Audit of the
Mitigation Banking Program

Audit #99-18

Prepared by

Office of Inspector General

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SOUTH FLORIDA WATER MANAGEMENT DISTRICT

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Re: Audit of the Mitigation Banking Program – Audit #99-18

This audit was performed pursuant to the Inspectors General's authority set forth in Chapter 20.055, F.S. The audit focused on the District's two entrepreneurial mitigation banking contracts and contract negotiation process. Fieldwork was conducted between August 1999 and December 1999. This report was prepared by Gregory Rogers.

Sincerely,

Allen Vann
Inspector General

AV/gr
Enclosure

c: Frank Finch
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INTRODUCTION

This report details the results of our audit of the South Florida Water Management District's (the "District") two mitigation banking contracts. The objectives of the District's mitigation banking program are to provide the means for the restoration of regionally significant lands, to satisfy mitigation requirements for public and private impacts to wetlands, and provide a revenue stream for future projects.

The Real Estate, Engineering, and Construction Department (formally the Construction and Land Management Department) selected outsourcing mitigation banking as the best way to facilitate the restoration efforts and generate a revenue stream to recover internal costs associated with the project including: land acquisition, management, and staff costs. Additional revenues over and above these costs will be used to acquire, restore, and manage lands from the Save Our Rivers priority project list. The mitigation banking program has subsequently been transferred to the Corporate Resources Management Department.

Consequently, in May of 1997, the District entered into a contract with Foster Wheeler Environmental Corporation (FW) to design, permit, and implement a mitigation bank site known as the Loxahatchee Mitigation Bank (the "Loxahatchee Bank"). We previously issued an interim financial audit report of the Loxahatchee Bank's costs through February 19, 1999, under separate cover. The 1,264 acre site is located in Palm Beach County adjacent to the eastern boundary of the Loxahatchee National Wildlife Refuge and Water Conservation Area 1.

The District also entered into a contract with Mariner Properties Development, Inc. ("Mariner") in January 1998, to design, permit, and implement a mitigation bank site known as the Corkscrew Mitigation Bank (the "Corkscrew Bank"). The 632 acre site is located in Lee County adjacent to the Stairstep Mitigation area and within two miles of the Corkscrew Regional Ecosystem Watershed (CREW).

The Real Estate, Engineering, and Construction Department envisioned the Loxahatchee Bank and Corkscrew Bank projects as entrepreneurial mitigation banking projects where the District would transfer most of the risk to the contractors but share in the rewards of the mitigation banks' performance. The District has provided the land site for the mitigation banks and the contractors are providing their expertise by designing and construction of the mitigation banks. The use of a contractor minimized the District's initial financial investment and reduced risk in exchange for reduced profits from revenue sharing. The contracts provide for both parties to recoup their costs and share additional revenues from the sale of mitigation credits.

The specific goals for both banks are to:

- enhance and/or restore historic wetland diversity, habitat value and function;

- expand habitat area for listed wildlife species and to increase the quality and duration of use by these and other important wildlife;

- restore historic hydrologic connections and patterns of flow; and

- promote the development of a self-sustaining ecosystem, with minimal long-term management needs.

For each project, a long-term maintenance fund will be established for the perpetual maintenance of the site in accordance with permit requirements. The funding for the long-term maintenance fund will be provided through credit sales revenue. Upon acceptance of the project, the District is responsible for long-term maintenance of the site in accordance with permit requirements. The expense to accomplish long-term maintenance will be paid from the management fund.

Criteria

Mitigation is the process of restoration, enhancement, creation, or preservation of wetlands to offset unavoidable adverse impacts to wetlands as the result of regulated activities. Mitigation can be performed onsite if an area exists with suitable hydrological conditions that will not be adversely impacted by incompatible existing or future adjacent land uses. If on-site mitigation is not available or compatible, then off-site mitigation, including mitigation banks may be used.

Mitigation banks provide the opportunity to offset adverse wetland impacts at a regional level. The District has received the following guidance regarding off-site mitigation. Chapter 373.4135, F.S. states:

> Mitigation banks and offsite regional mitigation can enhance the certainty of mitigation and provide ecological value due to the improved likelihood of environmental success associated with

> their proper construction, maintenance and management. Therefore, the department and the water management districts are directed to participate in and encourage the establishment of private and public mitigation banks and offsite mitigation.

