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Welcome to the Walt Dineen Society

A forum for communicating about South Florida Ecosystems

Who is Walt Dineen?

J. "Walt" Dineen (1937-1990) was, for close to three decades, a highly respected biologist/ecologist in South Florida. He was Everglades Project Leader for the Florida Game and Fresh Water Fish Commission, and Director of Environmental Sciences at the South Florida Water Management District. Walt was one of the first to develop a broad regional perspective for the Everglades ecosystem, and to use that understanding to influence and improve management practices. Perhaps his most valuable contribution to the Everglades was his strong, personal demonstration of the importance of having well-informed scientists participate in the management and policy debates. For his early role in this process, we honor his name.

Mission

The Walt Dineen Society is an informal, non-affiliated forum, dedicated to the task of substantially improving the communication of technical information on the ecosystems of South Florida, among the natural, physical, and social scientists and the management and policy leaders who work in this region. The Society considers that frequent exchanges of research results, and multi-disciplinary discussions designed to integrate new information with the old, are essential steps leading to improved understandings of the natural components and ecological processes of the South Florida systems. It is these intellectual processes that will assure that our understanding of both the natural and managed systems continue to mature (i.e., "the whole [of our understanding] is greater than the sum of its parts"). By supporting a communications process that is organized from the perspective of systems, in contrast to an issues or project-driven perspective, we believe that science will be in the strongest position to make substantial contributions to the important management and policy questions raised by the restoration programs.

Walt Dineen Society Conferences

To achieve these goals, the Society sponsors conferences pertaining to the ecosystems of South Florida. The main priority of these conference is to encourage everyone who is conducting studies in the natural and physical sciences in South Florida to report on their on-going and completed work. These conferences differ from other technical conferences in the region in that:

- 1 they are systems-focused;
- 2 we encourage participation by all researchers and students of the natural systems of South Florida; and
- 3 the conference is organized to maximize the opportunities for the integration of new information from a broad array of disciplines.

For more information about upcoming or current conferences, please refer to our [Conference Page](#). Program information and abstracts from the first Walt Dineen Conference are available at the [Conference Archive](#).

For further information

To learn more about the Walt Dineen Society or Conference, contact:

John Ogden
 South Florida Water Management District
 3301 Gun Club Rd.
 West Palm Beach, FL 33416
jogden@sfwmd.gov



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FIRST CONFERENCE

May 22-24, 1997

[1997 Conference Program](#)

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For More Information

Please direct any questions concerning the Walt Dineen Society or Conference to: Dan Childers [Phone: 305/ 348-3101 FAX: 305/ 348-4096]

For general information about the Society, please visit the [Dineen Walt Dineen Home Page](#).

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Walt Dineen Society Annual Conference '97

Guide to Sessions

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- 13:00 - 14:30 [Session I: Upland Plants](#)
- 15:00 - 16:15 [Session II: Environmental Management](#)
- 17:00 - 19:30 [Session III: Posters](#)

Friday, May 23, 1997

- 9:00 - 10:15 [Session IV: Wetlands](#)
- 10:45 - 11:45 [Session IV: Wetlands - cont.](#)
- 12:45 - 14:15 [Session V: Bird Studies](#)
- 15:00 - 16:30 [Session VI: Bird & Other Animal Studies](#)

Saturday, May 24, 1997

- 9:00 - 10:15 [Session VII: Marine Ecology](#)
- 10:45 - 12:00 [Session VII: Marine Ecology - cont.](#)

[Complete Conference Program](#)
[Adobe PDF; 550K]

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Walt Dineen Society Annual Conference '97

Daily Schedule of Sessions - Thursday, May 22

SESSION II: ENVIRONMENTAL MANAGEMENT

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15:00- 15:15	Owen et al.	97201	Spatially explicit environmental databases: an integrated tool for protection of natural areas
15:15- 15:30	Bennett et al.	97202	A scientific framework for private development of an ecotourism program
15:30 - 15:45	Abbott and Nath	97203	Southern Golden Gate Estates hydrologic restoration plan
15:45 - 16:00	Laha et al.	97204	Feasibility of discharging treated municipal wastewater into the Florida Everglades
16:00 - 16:15	Meeder et al.	97205	The L-31E Freshwater rediversion pilot project

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Walt Dineen Society Annual Conference '97

Session II: Environmental Management

Abstract #: 97201



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SPATIALLY EXPLICIT ENVIRONMENTAL DATABASES: AN INTEGRATED TOOL FOR PROTECTION OF NATURAL AREAS
Dianne Owen¹, Frank J. Mazzotti¹, Carol Morgenstern², and Jack Makemson³¹Department of Wildlife Ecology and Conservation, University of Florida, 3245 College Avenue, Davie, FL, 33314²Broward County Parks and Recreation Division, 100 NW 38th Street, Oakland Park, FL, 33309³Imtech, 11751 NW 12th Street, Pembroke Pines, FL, 33026**ABSTRACT**

