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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:

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 West Palm Beach, FL 33416
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FIRST CONFERENCE

May 22-24, 1997

[1997 Conference Program](#)

[Index to authors from the 1997 Conference](#)

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

Thursday, May 22, 1997

- 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]

[Walt Dineen Society](#)





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Walt Dineen Society Annual Conference '97

Daily Schedule of Sessions - Thursday, May 22

SESSION V: BIRD STUDIES

TIME	AUTHOR(S)	ABSTRACT	TITLE
13:00- 13:15	Mealey et al.	97501	Serum chemistry analysis of bald eagle and osprey nestlings in Florida Bay, Everglades National Park
13:15- 13:30	Gawlik	97502	A test of environmental factors constraining the use of foraging sites by wading birds (Ciconiiformes) in the Everglades
13:45 - 14:00	Frederick	97503	Measuring avian reproduction on an ecosystem scale: reproductive success measures are poor predictors of annual productivity of Everglades wading birds
14:00 - 14:15	Bouton et al.	97504	Effects of chronic, low concentrations of dietary
14:15 - 14:30	Salatas and Frederick	97505	Energetic requirements of nestling wading birds

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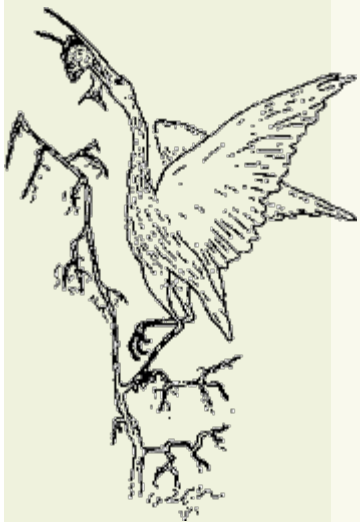

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Walt Dineen Society Annual Conference '97

Session V: Bird Studies

Abstract #: 97501



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SERUM CHEMISTRY ANALYSIS OF BALD EAGLE AND OSPREY NESTLINGS IN FLORIDA BAY, EVERGLADES NATIONAL PARK

Brian K. Mealey, G.M. Parks, C.Pages and G.Bossart
 Falcon Batchelor Bird of Prey Center, Miami Museum of Science, 3280
 S.Miami Ave., Miami, FL 33129

ABSTRACT

The objective of this cooperative study is to determine selected clinicopathological parameters from free-ranging naturally raised young eagles and ospreys. Since knowledge of the basic physiology of wild raptors is limited, this project will contribute towards the establishment of "normal" baseline values for their blood chemistry. Blood analysis was conducted on 72 bald eagle and 66 osprey nestlings between 1992 and 1996. Nestlings were sampled between the ages of 35 and 45 days old. Five eaglets resulted in depressed levels, $<0.9 = \mu\text{/ml}$, of cholinesterase suggesting exposure to an organophosphate toxin. Total protein values, related to prey consumption, were 2.96 g/dl for the ospreys and 3.24 g/dl for the eaglets. Mercury values for 1993 were 0.29 ppm (eagles) and 0.81 ppm (ospreys) and for 1995 were 0.32 ppm (eagles) and 0.19 ppm (ospreys). Serum values when used in conjunction with other good ecological data offer wildlife agencies an alternative way of assessing the health of an ecosystem.

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Walt Dineen Society Annual Conference '97

Session V: Bird Studies

Abstract #: 97502



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A TEST OF ENVIRONMENTAL FACTORS CONSTRAINING THE USE OF FORAGING SITES BY WADING BIRDS (CICONIIFORMES) IN THE EVERGLADES

Gawlik, Dale E.

Everglades Systems Research Division, South Florida Water Management District, West Palm Beach, FL

ABSTRACT

It is reported that food availability (i.e., abundance and vulnerability to capture) is the single most important factor limiting populations of wading birds in the Everglades. Constraints on the acquisition of food by wading birds are therefore the primary barriers to restoring sustainable populations to this degraded ecosystem. I manipulated two potential constraints (prey abundance and water depth) on the use of foraging sites to test the hypotheses that each component limits foraging-site use by free-ranging wading birds. I conducted the experiment in 12 0.2-ha ponds using water depth treatments of 10 cm, 19 cm, and 28 cm, and fish (*Notemigonus crysoleucas*) density treatments of 3 fish/m² and 10 fish/m². The temporal dynamics of site use by birds indicated species-specific differences in the ability to find food patches as well as to exploit a wide range of water depths. For example, white ibis (*Eudocimus albus*) and wood storks (*Mycteria americana*) found food patches quickly but did not utilize patches at a wide range of depths. In contrast, great egrets (*Casmerodius albus*) increased in abundance more slowly but occupied the entire range of depth treatments. Water depth affected the use of sites by 6 of the 8 species examined whereas fish density affected only the white-plumage social-feeding species. The degree to which a species was limited by either prey abundance or water depth was a function of both their morphological characteristics and behavioral plasticity. These results suggest that foraging opportunities in the Everglades are most limiting for white ibis, wood storks, snowy egrets (*Egretta tricolor*) and tricolored herons.