Further, the Department of Environmental Protection rule 62-342.850(6) states:

> Each water management district is encouraged to establish at least two mitigation banks in the District . . .

OBJECTIVES, SCOPE, AND METHODOLOGY

The primary purpose of this report is to communicate our findings regarding the District's Mitigation banking contracts and contract negotiation process. This audit was performed in accordance with generally accepted government auditing standards.

Our audit methodology included:

- examining the contract files,
- interviewing key personnel of the District,
- researching mitigation banking activity,
- reviewing mitigation banking permits issued by the District,
- reviewing restoration activity on lands acquired at District's cash mitigation areas, and
- reviewing mitigation banking policy and statutes.

FINDINGS AND RECOMMENDATIONS

Summary

Mitigation banking is a relatively new approach to mitigation. The District's involvement in entrepreneurial mitigation banks are creative approaches to funding the acquisition, restoration, and perpetual maintenance of ecologically sensitive lands while providing funding for future Save Our Rivers priority projects. Outsourcing arrangements in complicated programs can be challenging to arrange and manage.

Our review of the contracts and contract negotiation process disclosed that the procurement team emphasized District revenue maximization and timing, and financial risk avoidance. As a result, substantial revenue streams may accrue to the District. However, the contracts could have been structured to provide the District with more control over the contractors' costs. The contracts use a cost-reimbursement type structure without a project budget to limit the contractors' costs, while the District is capped on cost recovery.

Although the Project Manager reviews the monthly accounting reports, there are no mechanisms in the contracts that the District's Project Manager can use to control costs. Currently, FW's costs exceed preliminary estimates by almost $2.6 million or 504%, all of which will be recovered through contract revenue. In contrast, the District has incurred real estate and monitoring costs of approximately $525,000 towards the FW contract and approximately $62,000 of monitoring costs towards the Corkscrew Bank contract, exceeding the contractual caps. The contracts should have been structured to allow the District to recover all ongoing monitoring and support costs through the sale of mitigation bank credits before revenue sharing.

Prior to contract negotiations, a detailed independent cost estimate for each bank should have been prepared. Without an independent estimate of the construction activities at the mitigation banks, it is not possible to determine if the contractors cost estimates are reasonable and appropriate.

Furthermore, overhead rates for the contracts were not negotiated, which has resulted in an abstruse disparity in the overhead rate being charged by each contractor. FW's overhead charges exceed $1.5 million, a rate of 210%. In contrast, Mariner is charging less than $4,000 per month of overhead to the project. Due to the lack of overhead rate negotiation, the District may be incurring more overhead expense than necessary.

The District entered into the two entrepreneurial banking contracts that presented the advantage of shifting risks and sharing rewards and having a contractor design and construct the bank. However, management should consider developing and operating any future mitigation bank without a contractual partner. This could provide more revenue to the District for future land acquisitions and restorations.

Apart from these two mitigation banks, we found three permits approved by the District for private mitigation banks whose service areas are based upon political sub-divisions. Effective July 1, 1996, mitigation service areas should be defined by regional watersheds and ecological factors as outlined in Florida Statute.

CONTRACTS STRUCTURED TO GUARANTEE REVENUE STREAM BUT LACK SUFFICIENT COST CONTROLS

The Loxahatchee and Corkscrew Bank contracts provide the following minimum payments to the District commencing one year after the date of the Regulatory Agencies (DEP and Army Corp of Engineers) release of the first wetland restoration/creation credit:

	Corkscrew	Loxahatchee
Year 1	$ 270,000	$ 205,000
Year 2	270,000	205,000
Year 3	540,000	410,000
Year 4	810,000	615,000
Year 5	810,000	615,581
Year 6	150,000	150,000
Year 7	150,000	150,000
Total	$ 3,000,000	$ 2,350,581

These represent the minimum payment schedules to the District that were designed to recoup the contractually capped costs of the District and provide a minimal "profit". However, the District could receive substantial revenue above the minimum payments depending upon the future success of bank credit sales.

The number of credits awarded a bank are based on the degree of improvement in ecological value expected to result from the establishment and operation of the mitigation bank as determined using a functional assessment methodology. It is currently estimated that 647.5 credits will be eligible for sale at the Loxahatchee Bank at a minimum price of $35,000 per credit ($22,662,500); 350 credits will be eligible for sale at the Corkscrew Bank at a minimum price of $30,000 per credit ($10,500,000).

