# Everglades Publications by Susan Newman

SENIOR SCIENTIFIC SECTION LEAD
Watershed Management/Everglades Division
snewman@sfwmd.gov

**Education:**

- **Doctor of Philosophy** 1991, University of Florida. Major in Soil Science (wetland Biogeochemistry), minor in Environmental Engineering Sciences (water chemistry).
- **Master of Science** 1987, University of Florida. Major in Agronomy (aquatic plants), minor in Soil Science.
- **Bachelor of Science Honors** 1984, University of Manchester Institute of Science and Technology, England. Joint Honors Degree in Management and Chemical Sciences.
- **Courtesy Faculty** at the University of Florida. September 1997-Present.

**Expertise:**

- Wetland Biogeochemistry
- Wetland Ecology

**Projects:**

- Cattail Habitat Improvement Project (CHIP)
- Response to Changing Trophic and Hydrologic
- Phosphorus Threshold Research
- Everglades Marshes Following P Enrichment
- Hydrologic Needs of Everglades Marshes
- Nutrient Cycling Water Quality in Everglades Tree Islands

**Publications:**

El-Rifai, H., M. Heerboth, T.E. Gedris, S. Newman, W.H. Orem, and W.T. Cooper. 2008. NMR and mass spectrometry of phosphorus in wetlands. In press. European J. of Soil Science

Hagerthey, S.E., S. Newman, K. Rutchey, E.P. Smith, and J. Godin. 2008. Multiple regime shifts in a subtropical peatland: establishing community specific thresholds to eutrophication. Ecology. In press.

Liston, S.E., S. Newman, and J.C. Trexler. 2008. Macroinvertebrate community response to eutrophication in an oligotrophic wetland: an in situ mesocosm experiment. Wetlands. In press.

Penton, C.R. and S. Newman. 2008. Enzyme resource allocation influences on landscape heterogeneity in the Florida Everglades. J. Env. Qual. In press.

Wetzel, P.R., A.G. van der Valk, S. Newman, C. A. Coronado, T. G. Troxler-Gann, D. L. Childers, W.H. Orem, and F.H. Sklar. 2008. Heterogeneity of Phosphorus Distribution in a Patterned Landscape, the Florida Everglades. Plant Ecology. In press.

Bruland, G.L., T.Z. Osborne, K.R. Reddy, S. Grunwald, S. Newman and W.F. DeBusk. 2007. Recent changes in soil total phosphorus in the Everglades: Water Conservation Area 3. Environmental Monitoring and Assessment. 129:379-395

Corstanje, R., K.R. Reddy, J.P. Prenger, S. Newman, and A.V. Ogram. 2007. Soil microbial eco-physiological response to nutrient enrichment in a sub-tropical wetland. Ecological Indicators 7:277-289

Inglett, P.W., K.R. Reddy, S. Newman, and B. Lorenzen. 2007. Increased soil stable nitrogen isotopic ratio following phosphorus enrichment: historical patterns and test of two hypotheses in a phosphorus-limited wetland. Oecologia 153:99-109.

Penton, C.R. and S. Newman. 2007. Enzyme activity responses to nutrient loading in subtropical wetlands. Biogeochemistry. 84(1):83-98.

Rivero, R.G., S. Grunwald, T.Z. Osborne, K.R. Reddy, and S. Newman. 2007. Characterization of the spatial distribution of soil properties in water conservation area 2A, Everglades, Florida. Soil Science 172(2):149-166.

Turner, B.L., S. Newman, A.W. Cheesman, and K.R. Reddy. 2007. Sample pretreatment and phosphorus speciation in wetland soils by NaOH-EDTA extraction and solution phosphorus-31 nuclear magnetic resonance spectroscopy. Soil Sci. Soc. Am. J. 71:1538-1546.

Bruland, G.L., S. Grunwald, T.Z. Osborne, K.R. Reddy, and S. Newman. 2006. Spatial distribution of soil properties in Water Conservation Area 3 of the Everglades. Soil Sci. Soc. Am. J. 70(5): 1662-1676

Corstanje, R., S. Grunwald, K.R. Reddy, T.Z. Osborne, and S. Newman. 2006. Assessment of the spatial distribution of soil properties in a northern Everglades marsh. J. Environ. Qual. 35:938-949.

