1. Record Nr. UNINA9910450924803321

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Titolo	The Everglades experiments [[electronic resource]] : lessons for ecosystem restoration / / Curtis J. Richardson
Pubbl/distr/stampa	New York, : Springer, c2008
ISBN	1-281-24221-7 9786611242213 0-387-68923-0
Edizione	[1st ed. 2008.]
Descrizione fisica	1 online resource (695 p.)
Collana	Ecological studies ; ; v. 201
Disciplina	639.909759/39
Soggetti	Ecosystem management - Research - Florida - Everglades Ecosystem management - Florida - Everglades Restoration ecology - Florida - Everglades Electronic books. Everglades (Fla.) Environmental conditions Research Everglades (Fla.) Environmental conditions
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Everglades Ecosystem -- Overview of Gradient Studies and Experiments -- Ecological Status of the Everglades: Environmental and Human Factors that Control the Peatland Complex on the Landscape -- Soil Characteristics of the Everglades Peatland -- Vegetation and Algae of the Everglades Fen -- Nutrient and Hydrologic Gradient Studies -- to the Gradient Studies -- Enrichment Gradients in WCA-2A and Northern WCA-3A: Water, Soil, Plant Biomass, and Nutrient Storage Responses -- Geologic Settings and Hydrology Gradients in the Everglades -- Effects of Hydrologic Management Decisions on Everglades Tree Islands -- Macrophyte Community Responses in the Everglades with an Emphasis on Cattail (Typha domingensis) and Sawgrass (Cladium jamaicense) Interactions along a Gradient of Long-Term Nutrient Additions, Altered Hydroperiod, and Fire -- Algal Responses to Long-Term Nutrient Additions -- Macroinvertebrate Responses to a Gradient of Long-Term Nutrient Additions, Altered Hydroperiod, and Fire -- Historical Changes in Water Quality and Vegetation in WCA-2A Determined by

Paleoecological Analyses -- Carbon Cycling and Dissolved Organic Matter Export in the Northern Everglades -- Everglades Experiments -- to a Mesocosm Approach for Establishment of Phosphorus Gradient Experiments -- Water Quality, Soil Chemistry, and Ecosystem Responses to P Dosing -- Macrophyte Slough Community Response to Experimental Phosphorus Enrichment and Periphyton Removal -- Decomposition of Litter and Peat in the Everglades: The Influence of P Concentrations -- Experimental Assessment of Phosphorus Effects on Algal Assemblages in Dosing Mesocosms -- Macroinvertebrate and Fish Responses to Experimental P Additions in Everglades Sloughs -- Plant Community Response to Long-Term N and P Fertilization -- The Effects of Disturbance, Phosphorus, and Water Level on Plant Succession in the Everglades -- Establishment and Seedling Growth of Sawgrass and Cattail from the Everglades -- Modeling Ecosystem Responses to Phosphorus Additions -- Long-Term Phosphorus Assimilative Capacity (PAC) in the Everglades -- Spatial Distributions of Total Phosphorus and Phosphorus Accretion Rates in Everglades Soils -- An Ecological Basis for Establishment of a Phosphorus Threshold for the Everglades Ecosystem -- Lessons for Restoration of the Everglades -- An Ecological Approach for Restoration of the Everglades Fen.

Sommario/riassunto

Covering more than 4,300 square miles in Southern Florida, the Everglades are the largest subtropical wilderness in the United States. It has been designated an International Biosphere Reserve, a World Heritage Site, and a Wetland of International Importance, in recognition of its significance to all the people of the world. However, it is apparent that the Everglades have undergone radical changes in both water flow and water quality over the years. The Everglades Experiments: Lessons for Ecosystem Restoration is a synthesis of the key findings and a summary of the experiments conducted during a fourteen-year period (1989-2003) by the Duke University Wetland Center and its partner institutions. Synthesized by Curtis J. Richardson, the findings are the result of extensive experimental research on the effects of water, nutrients, and fire on the Everglades communities. The research focused on such key questions as: What are the effects of increased nutrient and water inputs on the native plant and animal communities? What is the long-term nutrient storage capacity of the Everglades? and How can water management in the Everglades be improved to maintain the natural communities? This work covers both the structural and functional responses of the Everglades ecosystem via experimental and gradient studies on microbial activity, algal responses, macroinvertebrate populations, macrophyte populations, and productivity in response to alterations to nutrients in soil and water, hydrologic changes, and fire. Importantly, this volume reclassifies the Everglades, provides a comparison of historic and current ecological processes, and presents a new working hydrologic paradigm, which collectively provides essential lessons for the restoration of this vast peatland complex.