The contractors and the District will share revenues from the sale of bank credits. The FW contract revenue distribution plan is in the following order:

1) Fully fund the long term management fund ($955,017);

2) Reimburse FW for reasonable design, development, permitting, administrative start-up and restoration implementation costs;

3) Split revenues 70% to the District and 30% to the FW until the District has fully recovered land and staff costs (District capped out at $2,050,581); and

4) Split the remaining revenues on a 50/50 basis.

The Mariner contract revenue distribution plan is as follows:

Mariner Contract Revenue Distribution Plan			
Credits Sold	Long Term Maintenance	District Share	Banker's Share
1-100	10%	17%	73%
101-200	10%	32%	58%
201-300	10%	37%	53%
>300	10%	47%	43%

After the District is reimbursed for their capped costs ($2,700,000) and Mariner is reimbursed for their reasonable costs, all revenue will be placed in a "savings pool" for quarterly distribution on a 50/50 basis.[1]

The minimum payments outlined above are subject to re-negotiation if the District:

1) Sponsors a mitigation bank with a service area that overlaps any part of the Service area of the Loxahatchee or Corkscrew Banks; or

2) Accepts payments from permittees for a District sponsored cash mitigation area within the service area of the bank.

This limitation precludes the District from accepting further cash payments for mitigation at the CREW mitigation area.

[1] After payment of 10% to the long-term maintenance fund and a 5% commission fee to Mariner.

Contracts Limit District's Cost Recovery Without Providing Cost Restraints on the Contractors

The contract method selected for these revenue contracts was guaranteed cost-recovery with provisions for revenue sharing subsequent to recapturing of costs. However, the contractors' cost recovery was open-ended, whereas the District's cost recovery was capped. The District negotiated revenue sharing percentages in excess of recovered costs but, to the extent that our costs exceed the cap, will not realize the maximum sharing of revenue anticipated under the agreements.

The cost recovery provisions in the two contracts provide for reimbursement from credit sales of reasonable allowable incurred costs of the contractor. Cost-reimbursement contracts are generally inadvisable because they contain little incentive for the contractor to control costs. There are few circumstances where these types of contracts are appropriate. A cost-reimbursement contract is suitable for use only when uncertainties involved in contract performance do not permit costs to be estimated with sufficient accuracy to use any type of fixed-price contract. This type of contract structure was selected due to the uncertainty of mitigation permitting costs. Under those circumstances, if necessary cost control mechanisms were built into the contract, this type of contract structure would have been acceptable for the mitigation banks. When properly designed, cost-reimbursement type contracts should establish an estimate of total cost for the purpose of obligating funds and establishing a ceiling (budget) that the contractor may not exceed (except at its own risk) without the prior approval of the Project Manager and Contract Administrator.

Cost-reimbursement contracts should only be used when:

(1) The contractor's accounting system is adequate for determining costs applicable to the contract; and

(2) Appropriate District oversight is provided during performance to provide reasonable assurance that efficient methods and effective cost controls are used.

The Project Manager performs a detailed review of the contractors' monthly invoices and typically questions certain costs; however, there are no mechanisms in the contract that the Project Manager can use to control costs. A project budget was never established or agreed upon for either contract that would limit the contractor's costs in different phases of the project. Currently, FW's costs exceed their preliminary estimates by 504%, almost $2.6 million. The bank project has several distinct phases including permitting, construction, credit sales, and monitoring. A cost-reimbursement contract with a not to exceed budget would have specified the upper limit of expenses for each phase that could not be exceeded without a contract amendment.

A budget for the different phases of the Loxahatchee Bank was not negotiated or included in the contract.[2] However, in January 1997, in response to questions from the District, FW prepared a Credit Sale and Revenue Summary that contained preliminary cost information. The following is a comparison, for cost areas with activity, of the preliminary cost information to actual cost information through September 24, 1999.

