Rivers Coalition
Save Our River! Stop the Discharges!
P.O. Box 2627, Stuart, FL 34995 772-225-6849

May 18, 2010

Governing Board members
South Florida Water Management District
3301 Gun Club Road
West Palm Beach, FL 33406

Dear Governing Board Member:

Enclosed for your consideration is a pamphlet captioned "Transforming Agricultural Systems on Public Lands in the EAA to Support Everglades Restoration" by E.A. Hanlon and J.C. Capece. We believe this proposal has merit and deserves your investigation.

Note that this proposal was first presented at the Everglades Coalition Conference in January. It strikes me that it may also have application North of Lake Okeechobee in private pasture lands via the use of easements. We favor and encourage updated farming practices that could minimize over-fertilization and waste of water. We support exploration of new techniques to accomplish these goals.

I'm sure messrs Hanlon & Capece would be glad to present and explain their ideas at a Governing Board or WRAC meeting. It is an intriguing proposal that ties in well with a Plan Six type flow way "River of Grass".

Please let me know if we can be of assistance in arranging a presentation.

Sincerely,

W.E. "Ted" Guy, Treasurer
Rivers Coalition Defense Fund
PO Box 2627
Stuart, Fl 34995

guywe@gate.net (772) 287-4106

Cc: E.A. Hanlon, J.C. Capece, RCDF Officers

Transforming Agricultural Systems on Public Lands in the EAA to Support Everglades Restoration

UF UNIVERSITY of FLORIDA IFAS

E.A. Hanlon[1] and J.C. Capece[2]

[1]UF/IFAS SWFREC [2]Intelligentsia International

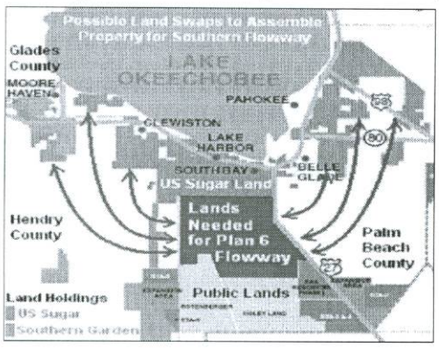
Intelligentsia International, Inc

NEW FARMING SYSTEMS CONCEPT

The survival of Florida's biodiversity and economy is dependent on finding ways to balance farm economics with proper management of water and other natural resources. Taking on this challenge is the mandate of the Hendry County Sustainable Biofuels Center, a cooperative project of UF/IFAS, Intelligentsia International, and Edison State College with funding from Hendry County & U.S. Dept of Energy. Others are invited to participate.

The state purchase of U.S. Sugar lands creates both an opportunity and imperative for new farming systems. The current plan replaces farms with reservoirs and STA's to store and cleanse the excess Lake Okeechobee waters currently discharged down the Caloosahatchee and St. Lucie Rivers with damaging consequences to the ecology of coastal estuaries. Some envision a "flow-way" that would take excess waters from Lake Okeechobee to the WCAs and Everglades.

U.S Sugar Lands Swap for Flow-way

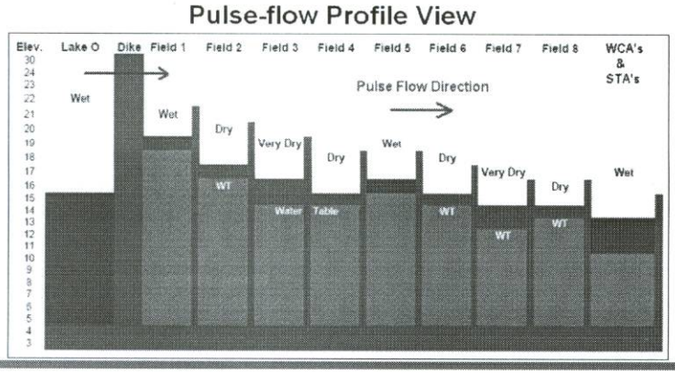


A transformed farming system could provide a viable economic and ecological alternative to the reservoirs, STA's, and flow-way. An agricultural model built around flood-tolerant sugarcane varieties could be compatible with the new visions for EAA lands. Reducing the agricultural intensity of these farms creates the risk or reality of yield reduction and lower farm income, but would allow for water storage, reduced nutrient loads, and muck soil carbon conservation on the farms. Payments for these ecosystem services could offset the loss in crop revenues.

WATER MANAGEMENT

Cultivation of flood-tolerant sugarcane allows for temporary storage of water on a field followed by water transfer to an adjacent field. Using this relay approach, a water pulse could be passed down a corridor of fields. The volume of water transported to the south via a pulse way depends largely on the nutrient dynamics of the soil-water system. If the nutrient flux becomes the limiting factor then water volumes sent into the corridors would be limited to the net increase in soil-water storage and ET losses.

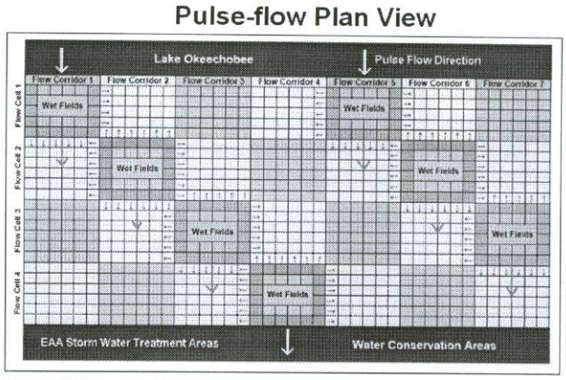
Pulse-flow Profile View



WATER MANAGEMENT

The concept of integrating water storage into agricultural management is described in UF/IFAS publications SL227 and SS447 (Recyclable Water Containment Systems). The concept has application for several crops and is being actively explored for pasture lands by other centers.