Leeds , J.A., S. Newman, and S.M. Smith. 2006. Restoration of native vegetation in high nutrient areas in the northern Everglades. Wetlands. 26:368-375.

Ogram, A., S. Bridgham, R. Corstanje, H. Drake, K. Küsel, A. Mills, S. Newman, K. Portier, and R. Wetzel. 2006. Linkages between microbial community composition and biogeochemical processes across scales. In. JTA. Verhoeven, B. Beltman, R. Bobbink, and DF Whigham (eds). Wetlands as a natural resource. Ecological Studies 190: Volume 2: Wetlands: functioning, biodiversity.

Turner, B.L., S.Newman, and J.M. Newman. 2006 . Organic phosphorus sequestration in sub-tropical treatment wetlands. Environ. Sci. Technol. 40:727-733.

Turner, B.L., S. Newman, and K.R. Reddy. 2006. Overestimation of organic phosphorus in wetlands soils by alkaline extraction and molybdate chemistry. Environ. Sci. Technol. 40:3349-3354.

Castro, H., S. Newman, K.R. Reddy, and A. Ogram. 2005. Distribution and stability of sulfate reducing prokaryotic and hydrogenotrophic methanogenic assemblages in nutrient-impacted regions of the Florida Everglades. Appl. Environ. Microbiol. 71:2695-2704.

Sklar, F.H., M.J. Chimney, S. Newman, P.V. McCormick, D. Gawlik, S. Miao, C. McVoy, W. Said, J. Newman, C. Coronado, G. Crozier, M. Korvela, and K. Rutchey. 2005. The ecological-societal underpinnings of Everglades restoration. Front. Ecol. Environ. 3:161-169.

Turner, B.L., B. J. Cade-Menun, L.M. Condron, and S. Newman. 2005. Extraction of organic phosphorus. Talanta. 66:294-306.

Turner, B.L., and S. Newman. 2005. Soil phosphorus compounds in subtropical wetlands: The importance of phosphate diesters. J. Environ. Qual. 34:1921-1929.

Wetzel, P.R., A.G. van der Valk, S. Newman, D.E. Gawlik, T. Troxler Gann, C.A. Coronado-Molina, D.L. Childers and F.H. Sklar. 2005. Maintaining tree islands in the Florida Everglades: nutrient redistribution is the key. Front. Ecol. Environ. 7:370-376.

Grunwald, S., K.R. Reddy, S. Newman and W.F. DeBusk. 2004. Spatial variability, distribution, and uncertainty assessment of soil phosphorus in a south Florida wetland. Environmetrics 15:811-825

Newman, S , P.V. McCormick, S.L. Miao, J.A. Laing, W.C. Kennedy, and M.O. Dell. 2004. The effect of phosphorus enrichment on the nutrient status of a northern Everglades slough Wetl. Ecol. Manage. 12(2):63-79.

Newman, S ., P.V. McCormick, and J.G. Backus. 2003. Phosphatase activity as an early warning indicator of wetland eutrophication: problems and prospects. J. Appl. Phycol. 15:45-59.

DeBusk, W.F., S. Newman, and K.R. Reddy. 2001. Spatio-Temporal Patterns of Soil Phosphorus Enrichment in Everglades Water Conservation Area 2A . Journal of Environmental Quality, 30: 1438-1446.

McCormick, P. V., S. Newman, S. L. Miao, D. E. Gawlik, D. Marley, K. R. Reddy, T. D. Fontaine. 2001. Effects of anthropogenic phosphorus inputs on the Everglades. in J. W. Porter and K. G. Porter. The Everglades, Florida Bay, and Coral Reefs of the Florida Keys: An ecosystem sourcebook. 83-126 CRC Press, Boca Raton, FL.

Miao, S., P. McCormick, S. Newman, S. Rajagopalan. 2001. Interactive effects of seed availability, water depth, and phosphorus enrichment on cattails colonization in an Everglades wetland. Wetlands Ecology and Management, 9:39-47.