	Loxahatchee Mitigation Bank		
	Preliminary	Actual Costs	Difference
Cost Category	Cost Estimate	To Date	Over (Under)
Design/Permitting	$280,000	$1,839,028	$1,559,028
Marketing/Admin[3]	$230,000	$1,243,973	$1,013,973

Sources: FW's Proposal and Accounting Reports

The use of a cost recovery contract structure, along with the lack of a project budget, hampers the District's ability to control the expenses incurred by the contractors. Additionally, FW has signaled their intention of taking a liberal reading of this clause through the imputing of applied interest expense[4] to the project.

A budget for the different phases of the Corkscrew Bank was also not negotiated or included in the contract. However, Mariner's proposal, (included by reference in the contract) included a *Sample Pro Forma* project income statement. The following is a comparison, for cost areas with activity, of the preliminary cost information to actual cost information through September 30, 1999.

2 It should be noted that at the District's request, the Contractor has agreed to prepare a detailed budget of the anticipated costs to complete this project.

3 Includes applied interest expense that Foster Wheeler considers an administrative cost.

4 Imputed interest expense of $159,184 through February 19, 1999 was questioned in our interim financial audit report. Imputed interest totals $265,733 as of September 24, 1999.

Cost Category	Corkscrew Mitigation Bank Preliminary Cost Estimate	Actual Costs To Date	Difference Over (Under)
Design/Permitting	$ 500,000	$183,385	$ (316,615)
Marketing/Admin[5]	$1,400,000	$153,239	$(1,246,761)

When comparing the results of the mitigation banks it is important to consider that the Loxahatchee Bank contract was signed on May 27, 1997, and worked commenced in January 1997. In contrast, the Corkscrew Bank contract was not signed until January 1998. FW is further along in the permit process having submitted their application and design to the Florida Department of Environmental Protection (DEP) and having responded to DEP's requests for additional information. Mariner is still modeling their bank and has not submitted a permit application package to the DEP.

The contracts are designed to allow both parties cost recovery and to provide revenue sharing through the sale of mitigation bank credits. The contracts were structured to allow FW and Mariner recovery for "reasonable costs" while the District is capped on cost recovery before revenue sharing commences. Specifically, the FW contract limits the District to cost recovery of $2,050,581 and the Mariner contract limits the District to cost recovery of $2,700,000 while both FW and Mariner will be reimbursed for all of the reasonable costs of design, development, permitting, administrative start-up costs and all reasonable restoration costs.

For both contracts, the District's recovery cap is based upon a District prepared calculation of land acquisition appraised value and associated staff costs when the requests for proposals were issued. However, this estimate does not take into account the continuing monitoring responsibilities of the District's Project Manager and other support activities. To date, our costs at the Loxahatchee Bank exceed the cap by at least $525,000. The costs consist of approximately $125,000 for contract monitoring and assistance, and approximately $400,000 for acquiring lands within a portion of the Loxahatchee Bank site. Monitoring costs at the Corkscrew Mitigation Bank exceed the cap by approximately $62,000. The contracts should have been structured to allow the District to recover all ongoing monitoring and support costs through the sale of mitigation bank credits before revenue sharing.
Effectively, all expenses incurred by the District in excess of the recovery caps will dilute the District's revenue from the contracts. For example, the

5 Administration through Bank 100% project success, including project management, accounting, legal, financing and marketing.

$525,000 in excess of the FW contract cap will be paid out of the 50% revenue splitting share as opposed to the 70% cost recovery revenue share. When the revenue sharing percentages in the contract commence, FW will have recovered their full costs while the District will have to fund its costs in excess of the stated cap out of it's revenue share.

An Independent Detailed Cost Estimate Was Not Prepared For Each Bank Prior To Contract Negotiations

Prior to contract negotiations, a detailed independent cost estimate for each bank was not prepared. Preparation of an independent estimate is a critical part of contract negotiations for contracts with engineering design and construction activities.

A conceptual cost estimate for the Loxahatchee Bank was prepared which estimated construction costs at $4.1 million. This estimate was based upon an East Coast Buffer Feasibility Study that identified suitable lands and estimated costs to establish buffer mashes and reservoirs. This cost estimate was used to evaluate the reasonableness of proposed mitigation bank costs. However, this cost estimate was not used for negotiation purposes.