Readily accessible information about the location and spatial relationship of resources in urban natural areas is vital to the successful management of these fragmented, isolated and frequently disturbed habitat patches. Recent developments in geographic information systems (GIS) and global positioning systems (GPS) have allowed for the development of methods to collect, manage, manipulate and display spatially referenced geographic data. For natural area managers the significance of knowing where resources are located, or where activities (e.g. management or recreational) are taking place is apparent. The challenges are: how to simplify a complicated technology so that it is easily applied and how to structure the diverse information gathered into an appropriate relational database. To meet these challenges a spatially explicit environmental database (SEED) has been created in Broward County, Florida, as part of an Environmentally Sensitive Lands (ESL) Program. A GIS/GPS platform was developed using PC-based SPANS GIS software, PCI EASI/PACE image analysis software and a Trimble Pro XL GPS with Pathfinder software. Traditional GIS coverages including soils, topography, hydrology and land cover formed the base layers upon which features such as archaeological resources, historical land cover, listed species, management areas and monitoring stations were mapped. Monitoring stations included photo plots and integrated vegetation (species composition and horizontal and vertical structure) and faunal (birds, butterflies and their habitat relations) sampling. The Flamingo Road ESL site SEED was used as a tool to minimize the potential impacts of human use on sensitive resources by analyzing the spatial relationships among plant communities, archaeological sites, soils and wildlife populations.

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Walt Dineen Society Annual Conference '97

Session II: Environmental Management

Abstract #: 97202

A SCIENTIFIC FRAMEWORK FOR PRIVATE DEVELOPING AN ECOTOURISM PROGRAM

Kimberly J. Bennett, Mary Hudson Kelley, and Frank J. Mazzotti
 Department of Wildlife Ecology and Conservation, Everglades Research and Education Center, University of Florida, Belle Glade, Florida

ABSTRACT

Many state, regional, and local governments have discovered ecotourism as a way to promote economic development and attract tourists. Ecotourism in its truest sense, has a broader, multi-faceted purpose, with concurrent objectives involving sustainable practices such as cultural and natural resource conservation and preservation, environmental education and appreciation, and economic development. Before an ecotourism program is implemented, comprehensive planning is needed to ensure both economic and conservation success.

The recommended planning process is based upon a previously developed scientific framework, which is applicable to many natural area management issues. This strategy includes an inventory and evaluation of all resources and development of an ecotourism program contingent upon science-based criteria to ensure sustainability and conservation of resources. Furthermore, the planning process is an on-going adaptive management procedure which must be continually evaluated and modified as more information is learned about the effects of ecotourism and development.

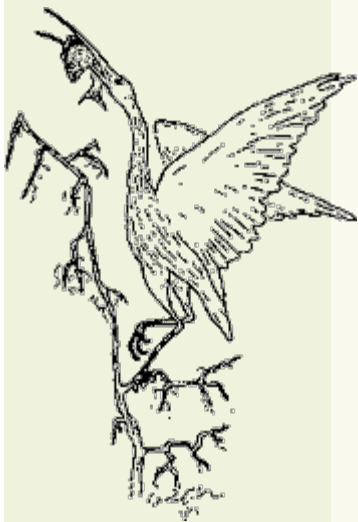
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Walt Dineen Society Annual Conference '97

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Abstract #: 97203



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[Conferences](#)[Programs](#)[Index to Authors](#)[Walt Dineen Home](#)**SOUTHERN GOLDEN GATE ESTATES HYDROLOGIC RESTORATION PLAN**

Gail Abbott and Ananta Nath
 South Florida Water Management District

ABSTRACT

Southern Golden Gate Estates (SGGE) encompasses approximately 94 square miles of predominately wetlands in south central Collier County and is part of a failed real estate development. Construction of road and drainage canals have lead to groundwater drawdown, exotic species invasion, wetland degradation, intense wildfires and unnatural salinity levels in the downstream estuaries. The State of Florida included the area in the "Save Our Everglades" Conservation and Recreational Lands program in 1985. Approximately 40 percent of the land has been acquired. The South Florida Water Management District (SFWMD) recently completed development of a conceptual hydrologic restoration plan for SGGE. The primary objective of the study was to reduce overdrainage and restore historic sheetflow while maintaining flood protection north of the project. A continuous process hydrologic-hydraulic simulation model of the watershed was developed using the EPA's watershed modeling program Hydrologic Simulation Program-Fortran to quantify rainfall-runoff patterns and soil storage components under five alternative restoration plans. An alternative with structural components of spreader channels, canal plugs, pump stations and partial leveling of roads was recommended. After the plan was submitted to the Governor in early 1996, the State's Department of Environmental Protection initiated an inter-agency review for gaining a better understanding of the plan, roles of affected agencies, issues in need of resolution and time line for the project. Currently, the SFWMD and the Natural Resource Conservation Service are involved in an cooperative watershed planning agreement to obtain additional topographic, vegetation and soils data for analyzing the ecological impacts of restored hydrologic regimes. The hydrologic and ecologic restoration of SGGE is unique in its notable size and flood protection constraints and will require an interdisciplinary and cooperative approach among many agencies as well as a strong commitment from the public.

