

CURRICULUM VITAE of DR. MICHAEL S. ROSS

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EDUCATION

- 1987-1988: University of Vermont Law School, So. Royalton, VT, USA. Masters of Science in Law. Emphasis on environmental law and natural resource policy.
- 1976-1982: Virginia Polytechnic Institute and State University, Blacksburg, Virginia, USA. Ph.D. in Silviculture and Forest Ecology, especially forest biology, soils, and hardwood stand dynamics.
- 1974-1976: Utah State University, Logan, Utah, USA. Masters of Forestry. Emphasis in botany, soils, and forest management.
- 1966-1970: Muhlenberg College, Allentown, Pa., USA. Bachelor of Science (Natural Sciences).

WORK EXPERIENCE

- 2009-present Associate Professor, Department of Earth and Environment, Florida International University
- 2006-2009: Associate Professor, Department of Environmental Studies, Florida International University
- 2002-present: Associate Research Scientist, Southeast Environmental Research Center, Florida International University
- 1993-2002: Assistant Research Scientist, Southeast Environmental Research Center, Florida International University.
- 1988-1993: Research Scientist and Principal Investigator, Florida Keys Terrestrial Ecosystem Study, Ecosystem Research Unit, National Audubon Society, Tavernier, FL.
- 1987: Teaching Assistant and independent investigator, University of Michigan Biological Station. Assist in plant ecology courses, conduct research on growth and establishment of eastern white pine.
- 1986-1987: Research Associate, Department of Forestry, Michigan Tech University, Houghton, MI. Analyze and synthesize data from recovery program for endangered roundleaf birch (*Betula uber* Ashe).
- 1983-1986: Post-doctoral Research Fellow, Dept. of Botany, University of Alberta, Edmonton, Alberta, Canada. Director of Hondo Research Laboratory. Multi-disciplinary research on aspects of boreal forest ecology.

THESES AND DISSERTATIONS

The Control of Germination, with Emphasis on the Role of Oxygen. Master's Thesis, Utah State University, 1976.

Oak Regeneration after Clearcutting on Steep Slopes in the Ridge and Valley Province of Southwest Virginia. Ph.D. Dissertation, VPI&SU, 1982.

PEER-REVIEWED PUBLICATIONS

Carrington, M. E., M. S. Ross, and A. F. Basit. In review. Post-hurricane seedling structure in a multi-aged tropical dry forest: implications for community succession. *Biotropica*.

Irick, D. L., B. Gu, Y. C. Li, P. W. Inglett, P. C. Frederick, M. S. Ross, A. L. Wright, S. M. L. Ewe. In review. Wading bird guano enrichment of soil nutrients in tree islands of the Florida Everglades. *Oecologia*.

Zhu, Y., B. Gu, D. L. Irick, S. Ewe, Y. Li, M. S. Ross, and L. Q. Ma. 2014. Wading bird guano contributes to Hg accumulation in tree island soils in the Florida Everglades. *Environmental Pollution* 184: 313-319.

Sullivan, P., V. Engel, R. M. Price, and M. S. Ross. 2013 (online). The influence of vegetation on the hydrodynamics and geomorphology of a tree island in Everglades National Park (Florida, USA). *Ecohydrology*. DOI: 10.1002/eco.1394.

Irick, D. L., Y. C. Li, P. W. Inglett, W. G. Harris, B. Gu, M. S. Ross, A. L. Wright, and K. W. Migliaccio. 2013. Characteristics of soil phosphorus in tree island hardwood hammocks of the southern Florida Everglades. *Soil Science Society of America Journal* 77 (3): 1048-1056.

Ruiz, P.L, M. S. Ross, J. P. Sah, and A. A. Spitzig. 2013 (online). Tree island response to fire and flooding in the short-hydroperiod marl prairie grasslands of the Florida Everglades. *Fire Ecology*. DOI 10.1007/s13157-013-0390-4

J. P. Sah, M. S. Ross, S. Saha, P. Minchin, and J. Sadle. 2014. Trajectories of vegetation response to water management in Taylor Slough, Everglades National Park, Florida. *Wetlands*. 34 (Suppl 1): 65-79.

Ross, M. S., J. P. Sah, J. F. Meeder, P. L. Ruiz, and G. Telesnicki. 2014. Compositional effects of sea-level rise in a patchy landscape: the dynamics of tree islands in the southeastern coastal Everglades. *Wetlands*. 34(Suppl 1): 91-100.

Sullivan, P., R. M. Price, F. Miralles-Wilhelm, M. Ross, L. Scinto, T. Dreschel, F. Sklar, and E. Cline. 2012 (Online). The role of recharge and evapotranspiration as hydraulic drivers of ion concentrations in shallow groundwater on Everglades tree islands, Florida (USA). *Hydrologic Processes*. DOI: 10.1002/hyp.9575

Subedi, S. C., M. S. Ross, and L. J. Scinto. 2012. Nutrient limitation in two Everglades tree species planted on constructed tree islands. *Wetlands* 32: 1163-1173.

Espinar, J. L., M. S. Ross and J. P. Sah. 2011. Pattern of nutrient availability and plant community assemblage in Everglades tree islands, Florida, USA. *Hydrobiologia*. 667: 89-99.

Peer-reviewed publications (continued)

- Maschinski, J., M. S. Ross, H. Liu, J. O'Brien, E. J. von Wettberg, and K. E. Haskins. 2011. Sinking ships: conservation options for endemic taxa threatened by sea level rise. *Climatic Change* 107(1, 2): 147-167.
- Saha, S., K. Bradley, M. S. Ross, P. Hughes, T. Wilmers, P. L. Ruiz, & C. Bergh. 2011. Hurricane effects on subtropical pine rocklands of the Florida Keys. *Climatic Change* 107(1, 2): 169-184.
- Zhang, K, J. Dittmar, M. Ross, and C. Bergh. 2011. Assessment of sea level rise impacts on human population and real property in the Florida Keys. *Climatic Change* 107(1, 2): 129-146.
- Saha, A. K., S. Saha, J. Sadle, J. Jiang, M. S. Ross, R. M. Price, L. Sternberg, and K. Wendelberger. 2011. Sea level rise and South Florida coastal forests. *Climatic Change* 107(1, 2): 81-108.
- D'Odorico, P. D., V. Engel, J. Carr, S. F. Oberbauer, M. S. Ross, and J. P. Sah. 2011. Tree-grass coexistence in the Everglades freshwater system. *Ecosystems* 14(2): 298-310.
- Sullivan, P., R. Price, M. Ross, L. Scinto, S. Stoffella, E. Cline, T. Dreschel, and F. Sklar. 2011. Hydrologic processes of tree islands in the Everglades: tracking the effects of tree establishment and growth. *Hydrogeology Journal* 19(2): 367-378.
- Wang, X., L. O. Sternberg, M. S. Ross, and V. C. Engel. 2011. Linking water use and nutrient accumulation in tree island upland hammock plant communities in the Everglades National Park, USA. *Biogeochemistry*. 104(1-3): 133-146.
- Clement, B. M., J. Javier, J. P. Sah, M. S. Ross. 2011. The effects of wildfires on the magnetic properties of soils in the Everglades. *Earth Surface Processes and Landforms* 36 (4): 460-466.
- Rivera-Monroy, V., R. R. Twilley, S. E. Davis III, D. L. Childers, M. Simard, R. Chambers, R. Jaffe, J. N. Boyer, D. Rudnick, K. Zhang, E. Castaneda-Moya, S. Ewe, C. Coronado-Molina, M. Ross, T. J. Smith III, B. Michot, E. Meselhe, W. Nuttle, T. Troxler & G. B. Noe. 2011. The role of the Everglades Mangrove Ecotone Region (EMER) in regulating nutrient cycling and wetland productivity in south Florida. *Critical Reviews in Environmental Science and Technology*. 41: 633-669.
- Ross, M. S. and J. P. Sah. 2011. Forest resource islands in a sub-tropical marsh: soil-site relationships in Everglades hardwood hammocks. *Ecosystems* 14 (4): 632-645.
- Hanan, E. J., M. S. Ross, P. L. Ruiz & J. P. Sah. 2010. Multi-scaled grassland-woody plant dynamics in the heterogeneous marl prairies of the southern Everglades. *Ecosystems* 13(8): 1256-1274.
- Stoffella, S. L., M. S. Ross, J. P. Sah, R. Price, P. L. Sullivan, E. A. Cline, and L. J. Scinto. 2010. Survival and growth responses of eight Everglades tree species along an experimental hydrologic gradient on two tree island types. *Applied Vegetation Science*. 13(4): 439-449.
- Castaneda-Moya, E., R. R. Twilley, V. H. Rivera-Monroy, K. Zhang, S. E. Davis III & M. Ross. 2010. Spatial patterns of sediment deposition in mangrove forests of the Florida Coastal Everglades from Hurricane Wilma. *Estuaries and Coasts*. 33(1): 45-58.