Mariner's *Sample Pro Forma* income statement estimates restoration and creation costs (including exotic removal, earthwork and monitoring) of $1.7 million. FW estimates construction costs of $5.1 million. We compared the per acre cost of these estimates to the costs per acre of restorations at District cash mitigation areas:

Restoration Cost Comparisons			
	Outsource - Mitigation Bank	Internal - Cash Mitigation Projects	Difference
Remnant Everglades Type Parcels	Loxahatchee	Pennsuco	
	$3,648	$3,035	$ 613
Cypress/Pine/Wetland Type Parcels	Corkscrew	CREW	
	$2,698	$2,839	$(141)

The sites at the Loxahatchee Bank and the Pennsuco mitigation area are both remnant everglades parcels located in the East Coast Buffer area. The sites at Corkscrew Bank and the CREW mitigation areas are cypress/pine/wetland mosaics that are located in the Corkscrew Regional Ecosystem Watershed.

The costs collected for these related areas are similar, however, the activities at the mitigation banks will be more intensive than the exotic restoration plans at the District's mitigation areas.

By not having an independent estimate of the construction activities at the mitigation banks, it is not possible to determine if the contractors' costs estimates are appropriate.

Contract Overhead Rates Were Not Negotiated

Overhead rates for the contracts were not negotiated, which has resulted in a large variance in the overhead rate being charged by each contractor. FW has applied the following overhead rates to the project:

Loxahatchee Mitigation Bank Overhead Rates

Calendar Year	Home Office	Site Labor	Minimum Benefit
1997	268%	142%	86%
1998	216%	108%	66%
1999	212%	119%	82%

Source: FW Accounting Reports

The setting of overhead rates was not a part of contract negotiations and was not specified in the contract. Subsequent to contract negotiations, the District was informed by the contractors' on what their overhead rates would be.

Through September 30, 1999, FW has charged $1,554,155 of overhead to the Loxahatchee Bank for a combined overhead rate of 210%. This represents 50% of the total job cost to date of $3,080,001. In contrast, Mariner is charging the project $3,930 per month to cover overhead. Mariner bases this calculation upon 15% of total monthly corporate overhead; the percentage of activity devoted to the Corkscrew Bank. A total of $129,866 of overhead has been charged to the project through September 30, 1999, representing 39% of job costs to date of $336,624.

The negotiation of overhead rates should be a part of the overall contract negotiation process. Under a cost-reimbursement contract structure with a negotiated budget, a contractor proposes overhead rates as a component of the price calculation. As is the Loxahatchee Bank case to date, the largest component of a project cost can be overhead. Overhead rates should be negotiated using other District construction contracts and published surveys of overhead rates as guidelines.[6]

Due to the lack of overhead rate negotiation, the District may be incurring more overhead expense than necessary. For example, the Loxahatchee Bank's effective applied overhead rate of 210% exceeds the weighted average overhead of 166% for the Everglades Construction Project Design contracts.[7]

Recommendations

The Corporate Resources Department should ensure that future mitigation banking contracts:

1. **Be structured to provide cost recovery for all costs incurred by the District towards the mitigation bank including monitoring costs.**

   Management Response: Management concurs: In principle it is always advisable to ensure recovery of all costs. In this case, the District recovery cap calculated the land value and staff costs up to the time the RFP was distributed. Contractors were required to factor in reimbursement of these costs as part of the revenue proposal. The District was reluctant to include a provision in the RFP that required the contractor to also reimburse all post-award District costs since this would have created an unknown uncontrollable cost for any prospective contractor interested in this as a viable business venture. Both the District and the contractor share in the revenues, with the District's cumulative clear revenue projections ranging from $600K to a possible $15.6M. However, because the District's risk was minimized, not factoring in the District's post award costs into the revenue sharing arrangement was our way of offering some degree of financial support as a "partner." The Banker assumes the greatest risk because if the design is not approved and the FDEP and COE permits are not obtained, the Banker has no means to recover sunk costs in accordance with the Contract terms. It is also important to note that in the event the Contractor reaches a point where the prospects for selling credits are no longer favorable and they consequently elect to terminate, the Contract contains a provision requiring them to reimburse the District for all actual costs incurred up through the date of termination.

[6] See Office of Inspector General's audit report #97-15 on the ECP procurement process.
[7] Source: Office of Inspector General's Audit of the Everglades Construction Procurement Process

Should the District ever be in a position to support another solicitation process for mitigation banking, due consideration will be given to an arrangement which further minimizes the District's financial exposure, yet at the same time encourages fair and equitable contractor participation as business partners.