Pulse-flow Plan View



ECONOMIC VIABILITY

Including ecosystem services as revenue streams in agricultural business models to compensate for lower yield income requires:

(1) quantifying the services delivered,
(2) assigning values to the services, and
(3) compensating farmers for the quantities delivered.

VALUE OF ECOSYSTEM SERVICES

The three direct ecosystem services provided by a flood-tolerant sugarcane farming system are water storage, nutrient removal and carbon sequestration. A farming system that significantly reduces soil subsidence and its resulting carbon loss to the atmosphere may be eligible for credit sales on already-existing carbon markets. Markets for nutrient removal and water storage are not so well developed.

In evaluating SFWMD nutrient removal projects, UF/IFAS publication FE576 estimated costs for STA's ranged from $369 to $1,300 per kg of P removed. Even with significant performance improvements in recent years, costs are still orders of magnitude above what farmers spend applying fertilizer to crops, thus creating an opportunity to reduce nutrient load at lower costs.

The value of water storage can be estimated by analyzing the costs of more traditional approaches. The proposed C-43 West Reservoir provides such a benchmark. The project annual costs are approximately $1 per 1000 gallons or $325 per acre-foot of effective storage. At a value of $325 per acre foot, the viability of an agricultural business model based in part on income from water storage becomes attractive.

SUMMARY

Farmers and local governments traditionally have been hesitant to consider radically new approaches to agriculture. But facing a significant loss of farms, jobs and tax base creates a receptiveness to change. This expanded need for change translates into greater freedom for researchers to explore new concepts in horticulture, water management, and economics. In turn, application of technologies based upon research also may facilitate the creation of new policies enabling compensations for ecosystem services.

Transforming Agricultural Systems on Public Lands in the EAA to Support Everglades Restoration

CALOOSAHATCHEE RIVER WATCH

Everglades Coalition Conference
2:00 pm, Friday, January 8, 2010
A session organized by CRCA-Riverwatch
(presentations at www.CRCA.caloosahatchee.org)

CALOOSAHATCHEE RIVER WATCH

NEED FOR TRANSFORMED FARMS

The success of Everglades restoration is threatened by both regional and global scale pressures. The overarching global threat to the Everglades is long-term sea level rise due to climate change driven by greenhouse gas emissions. Addressing the greenhouse gas challenge requires restructuring all human endeavours into more sustainable enterprises.

The current push in Everglades restoration is to purchase farm land in critical areas of south Florida, replacing them with water storage and treatment areas. But displaced farms simply reappear elsewhere in the world, given that removing farms does not reduce the demand for food products. Substitute farms typically reappear in developing nations on lands cleared from native habitat. And since land clearing for agriculture and other development is a major source of global anthropogenic greenhouse gas emissions, it can be argued that agriculture displaced from Florida contributes to greater greenhouse gas emissions and thus simply fuels global-scale threats to the Everglades.

To achieve meaningful and lasting benefits, Everglades restoration programs must address the global need to produce food in a manner compatible with ecosystem protection. Florida is uniquely positioned to step up to this global challenge. Our state has both the motivation and capacity to create solutions that will help solve our local problems as well as the almost identical ecosystem issues facing populations throughout the world.

NEW FARMING SYSTEMS CONCEPT

EAA farms on public lands can be redesigned to balance food production with environmental needs such as water storage, nutrient management, soil subsidence reduction, energy efficiency, and habitat protection in ways that are potentially more profitable to farmers and less costly to taxpayers.

The transformed agricultural systems envisioned by this session go beyond BMPs for water, soils, and nutrients. These new, sustainable systems will require a fundamental reassessment of crop yield expectations and the assignment of comparable weight and economic value to ecosystem functions and services.

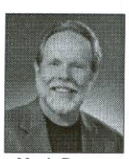
The State of Florida is purchasing EAA lands with water storage and treatment in mind. This acquisition affords opportunities to design and implement food and energy production systems that are compatible with concepts such as a southern flow-way. The flow-way is a plan to deliver wet season waters from Lake Okeechobee to the WCAs and Everglades via the EAA, relieving coastal estuaries of excess freshwater and nutrient loads.

This session will explore the need for dramatically new farming systems on EAA public lands, the component tasks of creating innovative farms, and how we implement research and demonstration programs to meet the economic, agricultural, and environmental challenges facing the Everglades and south Florida coastal estuaries.

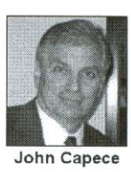
SESSION AGENDA


Valerie Guenther

Welcome and Introductory Remarks
Valerie M. Guenther (Caloosahatchee River Citizens Association - Riverwatch)


Mark Brown

Sustainable Farming Systems for the EAA – the Challenge
John C. Capece (Caloosahatchee River Citizens Association)


John Capece

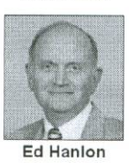
Natural Resources Optimization and Accounting Principles
Mark T. Brown (UF Environmental Engineering Sciences)


Barry Glaz

Sugarcane Flood Tolerance: Current Limits and Future Prospects
Barry S. Glaz (USDA Sugarcane Research Station, Canal Point)
Robert A. Gilbert (UF-IFAS Everglades Research & Education Center)


Rob Gilbert

Organic Soil Oxidation (Subsidence)
Alan L. Wright (UF/IFAS Everglades Research & Education Center)


Ed Hanlon


Alan Wright

A New Farming Systems Development Initiative
Edward A. Hanlon (UF/IFAS Southwest FL Research & Education Center)