



# Florida Department of Environmental Protection

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July 2, 2007

Ms. Rhonda Evans  
Wetlands Section  
U.S. Environmental Protection Agency - Region 4  
61 Forsyth Street  
Atlanta, GA 30303

Dear Ms. Evans:

re. An Evaluation of the Effectiveness of Mitigation Banking in Florida:  
Ecological Success and Compliance with Permit Criteria  
Grant - CD-96409404; DEP Grant WET05

We are pleased to submit the final report (in the attached CD) for the above referenced grant, which was provided by the University of Florida, Howard T. Odum Center for Wetlands, under contract funded by the grant. The report, together with this letter summarizing our programmatic review of the research, should complete the obligations of the grant. The final Financial Status Report (SF269A) and the Lobbying & Litigation Certificate was previously sent to Ms. Shirley Grayer in your Grants and IAG Section on February 19, 2007.

This letter is submitted to provide additional summary analyses and to supplement the reader's frame of reference for interpreting the presented results.

Under Section 373.4136, Florida Statutes, Florida has permitted 45 wetland mitigation banks with a total of 118,300 acres and 36,500 potential credits. The report assessed 29 of the banks, representing about 50% of the total permitted bank acres. Within these banks, site condition was measured at 58 individual assessment areas of various community types by several wetland assessment methods. The total area of the assessment areas represented approximately 5% of the total acreage of the studied banks.

Two highly correlated assessment methods, Uniform Mitigation Assessment Method (UMAM) and Wetland Rapid Assessment Procedure (WRAP), were appropriate for use on all of the sample areas, and result in scores between 0 (no wetland function) and 1

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(optimal function/reference condition). Of the 58 assessment areas measured, nearly 70% scored higher than 0.7 on one or both of these assessments. This score is described as within the "moderate" range of function. About 45% of the areas were 0.8 or above and about 15% of the assessment areas scored in the near-optimal range of 0.9 or above. Other assessment methods were more variable and restricted in use, but were also generally favorable.

Several factors are important for consideration in evaluating these results. First, it is important to note that most mitigation banks in Florida are relatively large in size (median = 1,280 ac.), are composed of several community types, and have a combination of preservation, enhancement, and rehabilitation rather than restoration or creation, thus baseline conditions are rarely in the very low functional range. Further, the bank assessment areas represented a full range of mitigation completion, from those where mitigation activities had not yet commenced to those where the activities were complete. Only four of the studied banks had a determination of success and full credit release. These banks and those near completion were permitted earlier in the program and do not necessarily represent current permitting conditions. Thus, the study did not clearly capture or address improvements in permitting criteria and implementation standards over time because of the inherent time lag (6-10 years) between permit issuance and the assessment of mitigation results with current methods and standards.

Another factor to consider in evaluating the results is how credits are generated and used. The number of potential credits in a bank is based on both acreage and functional improvements. Credit use also considers both the acres to be lost and their functional condition. Without a full-scale analysis of each impact permit file, there is no way to systematically assess the degree to which the application of offsetting ratios or credit debits actually compensate for wetland loss given current tracking systems and capabilities.

The information provided in the report is voluminous and represents an enormous effort of data collection and analysis. In addition to the frame of reference considerations provided above, we wish to present these general caveats to keep in mind about specific data or analyses when reading the report.

1. Neither the Department nor any of the water management districts can refute or endorse the UMAM scores presented in the data sheets or elsewhere in report as agency permitting staff were not party to the scoring. In addition, the data sheets do not always provide sufficient information to support the scores given. However, within the report, scoring on all assessment methods was performed by the same biologists and thus should be relatively consistent.