Responsible Department: Corporate Resources Department

Estimated Completion Date: January 2000

2. **Have a detailed independent cost estimate prepared before entering into price negotiations.**

Management Response: Management concurs: The District did prepare a preliminary cost estimate to support the technical support documents on both projects before distributing the Request for Proposals to evaluate review of the bankers' revenue proposals. The mitigation bank revenue contract is unique in that the District provided a technical support document outlining the preferred restoration option, but deliberately allowed the contractor the ability to modify the design in order to maximize credits or meet the permitting agency requirements. In the case of the Loxahatchee Bank, design modifications due to hydrologic modeling results determined it was not necessary to relocate the canal to restore the hydrology, as originally anticipated. Therefore, because the District allowed flexibility to alter the design during the start-up phase of the project, the increased up-front design costs incurred by the Banker will provide a cost savings of approximately $1Million in construction costs. More detailed estimates can be developed to justify future bank proposals now that the District will have actual cost history on the two banks. It is because we factored in the possibility that costs could swing based on the design flexibility we allowed, we elected not to engage an outside opinion to provide an additional cost model in this case.

Responsible Department: Corporate Resources Management Department

Estimated Completion Date: January 2000

3. **Be structured as a cost-reimbursement contract that, at a minimum, includes a not to exceed budget for each distinct phase of the project and a formal process for negotiating any necessary budget amendments.**

   Management Response: Management concurs: However, it should be noted that the mitigation bank contracts cannot be evaluated in the context of how the District customarily structures its expenditure agreements for the procurement of services since the District will never actually be reimbursing either of the Bankers. Rather, the objective of these contracts is to shift risk and generate revenues. The revenue distribution schedule was structured so that, at a minimum, the District recoups its pre-award costs and shares equitably in the revenues. The Banker is allowed to factor in reasonable, allowable and auditable costs into the net revenue sharing calculation. Due to the volatile and uncertain nature of these mitigation banking projects and because only a handful of mitigation banks had been developed in the nation at the time of contract award, costs to develop a mitigation bank were not readily estimated. The RFP evaluation was structured so that the magnitude and timing of revenue disbursement was a key evaluation criterion. Had contractors been required to structure revenue distribution such that cost recovery was limited to original estimates, it is highly unlikely that any contractor would have submitted a responsive proposal. Nevertheless, in hindsight it would have been beneficial to establish budgetary limitations tied to project milestones which, if exceeded, would have required justification by the Banker in order to obtain formal authorization from the District to proceed with the next project phase.

   Responsible Department: Corporate Resources Department

   Estimated Completion Date: January 2000

4. **Be based upon negotiated overhead rates.**

   Management Response: Management concurs with this recommendation to the extent that review of the Bankers' cost breakdown, including overhead factors, could have been part of the evaluation process. In addition, as part of the negotiation, the District could have attempted to establish a ceiling limitation on the overhead factor to be applied in future years by the Bankers. However, based on the significant assumption of risk by the Banker as described in the response to item (3) above, establishing any kind of limitation on cost recovery by the Banker may not have been acceptable. It is also important to note that contract provisions do contain a cost control mechanism whereby the District has the ability to review, audit, challenge and ultimately disallow any elements of cost the Banker attempts to factor into their quarterly accounting of project costs, including overhead. Moreover, the contract specifically states “Net revenue calculations shall be subject to adjustment in the event the District determines non-compliance with either the Travel Policy or that costs are not reasonable or reported in accordance with generally accepted accounting principles and financial reporting standards as promulgated by the Financial Accounting Standards Board.” Negotiation would most likely not have had any impact on the disparity between the two bankers’ overhead rates since one firm is significantly larger than the other. The combined, audited overhead rate that the Banker should be using for the Loxahatchee Bank is 145.19%. Even at the negotiation stage, the District does not customarily challenge a rate which has been audited and approved by the Defense Contract Audit Agency.

Responsible Department: Corporate Resources Department

Estimated Completion Date: January 2000

Auditor’s Comment:

We noted in the above responses Management’s reluctance to “create an unknown uncontrollable cost for any prospective contractor” by including the District’s post award costs. However, by stressing revenue projections in the award evaluation process and neglecting to make any up-front inquiries regarding the contractor expected costs, staff actually burdened the District financially with unknown uncontrollable cost that will reduce revenue. Future revenue sharing contracts should be structured to insure that neither side has “unknown uncontrollable costs”.

