

Development of a Conceptual Model of Everglades Landscape Dynamics (WORKSHOP)

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The purpose of the workshop is to develop a conceptual model to focus research and narrow uncertainties about restoring landscape pattern and ecological function in the central Everglades. The ridge and slough landscape of the Everglades is the product of complex feedbacks between hydrologic and ecological processes. Degradation of the ridge and slough landscape during the past century is well documented – less certain are the processes that have led to the degradation. Feedbacks between sheet flow, organic matter transport and nutrient retention, plant productivity and decomposition, and resulting soil buildup and/or erosion are known to be involved, but the relative importance of these interrelationships in maintaining species composition and ecological functions of the ridge and slough ecosystem are not well enough understood. Those feedbacks are also involved in the physical and biological processes that determine the forms of storage and rates of movement of contaminants being transported with flowing water toward downstream receiving waters. One of the centerpiece projects of Everglades restoration called Decompartmentalization outlines a plan to restore sheet flow to its former pre-drainage levels as a means to conserve landscape pattern, species composition, and ecological function of the ridge and slough ecosystem. While the primary drivers of landscape change are generally known, the complex interrelationships which will determine the reversibility of landscape degradation remains uncertain. One important tool that is currently unavailable is a conceptual model of ridge and slough landscape dynamics to aid initially in identifying the major uncertainties and to serve in the future to adaptively guide Decompartmentalization.

The workshop aims to bring together scientists, managers, and stakeholders seeking to contribute their knowledge or hoping to learn more about the interrelationships between hydrology, organic matter transport, and landscape dynamics in the ridge and slough environment of the Greater Everglades Ecosystem. The workshop will feature invited panelists who will respond to the challenge by offering their candidate conceptual models. Panel discussion and audience participation will discuss and critique the models and address the following question,

“How Will Restored Sheet Flow Reverse the Degradation of the Ridge and Slough Landscape?”.

Posting of workshop notes, graphics, and continuing commentary will promote the further evolution of a conceptual model to guide sheet-flow restoration in the Everglades.

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