2. Although the intent was to have assessment areas representative of the overall bank condition, a 5% aerial coverage and one-time, "snapshot" assessment may not be truly representative. Because of access issues, some assessment areas may be more indicative of the edges; a few were "interesting" sites, indicating they were not typical; others were assessed under atypical weather conditions.
3. The number of credits in each of the permitted banks was determined by the agencies based on intended ecological "lift" or improvement relative to existing condition, regardless of the method used at each bank. However, often the report indicates or assumes that credits were based on achieving a reference standard or pristine condition. Because assessments were performed on "current" condition only, a true measure of "lift" is not possible. Further, current condition may not adequately reflect the anticipated condition at success, which may be several years from now. Thus, assessments and conclusions of success in achieving the reference standard may underestimate the enhancement or restoration attained.
4. This project's study of bank sustainability and location implies that landscape settings are not sufficiently considered in the assessment of bank credits. We concur that prior to the adoption of UMAM in 2004, the location aspects of banks were not well or consistently captured in various assessment methodologies. Historically, bank credit assessment concentrated on condition more than landscape position. Currently, UMAM's Location and Landscape Support scores *do* reflect the ability and potential of the bank to provide function considering the landscape position as recommended in this report. Although the report also recommended establishing standardized distances for scoring landscape setting, no data to establish or support standardized criteria was generated from this study.
5. The comparison of the assessment methodology scores did not find any general correlation between the rapid methods (UMAM and WRAP) and the more detailed methods (Hydrogeomorphic approach (HGM), Florida Wetland Condition Index (FWCI)). Furthermore, there was no indication of which scores were more "correct," and the more detailed methods were strongly limited in their application, especially in the context of the permit review timeclock. Yet the report suggests that use of the more detailed methods might provide a better determination of community structure, ecosystem condition, and individual wetland functions, and that more research and comparison is warranted. While additional research is always desirable, we did not find a basis in this study to support the use of an assessment method other than the state-required UMAM or to require any additional permit monitoring with HGM or FWIC.

Regardless of these caveats and variables, we generally concur with the reviewers' recommendations designed to address noted deficiencies in permit criteria and

implementation. These shortcomings were principally associated with credit assessments that assumed optimal restoration conditions including landscape support, credit release schedules weighted too strongly on actions rather than results, insufficient definition of target or reference natural communities, insufficient requirements for groundcover, fauna and long term management assurances, especially for prescribed fire, and inconsistent permitting standards.

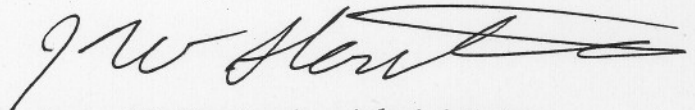
We recognize that improvements can be made in the mitigation banking and wetland assessment programs. In fact, several of these changes were underway prior to or concurrent with this study; other suggestions will be the basis for on-going training and consistency among state agencies.

1. The report recommends that intended natural communities be better defined in permit and permit files. We are currently doing rulemaking to amend Chapter 62-345, F.A.C, (Uniform Mitigation Assessment Method) to emphasize native community type in the site description and as the basis of comparison in the scoring section. These revisions should be adopted and effective within the next few months.
2. The report suggested that there be greater emphasis on groundcover and other community features, not just the trees or woody components of a community. In the last few years, more of the proposed mitigation bank permits included groundcover composition and coverage as components to the success criteria. We agree that this trend should be expanded to other community level components as applicable.
3. Similarly, the state has recently been putting stronger emphasis on fire management implementation and linking it to credit release. This is partially due to increasing bank activity in pine flatwoods and other fire dependent communities and partially due to recognition of the need to require prescribed fire activity when it is appropriate. We intend to incorporate new fire management criteria in bank permits as we get more information from previously permitted banks' monitoring reports and other resources.
4. The report recommends that credit release schedules be linked more with ecological results than construction activities. Although state law and rules provide for partial release of credits prior to meeting all the performance criteria in the permit, we agree that there should be ecological accountability associated with credit releases for activities as well as those for incremental enhancement.
5. The report also recommends greater coordination and communication between the agencies (both state and federal) in the review and compliance aspects of mitigation banks. The Department currently maintains a website on mitigation banks permitted, state-wide, and this report will be posted on that site (see [www.dep.state.fl.us/water/wetlands/mitigation/mitigation\\_banking.htm](http://www.dep.state.fl.us/water/wetlands/mitigation/mitigation_banking.htm)).

The St. Johns River Water Management District has recently launched a new mitigation bank website that makes more of the permit file easily accessible and includes a "live" ledger (see <http://arcimspub.sjrwmd.com/website/mt/>). Other water management districts have expressed interest in using the same approach. These websites not only provide information for the general public and users of the bank, but also allow other agencies access to their permitting review information, thereby increasing communication and consistency. The state is also interested in working with the U.S. Army Corps of Engineers on the RIBITS tracking program.

We look forward to advancing both the effectiveness of mitigation banking and the associated assessment method to achieve greater ecological success.

Sincerely,



James W. Stoutamire, Administrator  
Office of Submerged Lands and  
Environmental Resources

Attachment:

Electronic copy (CD) of "An Evaluation of the Effectiveness of Mitigation Banking in Florida: Ecological Success and Compliance with Permit Criteria"

cc. (without attachments)

Erica Hernandez, Kissimmee Prairie Preserve  
Kelly Chinnere Reiss, University of Florida, Center for Wetlands

cc.

Anita Bain, SFWMD, West Palm Beach  
Clark Hull, SWFWMD  
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