The contract administrator recently negotiated a 145.19% overhead rate for an unrelated contract with the Loxahatchee Bank contractor. The overhead charged to this project through February 19, 1999 was agreed to the contractor’s books and records during our interim audit of the Loxahatchee Mitigation Bank (Audit #98-07).

DISTRICT SHOULD CONSIDER DEVELOPING AND MANAGING FUTURE MITIGATION BANKS IN-HOUSE

The District entered into the two entrepreneurial banking contracts that presented the advantages of sharing risks and rewards and having a contractor design and construct the bank.

However, similar to the Everglades Construction Project, the District could manage the design, construction and monitoring of a mitigation bank through the procurement of separate contracts with contractors for each distinct phase of a bank. The District could also use the in-house talents of their land stewardship, planning, vegetative management, and regulation departments and divisions for assistance in designing and operating the bank. A District operated bank would be best located in an area which meets the District's priority land criteria and does not currently have a regional off-site mitigation option.

Construction and operation of a mitigation bank without a revenue sharing partner could potentially provide a greater financial return to the District and further opportunity to fund the purchase and restoration of other significant ecological sites. The up front costs of land, bank design, and construction could be funded through revenues from the Loxahatchee and Corkscrew Banks.

Recommendation

5. **The Corporate Resources Department should consider developing and operating any future mitigation bank without a contractual partner.**

   Management Response: Management concurs with this recommendation. As was done with these two banks, the District will evaluate the most appropriate means of developing future mitigation banks. If concerns such as permitting uncertainty, front-end financing requirements, credit pricing and marketing to developers who may have a permit application with the District are addressed satisfactorily, we will consider implementing future mitigation banks without a private contractual partner.

   Responsible Department: Corporate Resources Department
   Estimated Completion Date: January 2000

FUTURE MITIGATION BANK SERVICE AREAS SHOULD FOLLOW STATUTORY GUIDANCE

To date, the District has approved Wetland Mitigation Bank Permits for five mitigation banks:

Bank Name	Bank Acres	Bank Credits	County	Mitigation Service Area
Florida Wetlands Bank	450	396	Broward	Broward County
Split Oak Forest Mitigation Bank	1,049	206	Orange	Orlando Service Center Boundaries
American Equities Land Mitigation Bank	3,512	978	Osceola/ Polk	Portions of Orlando Service Center Boundaries[8]
Panther Island Mitigation Bank	2,788	935	Collier	Big Cypress, Estereo Watersheds
Big Cypress Mitigation Bank	1,280	1,011	Hendry	Big Cypress, Estereo Watersheds

Source: Wetland Mitigation Bank Permit Staff Reports

Our review of mitigation bank permits disclosed that three mitigation bank permits approved by the District have mitigation service areas (MSA) based upon political sub-divisions. The three banks were permitted in February 1995, June 1996, and September 1998 respectively. Effective July 1, 1996, Florida Statute 373.4136 (6) provided the District with the authority to set MSA as follows:

> The . . . water management district shall establish a mitigation service area for each mitigation bank permit. . . . The boundaries of the mitigation service area shall depend upon the geographic area where the mitigation bank could reasonably be expected to offset adverse impacts. A mitigation service area may be larger than the regional watershed if the mitigation bank provides exceptional ecological value such that adverse impacts outside of the regional watershed could reasonably be expected to be adequately offset by the mitigation bank.

[8] Additional mitigation service area includes portions of the Southwest Florida Water Management District and St. Johns Water River Management District service areas.

Florida Statute 373.4136 (6)(a) further states:

> In determining the extent to which a mitigation bank provides exceptional ecological value such that adverse impacts outside the regional watershed could reasonably be expected to be adequately offset by the mitigation bank, . . . the water management district shall consider the characteristics, size, and location of the mitigation bank and, at a minimum, the extent to which the mitigation bank:
>
> 1. Will promote a regional integrated ecological network;
>
> 2. Will significantly enhance the water quality or restoration of an offsite receiving waterbody . . . ;
>
> 3. Will provide for the long-term viability of endangered or threatened species or species of special concern; and
>
> 4. Is consistent with the objectives of a regional management plan adopted or endorsed by . . . the water management districts.