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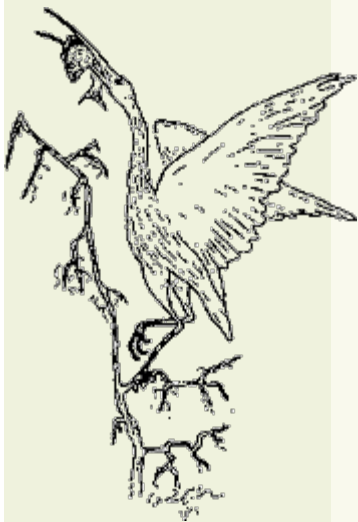
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Abstract #: 97205



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[Conferences](#)[Programs](#)[Index to Authors](#)[Walt Dineen Home](#)**THE L-31E FRESHWATER REDIVERSION PILOT PROJECT**

Jack Meeder, Mike Ross, Pablo Ruiz and Guy Telesnicki
 Southeast Environmental Research Program, Florida International
 University, University Park, Miami, FL 33199

ABSTRACT

Freshwater from South Dade presently is discharged directly into Biscayne Bay via the Mowry Canal. In addition to the adverse impacts of this historic change in quantity, quality, and timing of water delivery to the Bay, nearly all of the sheet flow and transverse glades flow to the Bay has been curtailed by the construction of the storm tide levee (L-31E). Loss of the historic sheet flow to the Bay has resulted in westward expansion of salt marshes to the foot of the L-31E structure and has reduced productivity and natural organic carbon export to the Bay.

The major objective of this study is to document the effects of the freshwater diversion on both the coastal wetlands and adjacent Biscayne Bay benthic communities. Nutrient loading to both the wetlands and nearshore bay ecosystems is the major concern.

The study employs a BACI design, employing two blocks of 20 ha. Our approach is based upon an ecosystem process model in which we attempt to quantify the major pathways of nutrient movement in the system and changes in storage of the different ecosystem components. Vegetation, soils, interstitial soil waters, surface and groundwater, benthic communities and microbial processes are all addressed. In addition, hydrologic parameters, climatic factors including evapotranspiration, and flux from natural tidal channels are also being quantified.

Two major complications have occurred. The project was funded prior to Hurricane Andrew and therefore the litter load and extreme mortality of trees in the fringing environment was not anticipated. Therefore, litter decomposition studies have been initiated to address the nutrient release from mangrove wood, as well as other aspects of perturbation and recovery. In addition, a January 1996 freeze selectively killed most of the trees in the control scrub site, further complicating the eventual analysis of the control versus treatment results.

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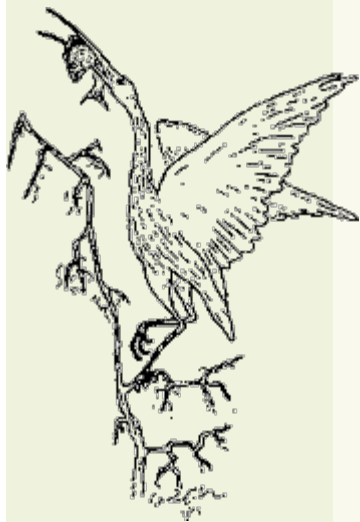

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FEASIBILITY OF DISCHARGING TREATED MUNICIPAL WASTEWATER INTO THE FLORIDA EVERGLADES

S. Laha, M. T. Vilches, M. Hodgens, B. Tansel, L. Prieto
 Department of Civil & Environmental Engineering, Florida International University
 University Park Miami FL 33199

ABSTRACT

Municipal wastewater in Dade County is currently collected and treated in one of three existing wastewater treatment plants (WWTPs): the South District, Central District, and North District WWTPs. The Central District WWTP is located on Virginia Key in Miami and has a capacity of approximately 140 million gallons per day. Treated effluent is discharged through an ocean outfall pipeline over three miles from the shoreline. In a region experiencing growing water supply problems, including seawater intrusion, this ocean discharge of potentially reusable fresh water is considered wasteful.

This year's Senior Design Project in FIU's Department of Civil and Environmental Engineering involves the evaluation and design of a new WWTP located in west Dade that will incorporate advanced wastewater treatment to render WWTP effluent suitable for discharge into the Everglades system. This paper presents salient findings from the design project.

The WWTP being designed by the senior design class uses a pure oxygen activated sludge process in order to reduce the organics concentration (measured as BOD) in the sewage; BOD is converted to biomass which is subsequently removed in settling tanks. The treated effluent is then subjected to advanced treatment in order to reduce the nutrient (primarily nitrogen and phosphorus) concentrations. Advanced treatment again utilizes biological treatment, in this case a constructed wetlands system. The use of wetlands for advanced treatment of municipal wastewater has been demonstrated in a pilot-scale in West Palm Beach. This project discusses the feasibility of larger-scale applications of advanced wastewater treatment including the potential benefits of wastewater reuse.

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