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**The Use of Conceptual Ecological
Landscape Models as Planning Tools for the
South Florida Ecosystem Restoration
Programs**

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EXECUTIVE SUMMARY

An Applied Science Strategy has been developed by south Florida scientists as a process for organizing current scientific understandings of wetland ecosystems into formats that can effectively support the emerging ecosystem restoration programs. A new and more structured science application strategy was needed in south Florida because of the substantially greater complexity and scales of ecological issues associated with the regional focus of the restoration goals. This science strategy is being used to direct much of the planning and evaluation of the C&SF Restudy Program.

An essential component of the science strategy is a set of conceptual ecological models developed at landscape scales for the major wetland systems in south Florida. This report explains the development and application of these models and describes eight of the models currently in use. The current set of models are for Lake Okeechobee, the Caloosahatchee and St. Lucie estuaries, the Everglades ridge and slough landscape, the southern Everglades marl prairies and rocky glades, the southern Everglades mangrove estuaries, Big Cypress basin, Biscayne Bay, and Florida Bay. A ninth conceptual model is being developed for the Total System.

The conceptual model present the consensus opinion of south Florida scientists and land managers on the causal assumptions that best explain how the wetlands have been altered by human influences. The Model also identify the ecological elements that best indicate the health of the system. The C&SF Restudy planning team is using the information in these models to define the specific ecological problems that must be resolved and to determine what changes must occur in the natural system for the Comprehensive Plan to be successful. A Set of performance measures and restoration targets based on the conceptual models will lay the foundation for the design of a regionally comprehensive monitoring program and for the institution of an adaptive assessment strategy for reaching long-term restoration goals.

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