A MSA designates the geographic area in which wetland impacts can be reasonably offset by purchase of mitigation bank credits. A larger service area provides more potential wetland impacts that can be offset by a mitigation bank. Therefore, mitigation bankers are in favor of a larger MSA. Municipalities and counties prefer that mitigation of local wetland impacts not be exported to other municipalities or counties. Regulators are concerned that impacts to wetland communities be offset with mitigation in similar type wetland communities. For example, impacts to forested wetlands are offset by mitigation in forested wetlands. Mitigation banks have represented that they cannot be economically viable if their MSA is limited to a regional watershed.

In response to these issues, the District has approved MSA's that follow county lines and service center areas. Although counties and service center areas can contain several regional watersheds, we found that the ecological factors necessary for a larger MSA are not clearly documented in the permit staff report.

Although the District has the authority to make a MSA larger or smaller than a regional watershed this decision should be supported by the ecological criteria included in Florida Statute.

Recommendation

6. **The Environmental Resource Regulation Department should ensure that the District Wetland Mitigation Bank Permit Staff Reports document the ecological value factors relied upon to make a Mitigation Service Area larger than a regional watershed. Mitigation Service Areas based upon political sub-divisions should be avoided.**

   Management Response: Management concurs: Mitigation Service Areas are established by water management districts under the authority of Chapter 373.4136 (6). Specifically, the law states "The boundaries of the mitigation service area shall depend upon the geographic area where the mitigation bank could reasonably be expected to offset adverse impacts." The law further reads that mitigation service areas may be larger or smaller than regional watersheds depending on factors listed in the statute. There is no specific provision in law as to what boundaries are to be used to establish mitigation service areas. There is an implication that the regional watershed boundaries are the starting points to consider mitigation service areas. Both the Statute and the Basis of Review (4.4.8.2) recognize that mitigation service areas may be larger or smaller than regional watersheds. Although in most instances where permitted mitigation services areas are larger than the regional watershed, watershed boundary lines of several watersheds were followed, it is recognized that when the mitigation service area is smaller than the regional watershed then watershed lines can not be followed in their entirety.

   Each mitigation bank permit issued by the District pursuant to provisions of Chapter 373.4136 establishes a mitigation service area that is a combination of neighboring regional watersheds. The combined regional watersheds typically share common hydrological and ecological characteristics that have led staff to conclude that the bank could reasonably be expected to offset wetland impacts within the mitigation service area.

   It is important to note that mitigation service areas, while established based on ecological factors, must also be located in a practical manner that can be identified by staff and applicants. While regional watershed boundaries are surveyed points in the District's GIS system, they can be difficult to locate in the field. Sometimes it makes sense to follow a closely aligned man-made boundary that is easily located in the field, to the extent that the underlying ecological principals are not compromised.

One mitigation bank permit issued by the District establishes a mitigation service area that follows Broward County boundaries. This one permit application was received prior to the effective date of mitigation banking rules and therefore was not reviewed or issued with respect to those rules. However, in this case, it was at the request of the mitigation bank applicant that the mitigation service area be limited to Broward County. A hydrological and ecological review may have allowed for a larger service area. However, District staff would be hard pressed to deny an applicant's request for something less than allowed by rule or statute.

A question also has been raised relative to mitigation bank permits issued in Osceola County, the mitigation service area for which also corresponds with the area of responsibility of the District's Orlando Service Center. The Orlando Service Center was given responsibility over a number of regional watersheds that share hydrologic and ecological connection and characteristics. It is not by coincidence that mitigation service areas are established with a similar premise in mind. Therefore, it is not unreasonable for a mitigation service area and a regional service center to have similar boundaries.

Going forward, District staff will continue to rely on regional watershed boundaries in establishing mitigation service areas to the extent that the bank could reasonably be expected to offset adverse impacts within the given watershed. If it becomes necessary to divide a watershed, District staff will rely on discernable features that influence the hydrology or ecology of the region.

Also, when the District's analysis indicates that a larger or smaller mitigation service area could be supported by the bank than what the applicant desires, a discussion of the mitigation service area will be provided in the staff report.

Responsible Department: Environmental Resource Regulation

Estimated Completion Date: January 2000