Peer-reviewed publications (continued)

- Saha, A. K., L. Sternberg, M. S. Ross & F. Miralles-Wilhelm. 2010. Water source utilization and foliar nutrient status differs between upland and flooded plant communities in wetland tree islands. *Wetland Ecology and Management* 18: 343-355.
- Ross, M. S., D. E. Ogurcak, J. P. Sah & P. L. Ruiz. 2010. Using Florida Keys reference sites as a standard for restoration of forest structure in Everglades tree islands. *International Journal of Forestry Research*. Volume 2010, Article ID 176909, 8 pages. DOI:10.1155/2010/176909
- Sah, J. P., M. S. Ross, J. R. Snyder & D. Ogurcak. 2010. Tree mortality following prescribed fire and a storm surge event in slash pine (*Pinus elliottii* var. *densa*) forests in the Florida Keys, USA. *International Journal of Forestry Research*. Volume 2010, Article ID 204795, 13 pages. DOI:10.1155/2010/204795.
- Hanan, E. J. & M. S. Ross. 2010. Multi-scaled patterning of plant-soil-water interactions across tree islands and marshes within the prairie and slough landscapes of Everglades National Park. *Landscape Ecology* 25 (3): 463-475.
- Ross, M. S., P. L. Ruiz, J. P. Sah, and E. J. Hanan. 2009. Chilling events in a changing climate in coastal landscape of the subtropical zone: a case study from south Florida. *Global Change Biology* 15: 1817–1832.
- Ross, M. S., J. J. O'Brien, R. G. Ford, K. Zhang, and A. Morkill. 2009. Disturbance and the rising tide: the challenge of biodiversity management for low island ecosystems. *Frontiers in Ecology and Environment* 7(9): 471-478.
- Zhang, K., M. Simard, M. Ross, V. H. Rivera-Monroy, P. Houle, P. Ruiz, R. R. Twilley, and K. Whelan. 2008. Airborne laser scanning quantification of disturbances from hurricanes and lightning strikes to mangrove forests in Everglades National Park, USA. *Sensors* 8: 2262-2292.
- Graf, M-T, G. L. Chmura, M. Schwadron, M. S. Ross, and P. A. Stone. 2008. An enigmatic mineralized layer in Everglades tree island peats. *EOS* 89: 12: 117-118.
- Timilsina, N., M.S. Ross and J.T. Heinen. 2007. A community analysis of Sal (*Shorea robusta*) forests in the Western terai of Nepal. *Forest Ecology and Management* 241: 223-234.
- Sah, J.P., M.S. Ross, J.R. Snyder, S. Koptur and H.C. Cooley. 2006. Fuel loads, fire regimes, and post-fire fuel dynamics in Florida Keys pine forests. *International Journal of Wildland Fire* 15: 463-478.
- Jones, D.T., J.P. Sah, M.S. Ross, S.F. Oberbauer, B. Hwang, and K. Jayachandran. 2006. Responses of twelve tree species common in Everglades tree islands to simulated hydrologic regimes. *Wetlands* 26(3): 830-844.
- Bazante, J.F., G. Jacobi, H.M. Solo-Gabriele, D. Reed, S. Mitchell-Bruker, D. Childers, L. Leonard and M. Ross. 2006. Hydrologic measurements and implications for tree island formation in Everglades National Park. *Journal of Hydrology* 329: 606-619.
- Ross, M.S., S. Mitchell-Bruker, J.P. Sah, S. Stothoff, P.L. Ruiz, D.L. Reed, K. Jayachandran and C.L. Coultas. 2006. Interaction of hydrology and nutrient limitation in the Ridge and Slough landscape of the southern Everglades. *Hydrobiologia* 569: 37-59.

Peer-reviewed publications (continued)

- Armentano, T.V., J.P. Sah, M.S. Ross, D.T. Jones, H.C. Cooley, and C.S. Smith. 2006. Rapid responses of vegetation to hydrological changes in Taylor Slough, Everglades National Park, Florida, USA. *Hydrobiologia* 569: 293-309
- Gaiser, E.E., A. Zafiris, P.L. Ruiz, F.A.C. Tobias, and M.S. Ross. 2006. Tracking rates of ecotone migration due to salt-water encroachment using fossil mollusks in coastal south Florida. *Hydrobiologia* 569: 237-257
- Leonard, L., A. Croft, D. Childers, S. Mitchell-Bruker, H. Solo-Gabriele, and M.S. Ross. 2006. Characteristics of surface flows in the Ridge and Slough landscape of Everglades National Park: implications for particulate transport. *Hydrobiologia* 569: 5-22
- Chmura, G.L., P.A. Stone and M.S. Ross. 2006. Non-pollen microfossils in Everglades sediments. *Review of Paleobotany and Palynology* 141: 103-119.
- Ross, M.S., P.L. Ruiz, J.P. Sah, D.L. Reed, J. Walters, and J.F. Meeder. 2006. Early stand development following disturbance along a mangrove forest productivity gradient in South Florida. *Plant Ecology* 185 (2): 283-297.
- Simard, M., V. Monroy-Rivera, K. Zhang, M. Ross, P. Ruiz, R. Twilley, E. Rodriguez and E. Castaneda. 2006. Mapping height and biomass of mangrove forests in the Everglades National Park with SRTM elevation data. *Photogrammetric Engineering and Remote Sensing* 72 (3): 299-311.
- Liu, H., E.S. Menges, J.R. Snyder, S. Koptur, and M.S. Ross. 2005. Effects of fire intensity on vital rates of an endemic herb of the Florida Keys. *Natural Areas Journal*. 25: 71-76.
- Sah, J.P., M.S. Ross, S. Koptur, and J.R. Snyder. 2004. Estimating biomass of broadleaved woody plants in the understory of Florida Keys pine forests. *Forest Ecology and Management* 203: 319-329.
- Ross, M.S., D.L. Reed, J.P. Sah, P.L. Ruiz, and M.T. Lewin. 2003. Vegetation:environment relationships and water management in Shark Slough, Everglades National Park. *Wetlands Ecology and Management* 11: 291-303.
- Lockwood, J.L., M.S. Ross, and J.P. Sah. 2003. Smoke on the water: the interplay of fire and water flow on Everglades restoration. *Frontiers in Ecology and Environment* 1(9): 462-468.
- Ross, M.S., C.L. Coultas, and Y.P. Hsieh. 2003. Soil-productivity relationships and organic matter turnover in dry tropical forests of the Florida Keys. *Plant and Soil* 253 (2): 479-492.
- Ross, M.S., M. Carrington, L.J. Flynn, and P.L. Ruiz. 2001. Forest succession in tropical hardwood hammocks of the Florida Keys: effects of direct mortality from Hurricane Andrew. *Biotropica* 33 (1): 23-33.
- Ross, M.S., P.L. Ruiz, G.J. Telesnicki, and J.F. Meeder. 2001. Estimating aboveground biomass and production in mangrove communities of Biscayne National Park, Florida (USA). *Wetlands Ecology and Management*. 9: 27-37.
- Fry, B., A. L. Bern, M. S. Ross, and J. F. Meeder. 2000. $\delta^{15}\text{N}$ studies of nitrogen use by the red mangrove, *Rhizophora mangle* L. in South Florida. *Estuarine and Coastal Shelf Science* 50: 291-296.

