PhD Dissertation
Department of Environmental Science and Policy
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Title: Ecosystem-Condition Evaluation of the Complex, Critically-Endangered Pine Rockland Ecosystem: Indicators, Unmanned Aerial Systems (UASs), and an Emphasis on Herbaceous Ground Cover Diversity

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ABSTRACT

An ecosystem evaluation process was applied to the critically-endangered South Florida (S FL) pine rockland (PR)(pine/grassland) ecosystem, using a) unmanned aircraft systems (UAS) surveys, and newly-developed (under-the-canopy) UAS manual flight methods; b) the synthesis of multiple data sources and types; and c) complex adaptive system (CAS) principles (redundancy, feedback loops, resiliency, alternative stable states), to identify healthy system indicators and evaluate system complexity and diversity; with the purpose of developing systematic ecosystem evaluation and reporting methods that contribute to the advancement of ecosystem protection policies, and the health assessment and conservation of global ecosystem biodiversity.