TOOL FOR WETLAND AND WATER PROJECT PRIORITIZATION IN THE INDIAN RIVER LAGOON WATERSHED

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Florida has been transformed from an entirely natural to a largely built environment, mostly since it achieved statehood in 1845. This has resulted in widespread loss of natural capital, and the ecosystem services it supports. An example is St. Lucie County, in the Indian River Lagoon Watershed. In the 1850s, 90% of the county was wetland and there were 0.1 km of channels per km^2; today, 9% of the county is wetland and there are 25 km of channels per km^2. We are now living with the unintended consequences, which include poor water quality and associated harmful algal blooms. We cannot restore all the lost natural capital because it would not be compatible with the ways and qualities of life of the 22M residents 140M annual visitors. However, we can and should use wetland conservation and restoration, to the extent possible. Unfortunately, we generally lack regionally calibrated tools for prioritizing among potential wetland restoration and conservation projects, so decision-making is typically ad hoc. We are overcoming this by calibrating a geospatial tool for prioritizing among wetland conservation and restoration opportunities in St. Lucie County. The tool is flexible, as the user defines the weights assigned to prioritization criteria, which include land use history, hydrological connectivity, present and future land condition, and opportunities for interagency collaboration. The user enters the weights through a series of straightforward queries, lending transparency and objectivity to the project screening process. The tool is being incorporated into wetland conservation and restoration discussion and decision-making in St. Lucie County and is serving as the framework for a planned expansion throughout the entirety of the Indian River Lagoon Watershed.

PRESENTER BIO: Dr. Kai Rains is a Research Associate Professor at the University of South Florida. Her research interest is in ecosystem response to environmental stress from the organismal to the landscape scale and in development of geospatial tools for natural resource assessment and management with a focus on waters and wetlands.