Major Technical Reports (continued)

Peer-reviewed publications (continued)

- Ross, M.S., J.F. Meeder, J.P. Sah, P.L. Ruiz, and G.J. Telesnicki. 2000. The Southeast Saline Everglades revisited: 50 years of coastal vegetation change. *Journal of Vegetation Science* 11 (1): 101-112.
- Ross, M., J. O'Brien and L. Sternberg. 1994. Sea level rise and the decline of Pine Rockland forests in the Lower Florida Keys. *Ecological Applications* 4 (1): 144-156.
- Ross, M., J. O'Brien, and L. Flynn. 1992. Ecological site classification of Florida Keys terrestrial habitats. *Biotropica* 24:488-502.
- Ish-Shalom, N. L. Sternberg, M. Ross, J. O'Brien, and L. Flynn. 1992. Water utilization of tropical hardwood hammocks of the Lower Florida Keys. *Oecologia* 92:108-112.
- Sternberg, L.d.S.L., N. Ish-Shalom-Gordon, M.S. Ross, and J.J. O'Brien. 1991. Water relations of coastal plant communities near the ocean/freshwater boundary. *Oecologia* 88:305-310.
- Ross, M.S. and G.H. La Roi. 1990. Aboveground biomass allocation by four understory vascular plant species in central Alberta jack pine, *Pinus banksiana*, forests. *Can. Field. Nat.* 104(3):394-402.
- Tworowski, T.J., M.S. Ross, and G.M. Hopper. 1990. Analysis of chestnut and scarlet oak stump sprout growth. *Can. Jour. For. Res.* 20:112-116.
- Ross, M.S., L.L. Flanagan, and G.H. La Roi. 1986. Structure and function of boreal forest ecosystems. IV. Seasonal and successional changes in light characteristics. *Can. Jour. Bot.* 64: 2792-2799.
- Ross, M.S., T.L. Sharik, and D. Wm. Smith. 1986. Oak regeneration on steep slopes in southwest Virginia. *Forest Sci.* 32(1): 157-169.
- Sharik, T.L., M.S. Ross, and G.M. Hopper. 1983. Early fruiting in chestnut oak. *Forest Sci.* 29(2): 221-224.
- Sharik, T.L., M.S. Ross, and A.H. Price. 1983. A micro-borer for extracting increment cores from small stems of woody plants. *Forest Sci.* 29(2): 329-331.
- Ross, M.S., T.L. Sharik, and D. Wm. Smith. 1982. Age-structure relationships of tree species in an Appalachian oak forest in southwest Virginia. *Bull. Torr. Bot. Club* 109(3): 287-298.

BOOK CHAPTERS

- Osborne, T. Z., S. Newman, K. R. Reddy, L. R. Ellis, and M. S. Ross. In press. Spatial distribution of soil nutrients in the Everglades Protection Area. In: J. Entry, A. Gottlieb, A. Ogram, and K. Jayachandran, eds. *Microbiology of the Everglades Ecosystem*.
- Gaiser, E.E., A. Wachnicka, P.L. Ruiz, and M.S. Ross. 2005. Diatom indicators of ecosystem change in subtropical coastal wetlands. pp. 127-144 In: *Estuarine Indicators*. S. Bartone, ed. CRC Press. 531 pp.
- Armentano, T.V., D.T. Jones, M.S. Ross, and B.W. Gamble. 2002. Vegetation pattern and process in tree islands of the southern Everglades and adjacent areas. Pp 225-281 In: van der Valk, A. and Sklar, F. eds. *Tree Islands of the Everglades* Kluwer Academic Publishers, Dordrecht. 541 pp.

Major Technical Reports (continued)

Book Chapters (continued)

Ross, M.S., E.E. Gaiser, J.F. Meeder, and M.T. Lewin. 2002. Multi-taxon analysis of the "white zone", a common ecotonal feature of South Florida coastal wetlands. Pp. 205-238 *In: The Everglades, Florida Bay, and Coral Reefs of the Florida Keys*. J. W. Porter and K.G. Porter, eds. CRC Press, Boca Raton. 1064 pp.

REVIEWS AND NON-TECHNICAL PUBLICATIONS

Rehage, J., E. Gaiser, M. Heithaus, M. Ross, and P. Ruiz. 2010. Effects of a rare cold snap on Everglades biota: what are the long-term consequences for the ecosystem? *ILTER Network News* 23 (1): 13-14.

Ross, M. S. 2000. Review of *Coastally Restricted Forests*, A. D. Laderman, ed. *Quarterly Review of Biology* 75 (4): 482-483.

Southeast Environmental Research Program (M. S. Ross) and the Center for Plant Conservation. 1995. An action plan to conserve the native plants of Florida. Center for Plant Conservation, St. Louis, MO. 41 pp. + appendices. Available at <http://digitalcommons.fiu.edu/sercrp/5/>

South Florida terrestrial ecosystem home page: <http://softel.fiu.edu>

EXTENDED ABSTRACTS

Stone, P., Graf, M-T., Schwadron, M., Ross, M., Chmura, G., 2008, Prehistoric disturbances and shifts in southern Everglades plant communities: *Southeastern Biology*, v.55, no. 3, p. 311-12.

Airborne Laser Mapping of Mangroves on the Biscayne Bay Coast, Miami, Florida. K. Zhang, P.A. Houle, M.S. Ross, P.L. Ruiz & M. Simard. IGARSS 2006. Denver CO.

Use of airborne LIDAR for the assessment of landscape structure in the pine forests of Everglades National Park. P.A. Houle, K. Zhang, M.S. Ross & M. Simard. IGARSS 2006. Denver CO.

Using Shuttle radar topography mission elevation data to map mangrove forest height in the Caribbean. M. Simard, K. Zhang, M.S. Ross, V.H. Rivera-Monroy, E. Castaneda-Moya & R Twilley. IGARSS 2006. Denver CO.

Meeder, J.F., M.S. Ross, and R.G. Ford. 1993. Mangrove expansion in south Florida under conditions of an accelerating rate of sea level rise: results of conceptual, depositional and spatial models. *In Proceedings of the Hilton Head South Carolina (USA) International Coastal Symposium*. P. Brunn, ed. Volume 2, pp. 431-445.

Ross, M.S., T.L. Sharik, and D. Wm. Smith. 1982. Species and site relationships among oak regeneration types after clearcutting in the Virginia Ridge and Valley. *In Proceedings of the Second Biennial Southern Silvicultural Research Conference*, Atlanta, Ga. USDA For. Serv. Gen. Tech. Report SE-24. pp. 151-156.