Newman, S., H. Kumpf, J. A. Laing, W. C. Kennedy. 2001. Decomposition Responses to Phosphorus Enrichment in an Everglades (USA) Slough. Biogeochemistry, 54:229-250

Newman, S., K. Pietro. 2001. Phosphorus Storage and Release in Response to Flooding: Implications for Everglades Stormwater Treatment Areas. Ecological Engineering, 18:22-38.

Smith, S.M., S. Newman. 2001. Growth of southern cattail (Typha domingensis, Pers.) in response to fire-related soil conditions in a northern Everglades marsh. Wetlands 21(3): 363-369.

Smith, S.M., S. Newman, P.B. Garrett, J.A. Leeds. 2001. Effects of above- and below-ground fire on soils of a northern Everglades marsh. Journal of Environmental Quality 30: 1998-2005.

Miao, S., S. Newman, F.H. Sklar. 2000. Effects of habitat nutrients and seed sources on growth and expansion of Typha domingensis. Aquatic Botany, 68(4):297-311.

Newman, S., J. Robinson. 1999. Forms of Organic Phosphorus in Water, Soils, and Sediments. Phosphorus Biogeochemistry in Sub-tropical Ecosystems, In. K.R. Reddy, G.A. O'Connor, and C.L. Schelske (eds) Phosphorus biogeochemistry in sub-tropical ecosystems. CRC/Lewis Publishers. pp.207-223.

Newman, S., J. Schuette, J. Grace, J. Rutchey, S. Fontaine, J. Reddy, J. Pietrucha. 1998. Factors Influencing Cattail Abundance in the Northern Everglades. Aquatic Botany 60(1998):265-280.

Newman, S., K. Reddy, W. DeBusk, Y. Wang, G. Shih, M. Fisher. 1997. Spatial Distribution of Soil Nutrients in a Northern Everglades Marsh: Water Conservation Area 1. Soil Science Society of American Journal, 61(4):1275-1283.

Newman, S., J. Grace, J. Koebel. 1996. Effects of Nutrients and Hydroperiod on Typha, Cladium, and Eleocharis: Implications for Everglades Restoration.Applications 6(3):774-783.

Abtew, W., M. Chimney, T. Kosier, M. Guardo, S. Newman, J. Obeysekera. 1995. The Everglades Nutrient Removal Project: A Constructed Wetland Designed to Treat Agricultural Runoff/Drainage.Versatility of Wetlands in the Agricultural Landscape – Proceedings of the International Symposium, Tampa, FL:45-57.

Abtew, W., S. Newman, K. Pietro, T. Kosier. 1995. Canopy Resistance Studies of Cattails. Transactions of the ASAE, 38(1):113-119.

Guardo, M., L. Fink, T. Fontaine, S. Newman, Et.al. 1995. Large-Scale Constructed Wetlands for Nutrient Removal from Stormwater Runoff: An Everglades Restoration Project. Environmental Management, 19(6):879-889.

Newman, S., F.J. Aldridge, E.J. Phlips, and K.R. Reddy. 1994. Assessment of phosphorus availability for natural phytoplankton populations from a hypereutrophic lake. Arch. Hydrobiol. 130:409-427.

Newman, S., J. Roy, J. Obeysekera. 1993. The Florida Everglades nutrient removal project. Hydraulic Engineering '93. H.W. Shen, S.T. Su and F. Wen, Eds. ASCE. New York. pp 430-435.

Newman, S. and K.R. Reddy. 1993. Alkaline phosphatase activity in the sediment-water column of a hypereutrophic lake under anoxic conditions. J. Environ. Qual. 22:832-838

Kadlec, R., S. Newman. 1992. Phosphorus Removal in Wetland Treatment Areas - Principles and Data - Everglades Protection - Stormwater Treatment Area Design Support Document, South Florida Water Management District.

Newman, S. and K.R. Reddy. 1992. Sediment resuspension effects on alkaline phosphatase activity. Hydrobiologia. 245:75-86.

Newman, S. and W.T. Haller. 1988. Mineral deficiency symptoms of waterhyacinth. J. Aquat. Plant Manage. 26:55-58.