, a training course at the Hispanoamerica University of La Rabida (Huelva), Spain, 7-11, June 1993.

Erwin, K.L. 1992. Selected Bibliography: Wetland Creation and Restoration. The Association of State Wetland Managers, Inc. Berne, New York.

Erwin, K.L. 1991. Evaluation and Monitoring of Created and Restored Wetlands. Society for Ecological Restoration, Third Annual Conference, Orlando, Florida. May 18-23, 1991. (Abstract).

Erwin, K.L. 1991. Freshwater Wetland Creation and Restoration Projects in Florida: Lessons Learned (An Overview). Society for Ecological Restoration, Third Annual Conference, Orlando, Florida. May 18-23, 1991. (Abstract).

Erwin, K.L. 1991. An Evaluation of Wetland Mitigation in the South Florida Water Management District. South Florida Water Management District Contract #C89-0082-A1. Volumes I, II, III.

Erwin, K.L. 1990. Wetland Evaluation for Restoration and Creation. In J.A. Kusler and M.E. Kentula (eds.), Wetland Creation and Restoration: The Status of Science. Volume II: Perspectives. EPA/600/3-89/038b, Environmental Research Laboratory, Corvallis, Oregon.

Erwin, K.L. 1990. Freshwater Marsh Creation and Restoration in the Southeast. In J.A. Kusler and M.E. Kentula (eds.), Wetland Creation and Restoration: The Status of Science. Volume I: Regional Reviews. EPA/600/3-89/038a, Environmental Research Laboratory, Corvallis, Oregon.

Erwin, K.L. 1989. An Ecological Inventory and Analysis of the Lee County, FL, Coastal Zone and Recommendations for Future Resource Management. The Sixth Symposium on Coastal and Ocean Management. Coastal Zone 89.

Erwin, K.L. and C.M. Smith. 1989. Recommendations for Future Water Quality Programs in Volusia County, Florida. The Sixth Symposium on Coastal and Ocean Management. Coastal Zone 89.

Godschalk, D.R. and K.L. Erwin. 1988. Merging Management and Science: The Lee County, FL, Coastal Planning Process. In Proceedings of the American Water Resources Association Symposium on Coastal Water Resources, Wilmington, NC. May 1988.

Erwin, K.L. 1987. The Implications of Hydrology and Landscape Ecology on the Maintenance of Freshwater Wetland Ecosystems in Florida. In Proceedings of National Wetland Hydrology Symposium, Chicago, IL. Reprinted in National Wetlands Newsletter, Environmental Law Institute, Vol. 9., No. 6. 1987.

Erwin, K.L. 1986. Utilization of Private Lands by the Florida Panther. In Proceedings of Florida Panther Symposium. Florida Defenders of the Environment. Tallahassee, Florida.

Erwin, K.L. 1986. The Ecology of Degraded Seasonal Ponds in Florida. Freshwater Wetlands & Wildlife Perspectives on Natural, Managed & Degraded Ecosystems. University of Georgia, Savannah River Ecology Laboratory, Ninth Symposium. Charleston, SC. (Abstract).

Erwin, K.L. 1986. The Implications of Water Level and Hydroperiod on the Maintenance of Wetlands in South Florida. In Proceedings of the Fifth Annual Water Management Seminar; Vail, Colorado.

Erwin, K.L. 1986. A Quantitative Approach for Assessing the Character of Fresh Water Marshes and Swamps Impacted by Development in Florida. In Proceedings of National Wetland Symposium, New Orleans, LA. Association of State Wetland Managers.

Erwin, K.L. and B. Crowell. 1986. Quantitative Assessment of Macroinvertebrate Benthic Fauna in a Natural and Reclaimed Central Florida Marsh. IV International Congress of Ecology, Syracuse University, Syracuse, N.Y. (Abstract).

Erwin, K.L. and F.D. Bartleson. 1986. Water Quality Within A Four-Year Old Phosphate Surface Mined Reclaimed Wetland In Central Florida. In Proceedings: American Society for Surface Mining and Reclamation, National Conference, March 17-20. Jackson, Mississippi. P..201-207.

Erwin, K.L. and F.D. Bartleson. 1985. Water Quality Within A Central Florida Phosphate Surface Mined Reclaimed Wetland. In Proceedings of the 12th Annual Conference on Wetlands Restoration and Creation. Hillsborough Community College Environmental Studies Center. p. 84-95.

Erwin, K.L. and G.R. Best. 1985. Marsh Community Development In A Central Florida Phosphate Surface-Mined Reclaimed Wetland. Wetlands, Journal of the Society of Wetland Scientists. Vol. 5. p. 155-166.

Erwin, K.L., G.R. Best, W.J. Dunn, and P.M. Wallace. 1984. Marsh and Forested Wetland Reclamation of a Central Florida Phosphate Mine. Wetlands, Journal of the Society of Wetland Scientists. Vol. 4. p. 87-103.

Best, G.R. and K.L. Erwin. 1984. Effects of Hydroperiod on Survival and Growth of Tree Seedlings in a Phosphate Surface-Mined Reclaimed Wetland. National Symposium on Surface Mining, Hydrology, Sedimentology, and Reclamation, University of Kentucky, Lexington, KY. P.221-225.

Erwin, K.L. 1984. Marsh and Forested Wetland Reclamation of a Central Florida Phosphate Mine, First Annual Report; Society of Wetland Scientists Annual Meeting, San Francisco.

Erwin, K.L. 1974. The Feeding Biology of *Luidia clathrata* (Echinodermata: Asteroidean) In Tampa Bay, Florida. Florida Academy of Sciences. (Abstract).

SYNERGISTIC ACTIVITIES

Senior Advisor, INFORM (1980-1988); Director, Southwest Florida Audubon Society (1981-1986); Member/Chair, Lee County (Fla) Six Mile Cypress Basin Development Review Board (1982-1983); Director, Florida Audubon Society (1983-1987); Member, Southwest Florida Regional Planning Council (1984-1987); Member, Lee County (Fla) Water Resources Management Advisory Committee (1989-1992); Advisor, Office of Technical Assistance, U.S. Congress (1990-1998); Director, Association of State

Wetland Managers (1991-2001); Member, Florida Environmental Regulatory Commission, Wetland Mitigation Banking Task Force (1991); Member, Lower West Coast Water Supply Plan Advisory Committee, South Florida Water Management District (1992-1998); Member, U.S. Congressional Task Force on Wetland Mitigation (1991-1997); Board of Members, Wetlands International (1993-2000) and 2014 - present); Chair, Wetland Restoration Specialist Group, Wetlands International (1993 - present); Member, Society of Wetland Scientists Wetland Delineation Committee (1994-1996); Member, National Research Council, National Academy of Sciences, Transportation and Natural Resources Committee (1994-2006); Director, Wetland International Americas Regional Council (1998-2000); Director, Wetlands International (2000 – 2011); Member/Chair, Board of Professional Certification, Ecological Society of America, (2002-2004); Trustee and Senior Advisor, Southwest Florida Community Foundation (2008 - 2020); Invited Expert, Ramsar Convention on Wetlands, (2007-2008); Member, Ramsar Convention on Wetlands, Science and Technical Review Panel (2009 – 2012); Expert, American Carbon Registry (2011 - present); Graduate Faculty Member, Department of Ecology and Environmental Studies, College of Arts and Sciences, Florida Gulf Coast University (2020 - present); Master of Ecological Restoration, Peoples Republic of China (2013 - present) and a UNEP GEO-6 Asia expert (2015 – present).