Major Technical Reports (continued)
MAJOR TECHNICAL REPORTS

- Landscape Pattern: Marl Prairie/Slough Gradient: Decadal Vegetation Change Pattern in Shark Slough. Sah, J. P., Ross, M. S., Ruiz, P. L. 2012 Annual Report to U.S. Army - ERDC, Vicksburg, MS 39081. April 2013.
- Everglades Ridge, Slough, and Tree Island Mosaics. M. S. Ross, J. B. Heffernan, J. P. Sah, P. L. Ruiz, A. A. Spitzig, and E. Isherwood. 2012 Annual Report to US Army ERDC, April 2013. 118 pp.
- Monitoring of Tree Island Condition in the Southern Everglades: Hydrologic Driven Decadal Changes in Tree Island Woody Vegetation Structure and Composition. P. L. Ruiz, M. S. Ross, and J. P. Sah. 2012 Annual Report to US Army ERDC. March 2013. 41 pp.
- Mapping and assessing fire damage on broadleaved forest communities in Big Cypress National Preserve. Final Report to the US Geological Survey. P. L. Ruiz, J. P. Sah, J. R. Snyder, and M. S. Ross. September 2012.
- Cape Sable seaside sparrow habitat monitoring and assessment. Annual Report of 2010. Jay P. Sah, M. S. Ross, P.L. Ruiz, J. R. Snyder, D. Rodriguez, and W. T. Hilton. 54 pp. April 2011.
- Monitoring of tree island conditions in the southern Everglades: the effects of hurricanes and hydrology on the status and population dynamics of sixteen tropical hardwood hammock tree islands. Annual report to the U.S. Army Corps of Engineers, ERDC. P. L. Ruiz, J. P. Sah, M. S. Ross, D. L. Rodriguez, and A. M. Lambert. 132 pp. January 2011.
- Developing a data-driven classification of South Florida plant communities. Final Report to National Park Service (South Florida Caribbean Network). Jay P. Sah, M. S. Ross, and S. Stoffella. 109 pp. April 2010.
- A geospatial database of tree islands within the Mustang Corner Fire incident of 2008. Final Report to Everglades National Park. Pablo L. Ruiz, M. S. Ross, and J. P. Sah. 15 pp. March 2010.
- Resampling of permanent pine rockland vegetation plots on Big Pine Key. Final Report to USFWS, Agreement #401817N040. Jay P. Sah, J. R. Snyder, M. S. Ross & D. Ogurcak. 53 pp. February 2010.
- Cape Sable seaside sparrow habitat – vegetation monitoring. Annual Report of 2009. Jay P. Sah, M. S. Ross, J. R. Snyder, P. L. Ruiz, S. Stoffella, N. Colbert, E. Hanan, L. Lopez and M. Camp. 50 pp. January 2010.
- Loxahatchee Impoundment Landscape Assessment (LILA): tree island experiments and management, May 1, 2005 to September 9, 2009. Final Report Contract RS-050962-A02. L. J. Scinto, R. Price, and M. Ross. 101 pp. September 2009.
- Effect of hydrologic restoration on the habitat of the Cape Sable seaside sparrow. Annual Report of 2008. J. P. Sah, M. S. Ross, J. R. Snyder, P. L. Ruiz, S. Stoffella, M. Kline, B. Shamblin, E. Hanan, L. Lopez and T. J. Hilton. 52 pp.
- The 2008 terrestrial vegetation of Biscayne National Park, FL, USA, derived from aerial photography, NDVI, and LiDAR. 2008. Pablo L. Ruiz, Michael S. Ross & Susana Stoffella. 33 pp, 3 plates, and 3 appendices.
- Woody plant invasion into the freshwater marl prairie habitat of the Cape Sable Seaside Sparrow. 2009. Erin Hanan, Michael Ross, Jay Sah, Pablo Ruiz, Susana Stoffella, Nilesh Timilsina, David Jones, Jose Espinar, and Rachel King. Final Report to the US Fish and Wildlife Service. 67 pp.

Major Technical Reports (continued)

- Effect of hydrologic restoration on the habitat of the Cape Sable Seaside Sparrow. 2006. Jay P. Sah, Michael S. Ross, Pablo L. Ruiz David T. Jones, Rafael Travieso, Susana Stoffella, Nilesh Timilsina, Erin Hanan, Hillary Cooley, James R. Snyder and Beyte Barrios. Annual Report of 2005-06. 49 pp.
- CERP Monitoring and Assessment Program: Tree Island conditions in the southern Everglades. 2007. B. Shamblin, M. S. Ross, S. Oberbauer, D. Gomez, L. Sternberg, A. Saha, & X. Wang. Annual Report of 2007. 73 pp.
- CERP Monitoring and Assessment Program: Marl Prairie/Slough gradients: patterns and trends in Shark Slough and adjacent marl prairies. 2007. M. Kline, M. Ross, P. L. Ruiz, B. Shamblin, J. P. Sah, E. J. Hanan, & S. Stoffella. Annual Report of 2007. 26 pp.
- Effect of hydrologic restoration on the habitat of the Cape Sable Seaside Sparrow. 2006. Jay P. Sah, Michael S. Ross, Pablo L. Ruiz David T. Jones, Rafael Travieso, Susana Stoffella, Nilesh Timilsina, Erin Hanan, Hillary Cooley, James R. Snyder and Beyte Barrios. Annual Report of 2005-06. 49 pp.
- Tree islands in Everglades landscapes: current status, historical changes, and hydrologic impacts on population dynamics and moisture relations. 2006. José L. Espinar, Michael S. Ross, Steve Oberbauer, Pablo L. Ruiz, Daniel Gomez, Xin Wang, Leonel Sternberg, Amartya Saha, Jay P. Sah, Susana Stoffella, Michael Kline, Erin J. Hanan, Brooke Shamblin, David T. Jones and Rafael Travieso. Annual Report of 2006. 52 pp.
- Vegetation Classification for South Florida Natural Areas. 2006. K. Rutchey, T.N. Schall, R.F. Doren, A. Atkinson, M.S. Ross, D.T. Jones, M. Madden, L. Vilchek, K.A. Bradley, J.R. Snyder, J.N. Burch, T. Pernas, B. Witcher, M. Pyne, R. White, T.J. Smith III, J. Sadle, C.S. Smith, M.E. Patterson, and G.D. Gann. United States Geological Survey, Open-File Report 2006-1240. 142 p.
- Developing ecological criteria for prescribed fire in south Florida pine rockland ecosystems. J. R. Snyder, M. S. Ross, S. Koptur & J. P. Sah. 2006. USGS Open File Report OF 2006-1062. 109 pp.
- Tree islands in Everglades landscapes: current status, historical changes, and hydrologic impacts on population dynamics and moisture relations. 2005. MS Ross, S Oberbauer, PL Ruiz, N Timilsina, D Gomez, JP Sah, S Stoffella & LdSL Sternberg. Annual Report of 2005. South Florida Natural Resource Center, Everglades National Park, Homestead, FL. 22 pp.
- Water flow through Coastal Wetlands. E. E. Gaiser and M. S. Ross. 2005. Final Report to Everglades National Park. 74 pp.
- Large-scale assessment of mangrove landscape changes using enhanced shuttle radar topography mission data, LiDAR data, and ground observations. 2005. K Zhang, MS Ross & PL Ruiz. Annual Report of 2004. 25 pp + 22 figures.
- Effect of habitat restoration on the habitat of the Cape Sable seaside sparrow. 2005. MS Ross, JP Sah, PL Ruiz, DT Jones, H Cooley, R Travieso, JR Snyder & S Robinson. Annual Report of 2004. 35 pp.
- Tree islands in the Shark Slough landscape: interactions of vegetation, hydrology, and soils. 2004. M.S. Ross (ed.), K. Jayachandran, P.L. Ruiz, P. Stone, J.P. Sah, D.L. Reed, D.T. Jones (ed.), S. Oberbauer, B. Hwang, J. Walters, H.C. Cooley, D. Stockman, and S. Sah. 185 pp + 139 figures. Final Report to Everglades National Park, Critical Ecosystem Science Initiative, Study Number 00075. August 2004.

Major Technical Reports (continued)

- Vegetation dynamics in Everglades marshes, with emphasis on Taylor Slough. M. S. Ross, J. P. Sah, T. V. Armentano, D. T. Jones, H. C. Cooley, and C. S. Smith. 31 pp. Contribution to Everglades National Park for Report to Congress on Interim Operation Plan. October 2003.
- Effect of habitat restoration on the habitat of the Cape Sable seaside sparrow. MS Ross, JP Sah, PL Ruiz, DT Jones, H Cooley, R Travieso, JR Snyder & C Schaeffer. Annual Report of 2003. 37 pp.
- The L-31E Surface Water Rediversion Pilot Project Final Report: implementation, results, and recommendations. Ross, M.S., J.F. Meeder, E. Gaiser, P.L. Ruiz, J.P. Sah, D.L. Reed, J. Walters, G.T. Telesnicki, A. Wachnicka, M. Jacobson, J. Alvord, M. Byrnes, C. Weekley, Z.D. Atlas, M.T. Lewin, B. Fry, and A. Renshaw. April 2003. 183 pp. (<http://www.fiu.edu/~serp1/projects/l31e/2003fr.exe>).
- Assessment of marsh vegetation responses to hydrological restoration in Shark Slough, Everglades National Park. Ross, M. S., P. L. Ruiz, D. L. Reed, K. Jayachandran, J. P. Sah, and M. T. Lewin. Final Report for Everglades National Park. June 2001. 43 pp. + 27 figures.
- The L-31E surface water rediversion pilot project: Phase 1 Final Report. Ross, M.S., J.F. Meeder, P.L. Ruiz, A. Renshaw, G.T. Telesnicki, J. Alvord, M. Jacobson, M. Byrnes, Z.D. Atlas, D. Reed, B. Fry, M.T. Lewin, and C. Weekley. for the South Florida Water Management District. March 1999. 153 pp.
- Vegetation analysis in the C-111/Taylor Slough basins. Meeder, J. F., M. S. Ross, G. Telesnicki, P. L. Ruiz, and J. P. Sah. for the South Florida Water Management District. November 1996. 150 pp. + appendices.
- A study of the distribution of several South Florida endemic plants in the Florida Keys. Ross, M. S. and P. L. Ruiz. for The U. S. Fish and Wildlife Service. May 1996. 45 pp. + appendices.
- Terrestrial ecosystems of the Crocodile Lakes National Wildlife Refuge: the effects of Hurricane Andrew. Ross, M. S., J. F. Meeder, G. Telesnicki, and C. Weekley. for Department of Interior, U. S. Fish and Wildlife Service. May 1995. 156 pp + 2 appendices.
- The Curry Hammock Tract of the Middle Florida Keys: terrestrial ecosystems and recommendations for their management. Ross, M. and J. O'Brien for The Nature Conservancy and Florida Department of Natural Resources. February 1992. 35 pp.
- Vegetation and landscape ecology of central Big Pine Key. Ross, M., J. O'Brien, and L. Flynn. For The Nature Conservancy and the South Florida Water Management District. February 1992. 62 pp.
- Effects of hydrologic factors on the vegetation of Big Pine Key. Ross, M.S. For The Nature Conservancy. November 1989. 9 pp.
- Integrated final report on ecological monitoring research in the Athabasca Oil Sands and Hondo-Lesser Slave Lake study areas during the period 1981-1984. La Roi, G.H., M.S. Ross, and R.A. Ellis. For Research Management Division, Alberta Environment (RMD-80/35A). 329 pp.