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Walt Dineen Society Annual Conference '97

Session V: Bird Studies

Abstract #: 97503



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**MEASURING AVIAN REPRODUCTION ON AN ECOSYSTEM SCALE:
REPRODUCTIVE SUCCESS MEASURES ARE POOR PREDICTORS OF
ANNUAL PRODUCTIVITY OF EVERGLADES WADING BIRDS**

Peter C. Frederick

Dept. Wildlife Ecology and Conservation, University of Florida, Gainesville,
Florida 32611-0430**ABSTRACT**

Avian nesting success measures are often assumed to accurately reflect local breeding conditions, but the scale dynamics of such linkages are poorly understood. Between 1986 and 1995, I measured numbers of nest starts, clutch size, nest survival, hatching success, and brood size of Great Egrets, White Ibises, Tricolored Herons and Snowy Egrets throughout the central Everglades, and estimated the annual ecosystem-wide productivity of these species. The only significant correlation among these annual measures was between numbers of nest starts and total production of young, and otherwise all combinations of annual measures were uncorrelated. This suggests that years of high recruitment within the ecosystem are inadequately predicted on a landscape scale by even ecosystem-wide measurement of reproductive success measures. The lack of concordance among variables also suggests that the predictability of reproductive success is quite low at any given point during the breeding season, due to both naturally-occurring and anthropogenic disturbance events. Wading bird restoration and monitoring efforts in the Everglades should concentrate on the features that attract large numbers of birds to nest, rather than attempting to maximize nest success parameters.

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Walt Dineen Society Annual Conference '97

Session V: Bird Studies

Abstract #: 97504



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EFFECTS OF CHRONIC, LOW CONCENTRATIONS OF DIETARY METHYLMERCURY ON APPETITE AND HUNTING BEHAVIOR OF JUVENILE GREAT EGRETS

Shannon N. Bouton, Peter Frederick, Marilyn Spalding and Heather Lynch
 Dept. Wildlife Ecology and Conservation, University of Florida, Gainesville, Florida 32611-0430

ABSTRACT

Wading birds (*Ciconiiformes*) in the Everglades are known to chronically encounter methylmercury in their diets. Based on concentrations of mercury in prey animals and measurements of food intake in wild nestlings, we estimate that Great Egrets typically encounter a minimum of 0.65 ppm in their diet. We dosed 6 captive juvenile Great Egrets with 0.5 ppm methylmercury, and 6 with placebos in their diets between 12 and 105 days of age in order to estimate the effects of this toxin during the critical growth and independence period. We tested each bird repeatedly for their ability to capture live fish in pools with contrasting and camouflage backgrounds. Placebo birds were significantly more likely to finish foraging bouts (5 fish presented sequentially) than were mercury-dosed birds. For birds which completed foraging bouts, there was no difference in time to capture fish.

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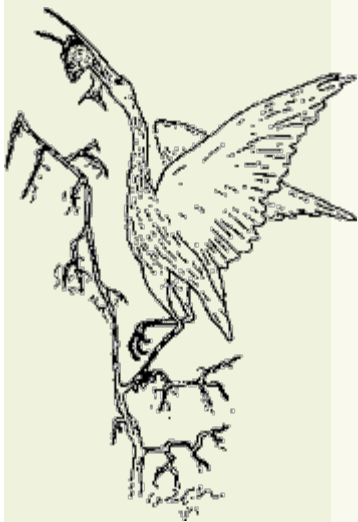

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Walt Dineen Society Annual Conference '97

Session V: Bird Studies

Abstract #: 97505



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[Conferences](#)[Programs](#)[Index to Authors](#)[Walt Dineen Home](#)**ENERGETIC REQUIREMENTS OF NESTLING WADING BIRDS**

Johanna Salatas and Peter Frederick

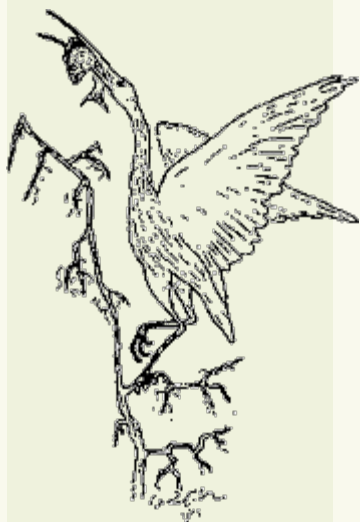
University of Florida, Department of Wildlife Ecology&Conservation
Gainesville, FL 32611-0430**ABSTRACT**

Due to extensive modifications of Everglades hydrology, the number of nesting attempts of all species of wading birds has declined by over 90%. Food availability may be the single most important factor that limits the distribution and nesting success of wading birds. Modeling projects designed to guide efforts to restore productive wading bird populations in the Everglades require accurate estimations of nestling food requirements. To date, the energetics of nestling wading birds remains poorly documented, simply because the logistics of measuring food intake have been difficult to obtain in the field. We have employed the labeled water technique in order to determine food intake in free-ranging Snowy Egret (*Egretta thula*) nestlings. After injecting nestlings with tritiated water and extracting blood samples in 5-d intervals, the labeled water technique, which is efficient and 95% accurate, allows us to calculate the water turnover rate. Because the water content of wading bird prey items in the Everglades is well known, the water turnover rate can be used to estimate prey consumption in nestlings. During the 1996 breeding season, we collected data from three sites in Water Conservation Areas 3A and 3B. Our results show that food intake can be measured in Snowy Egret chicks and the data imply that geographic differences do not seem to account for differences in the food amount delivered to chicks. Food amount strongly influences chick mass, independent of chick age and hatch order. Our results indicate that food amount is critical to the residual mass and possibly the fledgling condition of ciconiiform chicks which could influence post-fledging survival. We anticipate that these relationships will become better developed and more robustly tested during the 1997 breeding season.

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