


Science roundup

by I. Jack Stout, Professor of Biology 

I have always found joy in the scattered wild places that persist along what are often well-traveled routes to my work place or other frequently visited locations. In central Florida, all too often, development eventually gets to these places and site "improvement" occurs. Thomas Gavin and Paul Sherman, Cornell University, write in *Conservation Biology* 9(6):1343-1344 (1995) that they travel once a year along Interstate 80 from Ithaca, New York, to Council, Idaho, to conduct research. They observed that no natural vegetation remained along the entire route. This suggested to them a general problem: development has left this country very little old growth vegetation (forest, prairie, steppe, etc.) that is indicative of the original plant communities. Gavin and Sherman propose Proposition 80 (named after the highway) as a solution to this dilemma. That is, within each of the 3073 counties across this country, a natural area should be set aside for the public good. These areas should be two to four square miles in area and selected by local experts in the natural history of each region. Management would be minimized, and in decades to come, succession and disturbances would shape the vegetation development. Future generations could profit from

seeing these benchmarks and recognizing what "natural" communities really looked like. Fortunately, in Florida we have a start on Proposition 80 in the lands set aside by Preservation 2000, CARL, TNC, SWIM, and already existing state parks and forests. I would certainly like to see Proposition 80 taken seriously across this country.


We all know it is impossible to prove our theories within the limits of normal science. We do, however, strive to make the best case possible. An interesting example of normal science in action is illustrated by a recent paper dealing with the Florida Keys (Ross, M. S., J. J. O'Brien, and L. d. S. L. Sternberg. 1994. *Sea level rise and the reduction in pine forests in the Florida Keys. Ecological Applications* 4(1):144-156). This story begins with the observation by Taylor Alexander in 1953 of dead slash pine overgrown by mangroves on Key Largo. Taylor Alexander reasoned that halophytes could only be invading former pinelands as a result of subtle changes in sea level. Ross and his co-workers, using a plethora of modern techniques, examined the declining pine forests on Sugarloaf Key in the Lower Keys. They found that the area of the pine forest had covered at least eighty-eight hectares historically, declined to forty-six hectares by 1935, and thirty

hectares in 1991. Sea level had increased 15 cm over the last seventy years. The approach taken by Ross et al. was to show that higher groundwater and soil water salinity was correlated with zones of pine dieback relative to areas without evidence of pine mortality or stress. Based on a rather complex data set, they suggested that salinization of the substrate was and continues to be a major factor in the reduction of the pine forest.

Taylor Alexander can take a pride in the knowledge that he was right in 1953. Ross et al. hypothesize the Florida Keys will be increasingly impoverished of plant community and species diversity as the more complex upland communities are replaced by, for example, simpler mangrove communities. We can guess that forty years from now science will spin another tale building on the insight of Alexander and the data-rich study of Ross, O'Brien, and Sternberg.

Warren Abrahamson of Bucknell University has been studying saw palmetto (*Serenoa repens*) and scrub palm (*Sabal etonia*) at the Archbold Biological Station since 1980. Abrahamson made an invited presentation on his palmettos at the 1995 FNPS Conference in Tallahassee. The first published paper on this work (*Habitat distribution and competitive neighborhoods of two*

Florida palmettos. Bull. Torrey Bot. Club 122(1):1-14, 1995) has now appeared. Repeated measures of the same individuals allowed Abrahamson to suggest that many of these palms may be in excess of 500 years old. Growth rates were found to be very slow. The appearance of new seedlings was a relatively rare event and Abrahamson speculated reinvasion of former habitats, for example, improved pastures, will be a very slow natural process.

Harry E. Luther, Marie Selby Botanical Gardens, has reported *Tillandsia fasciculata* var. *fasciculata* for the first time in Florida (A new record for *Tillandsia [Bromeliaceae]* in Florida. 1993. *Rhodora* 95(no. 883/884):342-347). 

Ecosystem Restoration Workshop

The Society for Ecological Restoration and the Florida Institute of Phosphate Research are sponsoring a workshop to be held April 25 and 26, 1996, in Lakeland, Florida. The workshop is a follow-up to the Wiregrass Ecosystem Restoration Workshop held in 1994. The purpose is to exchange up-to-date information and develop cooperative efforts to advance the art and science of ecosystem restoration.

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