PAPERS PRESENTED

- Metacommunity structure of dry tropical forests at the distal end of the Florida peninsula. M. Ross, J. Sah, and S. Subedi. Ecological Society of America Annual Meeting, August 2014. Sacramento, CA.
- Compositional effects of sea-level rise in a patchy landscape: the dynamics of tree islands in the southeastern coastal Everglades. M. S. Ross, J. P. Sah, J. F. Meeder, P. L. Ruiz, and G. Telesnicki. Joint Aquatic Sciences Meeting, May 2014. Portland, OR.
- Tree island restoration in the Everglades: lessons from a landscape-scale experiment. M. Ross, S. Stoffella, L. Scinto, P. Sullivan, R. Price, P. Ruiz, J. Sah, S. Ewe, B. Gu, E. Cline, T. Dreschel, and F. Sklar. Ecological Society of America Annual Meeting, August 2012. Portland, OR.
- Biogeography of tree islands in the southern Everglades: evidence for self-organization? M. S. Ross, J. P. Sah, P. L. Ruiz, and A. Spitzig. 9th INTECOL International Wetlands Conference, Orlando FL, June 2012.
- Sea level rise, environmental drivers, and terrestrial habitat change in the Florida Keys. MS Ross, JJ O'Brien, RG Ford, DE Ogurcak, and K Zhang. Fifth CNR-Princeton workshop: Next Frontiers in Hydrology. Kovens Center, FIU, Miami, FL. January 9-11, 2011.
- Historical analysis of vegetation, tree cover, and residential development on an urbanizing Florida barrier island. M. S. Ross, P. Harlem, G. Hollander, and K. Zhang. Ecological Society of America Annual Meeting, August 2011. Austin, TX.
- Biogeography of south Florida tree islands and forest fragments. M. S. Ross, J. P. Sah, P. L. Ruiz, and A. Spitzig. North American Forest Ecology Workshop. June 2011. Roanoke, VA.
- Past and future effects of sea level rise on terrestrial ecosystems of the Florida Keys. M. S. Ross. Invited interagency workshop: Sea level rise adaptation in the Florida Keys: conserving terrestrial and intertidal natural areas and native species. Hawks Cay Resort, Duck Key, FL. May 10-12, 2011.
- Contemplating the fate of fresh-water dependent Florida Keys ecosystems: what to do about species threatened with extinction due to sea level rise? M. Ross, H. Liu, J. Maschinski, E. J. von Wettberg, J. O'Brien, K. Haskins, and D. Reed. Greater Everglades Ecosystem Restoration Symposium. Naples, FL. July 2010.
- Linking soils, hydrology, and forest structure in Everglades tree islands. M. S. Ross, J. P. Sah, and P. L. Ruiz. Greater Everglades Ecosystem Restoration Symposium. Naples, FL. July 2010.
- Wrenching choices: managing species threatened by sea level rise in the Florida Keys. M. S. Ross. Workshop: Keeping our heads above water: surviving the challenges of sea-level rise in Florida. Archbold Biological Station, Lake Placid, FL. Jan 2010.
- Stand density in south Florida tropical forests: implications for the function and management of Everglades tree islands. M. S. Ross, D. A. Ogurcak, P. L. Ruiz, J. P. Sah, and L. Lopez. North American Forest Ecology Workshop. June 2009. Logan, UT.
- Assessing several vegetation indicators of Everglades water management. M. S. Ross, Daniel Gomez, Xin Wang, Michael Kline, Brooke Shamblin, Jay P. Sah, Pablo L. Ruiz, Steve Oberbauer, Leo Sternberg, and Vic Engel. Greater Everglades Ecosystem Restoration Conference. July 2008. Naples FL.

Papers presented (continued)

- Sea level rise and disturbance: a two-pronged challenge to management of coastal island refuges. M. S. Ross, J. J. O'Brien, R. G. Ford, K. Zhang & A. Morkill. Society of Wetlands Scientists Annual Meeting., Special Symposium: Disassembly of coastal ecosystems in the face of global change: implications for conservation, management, and restoration. May 2008.
- Sea level rise and pine forest loss in the Florida Keys. M. S. Ross, K. Zhang, J. P. Sah, R. G. Ford, and J. J. O'Brien Pine Rockland Working Group symposium. Florida International University. February 2008
- What we know about forest succession on tree islands in the southern Everglades. M. S. Ross. 2007 Tree Island Workshop. Sponsored by Florida Atlantic University and CERP RECOVER program. Boca Raton FL. December 2007.
- Vegetation dynamics in habitats of 4 endangered birds in the Florida Everglades. M. S. Ross and J. P. Sah. Everglades Avian Ecology Forum. Florida International University. August 2007.
- Hurricanes, fire, and coastal pine forests in a rising sea: the Florida Keys. M. S. Ross, K. Zhang, J. P. Sah, R. G. Ford, and J. J. O'Brien. Ecological Society of American Annual Meeting. San Jose CA. August 2007.
- Sea level rise and the decline of pine rockland forests in the lower Florida Keys. M. S. Ross, K. Zhang, J. P. Sah, J. J. O'Brien & R. G. Ford. Conservation of the Florida Keys pine rocklands: learning from our past to sustain for the future. Big Pine Key, FL. March 2007.
- Tree islands in Everglades landscapes: a study of inter-regional variation and forest moisture relations. M.S. Ross, J.P. Sah, P.L. Ruiz, S. Oberbauer & L. Sternberg. 2006 Greater Everglades Ecosystem Restoration Conference. Lake Buena Vista, FL. June 2006.
- Landscape structure in the southern Everglades and its implications for restoration. M.S. Ross, P.L. Ruiz, J. P. Sah, K. Jayachandran, S. Mitchell-Bruker and S. Stothoff. Society of Wetland Scientists 26th Annual Meeting, Savannah, Georgia. June 2005.
- Nutrient relationships in the "ridge-and-slough" vegetation mosaic of the southern Everglades, Florida, USA. M.S. Ross, P.L. Ruiz, K. Jayachandran, C.L. Coultas, and J.P. Sah. International Association of Vegetation Science, 47th Annual Meeting. Kailua-Kona, Hawai'i, USA. July 2004.
- Vegetation dynamics in Everglades marshes, with emphasis on Taylor Slough. M. S. Ross, J. P. Sah, T. V. Armentano, D. T. Jones, H. C. Cooley, and C. S. Smith. IOP Workshop, Everglades National Park, October 2003.
- Reduced freeze incidence associated with global warming may promote mangrove encroachment in southeastern coastal marshes. Ecological Society of America. Savannah GA. August 2003.
- The response of Everglades tree species to simulated hydrologic regimes: an experimental study. Ross, M.S., D.T. Jones, B. Hwang, J. Walters, S. Oberbauer, and K. Jayachandran. Joint Conference on the Science and Restoration of the Greater Everglades and Florida Bay ecosystems. Palm Harbor, FL. April, 2003.

Vegetation restoration in Biscayne Bay Coastal Wetlands. BBCW Project Development Team workshop. Miami, FL. October 2002.

Papers presented (continued)

Developing ecological performance measures for Everglades tree islands. Natural Areas Association Conference 2002. Asheville, NC. October 2002.

Biomass and fuel loads associated with hardwoods in the understory of Florida Keys pine forests. Natural Areas Association Conference 2002 (poster). Asheville, NC. October 2002.

Mound and ridge tree-islands in the Everglades peatland. Gleason, P., P. A. Stone, and M. Ross. Geological Society of American Annual Meeting. October 2002. Denver, CO. GSA Abstracts, Volume 34, Number 6.

Determining the role of sediment deposition and transport in the formation and maintenance of tree islands in the Florida Everglades. Mitchell-Bruker, S. D. Childers, M. Ross, L. Leonard, H. Solo-Gabriel and S. Stothoff, 2002. American Geophysical Union Spring 2002 Meeting. Washington, D.C.

Population dynamics of *Pinus elliottii* var. *densa* in Everglades National Park: a case for less frequent prescribed fire. Natural Areas Assoc. Conference. Cape Canaveral, FL. Oct 2001

The L-31E pilot project: coastal restoration in Biscayne National Park. Natural Areas Association Conference 2001 (poster). Cape Canaveral, FL October 2001.

Dynamics of “the White Zone”, an indicator of coastal wetland condition. Presentation to National Academy of Science Greater Ecosystem Restoration oversight committee (CROGEE). Homestead, FL February 2001.

Vegetation:environment relationships and water management in Shark Slough, Everglades National Park. Greater Everglades Ecosystem Restoration Science Conference, Naples, FL. December 2000.

An alternative method for estimating above-ground production in mangrove communities of Biscayne National Park, Florida. Ecological Society of America annual meeting, Snowbird, UT. August 2000.

The status of four endemic pine rockland herbs in the Florida Keys: implications for long term management. Ecological Society of America annual meeting, Snowbird, UT. August 2000.

The L-31E surface water redirection project: coastal wetland ecosystems and some initial treatment results. Florida Bay Science Conference, Key Largo, FL. November 1999.

Ecological impacts of sea level rise in South Florida. Climate Change and Extreme Events Workshop. Florida International University, Miami, FL. July 1998.

Integrating ecological criteria into fire management in South Florida rocklands. Pine Rocklands Fire Managers Symposium. Key Largo, FL. December 1997.

The Southeast Saline Everglades revisited: vegetation and soil changes during the last century. First Annual Meeting of the Walt Dineen Society. Miami, FL. May 1997.

Water use in mangrove communities of Biscayne National Park, FL. First Annual Meeting of the Walt Dineen Society. Miami, FL. May 1997.

Papers presented (continued)

- Nitrogen and phosphorus in the Florida Keys: groundwater-vegetation relationships. 1992 Symposium on Florida Keys Regional Ecosystem, Miami, Florida, November 1992.
- Has 20th Century sea level rise caused the migration of Florida Keys plant communities? Botanical Society of America annual meeting, San Antonio, Texas, August 1991.
- Pineland decline in the Florida Keys. Ecological Society of America annual meeting, San Antonio, Texas, August 1991.
- Subtropical hammock successional trends in North Key Largo, Florida. Ecological Society of America annual meeting, San Antonio, Texas, August 1991.
- Plant community architecture across habitat gradients in the Florida Keys. Ecological Society of America annual meeting, San Antonio, Texas, August 1991.
- Ecological site classification of terrestrial habitats of the Florida Keys. Ecological Society of America annual meeting, Snowbird, Utah, August 1990.
- Fire history and the forest mosaic near Lesser Slave Lake, Alberta. Northwest Scientific Association annual meeting, Cheney, WA, March 1986.
- Stem unit analysis in oak. 7th Forest Tree Physiology Workshop, Raleigh, N.C., 1983.
- Oak regeneration development after clearcutting in the Ridge and Valley province of Virginia. Virginia Academy of Science annual meeting, Norfolk, VA, May 1981.
- Age structure of an Appalachian oak forest. VA Acad. of Science annual meeting, Charlottesville, VA, May 1980.

GRANTS AND CONTRACTS SUBMITTED AND RECEIVED

2014. Landscape pattern - ridge, slough, and tree island mosaics. U.S. Army Corps of Engineers. \$90,975. **PI**.
2014. CERP monitoring and assessment program: monitoring of tree island condition in the southern Everglades. U.S. Army Corps of Engineers. \$92,667. **Co-PI**.
2014. CERP monitoring and assessment: marl prairie – slough gradients. U.S. Army Corps of Engineers. \$96,281. **Co-PI**.
2013. Resampling of vegetation survey sites within Cape Sable seaside sparrow habitat. Everglades National Park. \$66,087. **Co-PI**.
2013. Abundance, distribution and occupancy of natural nests of the Key Largo wood rat in relation to forest succession. U.S. Fish and Wildlife Service. \$17,625. **PI**
2013. Landscape pattern - ridge, slough, and tree island mosaics. U.S. Army Corps of Engineers. \$90,975. **PI**.
2013. CERP monitoring and assessment program: monitoring of tree island condition in the southern Everglades. U.S. Army Corps of Engineers. \$92,667. **PI**.
2013. CERP monitoring and assessment: marl prairie – slough gradients. U.S. Army Corps of Engineers.

\$96,281. **PI.**

2012. Influence of disturbance, seasonality, and hydrologic controls on coastal forest communities in the Florida Keys. U.S. Fish and Wildlife Service. \$40,760. **PI**
2012. Mapping Ridge and Slough vegetation at the LILA site. South Florida Water Management District. \$6,080. **PI**
2012. Landscape pattern - ridge, slough, and tree island mosaics. U.S. Army Corps of Engineers. \$90,975. **PI.**
2012. CERP monitoring and assessment program: monitoring of tree island condition in the southern Everglades. U.S. Army Corps of Engineers. \$92,667. **PI.**
2012. CERP monitoring and assessment: marl prairie – slough gradients. U.S. Army Corps of Engineers. \$96,281. **PI.**
2012. A synthesis of Everglades freshwater research. The Everglades Foundation. \$91,431. **PI.**
2011. Landscape pattern - ridge, slough, and tree island mosaics. U.S. Army Corps of Engineers. \$206,622. **PI.**
2011. The effect of sea level rise and disturbance on terrestrial ecosystem dynamics and carbon sequestration in a tropical North American island chain. U. S. Department of Energy. \$872,500. **PI** (not funded).
2011. CERP monitoring and assessment: marl prairie – slough gradients. U.S. Army Corps of Engineers. \$122,812. **PI.**
2011. CERP monitoring and assessment program: monitoring of tree island condition in the southern Everglades. U.S. Army Corps of Engineers. \$157,115. **PI.**
2011. Vascular plant community composition and distribution in Cape Sable seaside sparrow Sub-population D. South Florida Water Management District. \$38,531. **PI.**
2011. Assessing the impact of the Deep Fire on hardwood hammocks in Big Cypress National Preserve. U.S. Geological Survey. \$18,000. **PI.**
2010. Deepwater oil spill collaborative research and monitoring plan: impacts on mangrove ecosystems. U.S. Forest Service. \$12,000. **PI.**
2010. CERP monitoring and assessment: marl prairie – slough gradients. U.S. Army Corps of Engineers. \$118,910. **PI.**
2010. CERP monitoring and assessment program: monitoring of tree island condition in the southern Everglades. U.S. Army Corps of Engineers. \$150,660. **PI.**
2010. Landscape pattern - ridge, slough, and tree island mosaics. U.S. Army Corps of Engineers. \$206,622. **Co-PI, Jim Heffernan PI.**
2010. Cape Sable seaside sparrow monitoring and assessment plan. U.S. Army Corps of Eng. \$157,707. **PI.**

2010. A synthesis of Everglades freshwater research. The Everglades Foundation. \$91,431. **PI**; Joel Trexler and Evelyn Gaiser, Co-PI's.
2010. Carbon isotopic signature in the soil organic matter in marl prairie soil cores in the Everglades. U.S. Geological Survey. \$16,446. **PI**.
2009. ULTRA-EX: Double exposures: socio-ecological vulnerabilities in the Miami-Dade urban region. National Science Foundation. \$299,169. **Co-PI**. Gail Hollander PI, and three others.
2009. Cape Sable seaside sparrow monitoring and assessment plan. U.S. Army Corps of Engineers. \$198,537. **PI**.
2009. CERP monitoring and assessment program: monitoring of tree island condition in the southern Everglades. U.S. Army Corps of Engineers. \$132,250. **PI**.
2009. CERP monitoring and assessment: marl prairie – slough gradients. U.S. Army Corps of Engineers. \$114,957. **PI**.
- 2009-2013. Loxahatchee impoundment landscape assessment (LILA): tree island experiments and site management. South Florida Water Management District. \$699,919. **Co-PI**.
2009. Landscape pattern - ridge, slough, and tree island mosaics. South Florida Water Management District. \$191,355. **Co-PI**.
2009. Tree islands in Everglades landscapes: current status, historical changes, and hydrologic impacts on population dynamics and moisture relations (addendum). \$45,626. US Department of Interior. **PI**.
2008. Estimating biomass production and nutrient concentrations of tree species growing along hydrologic gradient on LILA tree islands. \$49,305. South Florida Water Mgt District. **PI**.
2008. Cape Sable seaside sparrow monitoring and assessment plan, 2008-2012. U.S. Army Corps of Engineers. \$136,872. **PI**.
2008. Resampling of permanent pine rockland vegetation plots on Big Pine Key. U.S. Geological Survey. \$45,745. **PI**.
2008. CERP monitoring and assessment program: monitoring of tree island condition in the southern Everglades. US Department of Interior, National Park Service, Everglades National Park. \$39,567. **PI**.
2008. CERP monitoring and assessment: marl prairie – slough gradients. US Department of Interior, National Park Service, Everglades National Park. \$88,481. **PI**.
2007. Dendro-isotope investigation of pine forests from the FL Keys: understanding the interaction of precipitation, sea-level rise and tropical cyclones. Department of Energy, National Institute of Climate Change Research. \$250,643 (not funded). With Bill Anderson.
2007. Vegetation mapping in Biscayne National Park. \$16,436 (addendum). DOI-NPS-Everglades National Park and South Florida/Caribbean Cooperative Ecosystem Studies Unit. **PI**.

2007. Developing allometric biomass equations for saplings of tree species common in Everglades tree islands. \$48,750. South Florida Water Management District. **PI**.
2007. Status and response of endemic pine rockland plants following a storm surge event in the Florida Keys. \$90,250. U.S. Fish and Wildlife Service (not funded).
2007. Lower Keys digital terrain model and vegetation analysis for the National Key Deer Refuge. \$50,000. U.S. Fish and Wildlife Service. **Co-PI**; Keqi Zhang, PI.
2007. Cape Sable seaside sparrow habitat monitoring and assessment project. \$180,278. US Army Corps of Engineers. **PI**.
2007. Prediction of pine forest changes in the Florida Keys due to sea level rise and storm surge inundation. \$120,000. Department of Energy, National Institute of Climate Change Research. **Co-PI**;; Keqi Zhang, PI.
2006. CERP monitoring and assessment program: monitoring of tree island condition in the southern Everglades. \$75,035 . South Florida Water Management District. **PI**.
2006. Developing a data-driven classification of south Florida plant communities, Phase I. \$55,318. DOI-NPS-Everglades National Park and South Florida/Caribbean Cooperative Ecosystem Studies Unit. **PI**.
2006. Vegetation mapping in Biscayne National Park. \$47,762. DOI-NPS-Everglades National Park and South Florida/Caribbean Cooperative Ecosystem Studies Unit. **PI**.
2006. Effects of hydrologic restoration on the habitat of the Cape Sable Seaside sparrow. U. S. Department of Interior, National Park Service, Everglades National Park. \$198,488. (continuation). **PI**.
2005. Fuel development and woody plant invasion in Everglades prairies. \$161,974. US Fish & Wildlife Service. **PI**.
2005. CERP monitoring and assessment: marl prairie – slough gradients. \$207,000. US Department of Interior, National Park Service, Everglades National Park. **PI**.
2005. Loxahatchee impoundment landscape assessment (LILA): tree island experiments and site management. South Florida Water Management District. \$460,000 over 3 years. **Co-PI**; Len Scinto, PI & Rene' Price, Co-PI.
2005. Analysis of Everglades fire effects monitoring data. Everglades National Park. \$16,700. **PI**.
2005. Determining the hydrologic requirement of aquatic slough vegetation. \$499,600 over 3 years. US Department of Interior. **Co-PI**; Jennifer Richards, PI, and 3 others.
2004. Tree islands in Everglades landscapes: current status, historical changes, and hydrologic impacts on population dynamics and moisture relations. \$535,000 over 3 years. US Department of Interior. **PI**; S. Oberbauer Co-PI.
2004. A spatial simulation model to predict prairie and marsh vegetation types in the Everglades. \$74,478. US Department of Interior. (Not funded).

2004. Documenting the importance of water flow to Everglades landscape structure and sediment transport in Everglades National Park (continuation). \$206,598. US Department of Interior. **Co-PI**; Dan Childers, PI.
2004. Effects of hydrologic restoration on the habitat of the Cape Sable Seaside sparrow. U. S. Department of Interior, National Park Service, Everglades National Park. \$39,600. (continuation). **PI**.
2004. Vegetation mapping in the Biscayne Bay Coastal Wetlands project area. \$145,000. South Florida Water Management District. With Keqi Zhang (Not funded).
2003. Effects of hydrologic restoration on the habitat of the Cape Sable Seaside sparrow. U. S. Department of Interior, National Park Service, Everglades National Park. \$192,382. (continuation). **PI**.
2003. Assessment of construction methodologies for wetland restoration of water distribution features in Biscayne National Park. \$50,000. US Department of Interior, National Park Service. **PI**; Jack Meeder, Co-PI.
2003. Large-scale assessment of mangrove landscape changes using enhanced Shuttle Radar Topography Mission data, LIDAR data, and ground observations. \$199K over 3 years. NASA, via Jet Propulsion Laboratory. **PI**; Keqi Zhang, Co-PI.
2003. Exploring spatial variation in climate to predict future fuel and fire dynamics in pine rockland ecosystems. \$68K over 3 years. Submitted to Joint Fire Science Program via USDA Forest Service, Southern Forest Experiment Station. (Not funded)
2003. Vegetation dynamics in Everglades marshes, with emphasis on Taylor Slough. National Park Service, Everglades National Park. \$8,000. **PI**.
2002. Determining rates and biological consequences of salt-water encroachment in coastal wetlands of Biscayne National Park. U.S. Department of Interior, National Park Service. \$86,760. **Co-PI**; Evelyn Gaiser, PI.
2002. Effects of hydrologic restoration on the habitat of the Cape Sable Seaside sparrow. U. S. Department of Interior, National Park Service, Everglades National Park. \$186,728. **PI**.
2001. Documenting the importance of water flow to Everglades landscape structure and sediment transport in Everglades National Park. U. S. Department of the Interior, National Park Service, Biscayne National Park. \$560,000. **Co-PI**; Dan Childers, PI; Helena Solo-Gabriele, and Lynn Leonard, Co-PI's.
2001. Water flow through coastal wetlands. U. S. Department of the Interior, National Park Service, Biscayne National Park. \$180,000. **Co-PI**; Evelyn Gaiser, PI.
2001. L-31E wetlands and flow monitoring. South Florida Water Management District. \$136,000. **PI**; Jack Meeder and Ron Jones, Co-PI's.
2000. Everglades National Park tree islands: interactions of hydrology, vegetation, and soils. U. S. Department of Interior, National Park Service, Everglades National Park. \$333,263. **PI**; Steve Oberbauer and Krish Jayachandran, Co-PI's).
2000. Shark and Taylor Slough vegetation monitoring (continuation). U. S. National Park Service. \$50,000. **PI**.

1999. Southern Biscayne Bay watershed historical creek characterization. Florida Center for Environmental Studies. \$74,000. **Co-PI**; Jack Meeder, PI, and Evelyn Gaiser, and Rudolf Jaffe, Co-PI's.
1998. L-31E wetlands and flow monitoring. South Florida Water Management District. \$136,000. **PI**; Jack Meeder, Co-PI.
1997. Developing ecological criteria for prescribed fire in South Florida pine rockland ecosystems. U. S. Department of Interior Fire Initiative. \$464,000. **PI**; Suzanne Koptur and Jim Snyder, Co-PI's.
1996. L-31E flow redistribution monitoring (addition). South Florida Water Management District. \$368,766. **PI**; Jack Meeder, Co-PI.
1996. Effects of L-31E flow redistribution on nearshore benthic communities in Biscayne National Park. U. S. National Park Service. \$50,000. **Co-PI**; Jack Meeder, PI.
1996. Shark and Taylor Slough vegetation monitoring. U. S. National Park Service. \$175,000. **PI**.
1995. A study of the distribution of several South Florida endemic plants in the Florida Keys. U. S. Fish and Wildlife Service. \$24,798. **PI**.
1995. Effects of Hurricane Andrew on the upland forests of Biscayne National Park. U. S. National Park Service. \$70,000. **PI**, Jack Meeder, Co-PI.
1994. A strategic plan for conservation of Florida plants. Center for Plant Conservation. \$12,000. **PI**.
1993. Effects of Hurricane Andrew on the Crocodile Lakes National Wildlife Refuge. U.S. Fish and Wildlife Service. \$75,000. **PI**. Jack Meeder, Co-PI.
1993. L-31E flow redistribution monitoring. South Florida Water Management District. \$380,000. **PI**, Jack Meeder, Co-PI.
1993. Vegetation analysis of C-111 and Taylor Slough basins. South Florida Water Management District. \$196,000. **PI**. Jack Meeder, Co-PI.
1993. Effects of Hurricane Andrew on the distribution of rare plants in south Florida pine rocklands, with emphasis on edaphic factors. U.S. National Park Service. \$84,000. (with Jack Meeder)
1992. Terrestrial ecosystems of the Curry Tract, Fat Deer and Long Point Keys, Florida. The Nature Conservancy. \$9,000. **PI**. (at National Audubon Society, Tavernier, FL).
1991. Vegetation and landscape ecology of central Big Pine Key. The Nature Conservancy. \$15,000. **PI**. (at National Audubon Society, Tavernier, FL).
1989. Ecosystem study of the lower Florida Keys. The Nature Conservancy. \$25,000. **PI**. (at National Audubon Society, Tavernier, FL).

OTHER RESEARCH ACTIVITIES

Research collaborator, Florida Coastal Everglades LTER (Years)

Symposium Organizer, INTECOL Wetlands Conference: Self-organized Wetland Landscapes (June 2012)

TEACHING ACTIVITIES

Classes taught ---

EVR 5069/PCB 4452 (Wetland Ecology and Management) Fall 2010 (Mean student evaluation, 3.08)

EVR 4594 (Analysis of South Florida Ecosystems) Spring 2010 (3.38), Spring 2011 (3.08), Spring 2012 (3.84)

EVR 4596L (Field Methods in Ecology, Lab) Fall 2006 (2.33), Spring 2008 (NA), Spring 2009 (3.47), Spring 2010 (3.13), Spring 2011 (3.00), Spring 2012 (3.72)

EVR 5320 (Environmental Resource Management) Spring 2007 (2.95), Spring 2008 (2.48), Spring 2009 (3.02)

EVR 6950 (Graduate Seminar) Fall 2013

Graduate Committees directed, Florida International University.

Environmental Studies program --- 8 M. Sc. completed, 3 in progress

Ramon Salazar Ortiz (Began Fall 2012)

Josh Diamond (Began Fall 2012)

Nathan Shemella (Began Fall 2012)

Suresh Subedi. 2011. Thesis: Interactions of nutrient availability, substrate, and hydrology on the growth of Everglades tree island species.

Marissa Benigno. 2009. Directed study topic: Arsenic regulation in Miami-Dade County soils.

Elaine Fontes. 2008 (Co-advisor). Thesis: Tracking the effects of physical and chemical changes using past and current chironomid and Chaoborus assemblages in Lake Annie, FL.

Erin Hanan. 2008. Thesis: Multi-scaled patterning of plant-soil-water interactions across tree islands and marshes within the prairie and slough landscapes of Everglades National Park.

David Reed. 2007. Thesis: Effect of hydrology and light on seedling establishment and growth of four wetland tree species in tree islands of northern Shark Slough, Everglades National Park.

Robin Gray-Urguelles, 2006. Independent Study: Analysis of performing controlled burns in the wildland-urban interface of Miami-Dade County.

Hillary Cooley. 2004. Thesis: Palm fuel dynamics in fire-sustained pine forests in the Florida Keys.

Earth Systems Science --- 3 Ph.D in progress

Danielle Ogurcak (Began Fall 2008). Dissertation topic: The future of the endemic pine rockland community on the island of Big Pine Key, FL: the use of functional traits to predict successional trajectories resulting from the interaction of disturbance events and sea-level rise.

Teaching activities (continued)

Suresh Subedi (Began Fall 2011). Dissertation topic: A functional trait approach to examine plant community dynamics in south Florida hammock forests.

Josh Diamond (Began Fall 2014). Dissertation topic: Forest-frugivore interactions in tropical dry forests of Florida and the Caribbean.

Graduate Committee memberships, Florida International University

Biological Science --- 7 completed, 6 in progress (Kristie Wendelberger, Jeremy May, Mike Bush, Sara Edelman, Sean Charles, Ross Boucek, Nicole Sebesta)

Environmental Studies --- 14 completed, 3 in progress (Meghan Gonzalez, Mario Cisneros, Brad Schonhoff).

Geosciences --- 1 completed, 1 in progress (Carrie Rebenack,).

Earth Systems Science – 1 in progress (Jessie Blanchard)

Outside Committee memberships

University of Miami, Department of Biology --- 1 completed (Xin Wang)

University of Florida, Center for Wetland Soils --- 1 completed (Daniel Irrick)

Extended lecture series --- Tropical Forest Management (Winter 2000, Winter 2001).

Undergraduate independent study courses directed, Florida International University --- 7 completed.

Numerous university classroom lectures presented, field trips lead.

Public environmental education lectures --- John Pennekamp Coral Reef State Park, Long Key State Park, Isaak Walton League of Key Largo, Bent Tree Cub Scout Pack, and others.

Instructor, Silviculture Laboratory, VPI&SU. (1980).

Graduate Teaching Assistantship in Silviculture and Forest Ecology, VPI&SU. (1979-82).

ACADEMIC & PROFESSIONAL SERVICE ACTIVITIES

Member, Dissertation Advisor Status Evaluation Committee (DASEC), 2013 – present (current chair)

Member, EVR Graduate Committee, 2006 - present Contributor,

FIU Preserve Committee (Shadehouse facility) Member, SERC

Policies and Procedures Committee, 2000-2001. Organizer,

SERC Brownbag Seminar Series, 1999-2001.

Appointee to Land Acquisition Selection Committee (LASC) for the Environmentally Endangered Lands (EEL) program, Miami-Dade County, 2007-present

South Florida pine rockland working group

Big Pine Key fresh water lens working group

Miami-Dade County Environmentally Endangered Lands Program - Technical Review Team

Service Activities (continued)

Everglades conceptual model working groups - mangrove estuary, marl prairie, ridge and slough.

Biscayne Bay Coastal Wetlands working group

Biscayne Bay Partnership Initiative --- Science working group.

Manuscript review for many ecological journals and several book publishers

AWARDS

FIU Division of Sponsored Research & Training outstanding contribution award, 1996-97

PROFESSIONAL MEMBERSHIPS

International Association of Vegetation Science

Ecological Society of America

Society of Wetland Scientists

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