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CLERK OF THE BOARD
OF COUNTY COMMISSIONERS
MIAMI-DADE COUNTY, FLORIDA

Memorandum

MIAMI-DADE COUNTY

Date: December 2, 2008

To: Honorable Chairman Bruno A. Barreiro and Members, Board of County Commissioners

From: George M. Burgess, County Manager

Agenda Item No. 8(D)(1)(A)

Resolution No. R-1305-08

Subject: Resolution Ratifying the County Mayor's Action of Executing Agreement Number 4600001435 with the South Florida Water Management District for the South Florida Estuarine Submerged Aquatic Vegetation and Water Quality Monitoring Network

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Recommendation

It is recommended that the Board approve the attached resolution ratifying the execution of Agreement Number 4600001435 with the South Florida Water Management District (SFWMD). This Agreement provides the Department of Environmental Resources Management (DERM) with $539,894 over a five-year period to perform submerged aquatic vegetation and water quality monitoring activities in Northeast Florida Bay.

Scope

This Agreement encompasses parts of Commission District 9.

Fiscal Impact/Funding Source

This Agreement provides Miami-Dade County with $105,437 in FY08-09, $105,437 in FY09-10, $105,432 in FY10-11, $111,976 in FY11-12 and $111,612 in FY12-13 to perform submerged aquatic vegetation and water quality monitoring activities. No matching funds are required by the County.

Track Record/Monitor

The Director of DERM will monitor this contract.

Background

The Everglades watershed plays an important role in the health of Florida Bay. Strategies are being developed to restore a more natural flow of water through the Everglades. The SFWMD is required to monitor water quality and bay bottom habitat in the area of Florida Bay downstream of the C-111 Canal, as specified in the C-111 Interim Construction Project (July 1990), and as recommended in the Army Corps of Engineers Experimental Program of Water Deliveries to Everglades National Park – Taylor Slough Final Environmental Assessment (June 1993).

Since 1993, Miami-Dade County has entered into multi-year contracts with the SFWMD to conduct submerged aquatic vegetation and water quality monitoring in northeast Florida Bay. The last agreement was entered into in July 2005 via Resolution R-828-05. Agreement Number 4600001435 extends the existing submerged aquatic vegetation and water quality monitoring duties in Miami-Dade County for an additional five years.

Alex Muñoz
Assistant County Manager

MEMORANDUM

(Revised)

TO: Honorable Chairman Bruno A. Barreiro and Members, Board of County Commissioners

DATE: December 2, 2008

FROM: R. A. Cuevas, Jr. County Attorney

SUBJECT: Agenda Item No. 8(D)(1)(A)

Please note any items checked.

_____ "4-Day Rule" ("3-Day Rule" for committees) applicable if raised

_____ 6 weeks required between first reading and public hearing

_____ 4 weeks notification to municipal officials required prior to public hearing

_____ Decreases revenues or increases expenditures without balancing budget

_____ Budget required

_____ Statement of fiscal impact required

_____ Bid waiver requiring County Manager's written recommendation

_____ Ordinance creating a new board requires detailed County Manager's report for public hearing

_____ Housekeeping item (no policy decision required)

_____ No committee review

Approved _____ Mayor

Veto _____

Override _____

Agenda Item No. 8(D)(1)(A)

12-2-08

RESOLUTION NO. R-1305-08

RESOLUTION RATIFYING THE COUNTY MAYOR'S ACTION OF EXECUTING AGREEMENT NUMBER 4600001435 WITH THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT FOR THE SOUTH FLORIDA ESTUARINE SUBMERGED AQUATIC VEGETATION AND WATER QUALITY MONITORING NETWORK; AND AUTHORIZING THE COUNTY MAYOR TO EXERCISE ANY AND ALL OTHER RIGHTS CONFERRED THEREIN

WHEREAS, this Board desires to accomplish the purposes outlined in the accompanying memorandum, a copy of which is incorporated herein by reference; and

WHEREAS, at the County Commission meeting of July 17, 2008, this Board authorized the County Mayor or his designee to administer County business during the period of July 17, 2008 through August 29, 2008 [Agenda Item No. 12A1]; such action(s) taken to be in accordance with the policies and procedures established by the Board of County Commissioners and be submitted to the Board for approval at the County Commission meeting of October 7, 2008,

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF MIAMI-DADE COUNTY, FLORIDA, that this Board ratifies the County Mayor's action of executing Agreement Number 4600001435 with the South Florida Water Management District for the South Florida Estuarine Submerged Aquatic Vegetation and Water Quality Monitoring Network, in substantially the form attached hereto and made part hereof; authorizing the County Mayor or his designee to execute

amendments to this agreement for time extension and to accept additional funds that may become available for this agreement; and authorizing the County Mayor or County Mayor's designee to exercise the provisions contained therein

The foregoing resolution was offered by Commissioner Sally A. Heyman, who moved its adoption. The motion was seconded by Commissioner Carlos A. Gimenez and upon being put to a vote, the vote was as follows:

Bruno A. Barreiro, Chairman aye
Barbara J. Jordan, Vice-Chairwoman aye

Jose "Pepe" Diaz	absent	Audrey M. Edmonson	aye
Carlos A. Gimenez	aye	Sally A. Heyman	aye
Joe A. Martinez	aye	Dennis C. Moss	aye
Dorrin D. Rolle	aye	Natacha Seijas	aye
Katy Sorenson	aye	Rebeca Sosa	aye
Sen. Javier D. Souto	absent		

The Chairperson thereupon declared the resolution duly passed and adopted this 2nd day of December, 2008. This resolution shall become effective ten (10) days after the date of its adoption unless vetoed by the Mayor, and if vetoed, shall become effective only upon an override by this Board.

MIAMI-DADE COUNTY, FLORIDA
BY ITS BOARD OF
COUNTY COMMISSIONERS

HARVEY RUVIN, CLERK

By: Kay Sullivan
Deputy Clerk

Approved by County Attorney as
to form and legal sufficiency.

PST

Peter S. Tell

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
LOCAL GOVERNMENTAL AGREEMENT

AGREEMENT NO. 4600001435

BETWEEN THE

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

AND

MIAMI DADE COUNTY

THIS AGREEMENT is entered into as of the _____ by and between the South Florida Water Management District (**DISTRICT**) and Miami Dade County (**COUNTY**).

WHEREAS, the **DISTRICT** is a public corporation of the State of Florida, created by the Florida Legislature and given those powers and responsibilities enumerated in Chapter 373, Florida Statutes, to include entering into contracts with public agencies, private corporations or other persons; and

WHEREAS, the **DISTRICT** desires to provide financial assistance to the **COUNTY** for the South Florida Estuarine Submerged Aquatic Vegetation and Water Quality Monitoring Network; and

WHEREAS, the **COUNTY** warrants and represents that it has no obligation or indebtedness that would impair its ability to fulfill the terms and conditions of this **AGREEMENT**; and

WHEREAS, the Governing Board of the **DISTRICT,** at its August 14, 2008 meeting, approved entering into this **AGREEMENT** with the **COUNTY**;

NOW, THEREFORE, in consideration of the covenants and representations set forth herein and other good and valuable consideration, the receipt and adequacy of which is hereby acknowledged, the parties agree as follows:

1. The **DISTRICT** agrees to contribute funds and the **COUNTY** agrees to perform the work set forth in Exhibit "A" attached hereto and made a part hereof, subject to availability of funds and in accordance with their respective authorities for the project in support of the South Florida Estuarine Submerged Aquatic Vegetation and Water Quality Monitoring Network.

2. The period of performance of this **AGREEMENT** shall commence on the date of execution of this **AGREEMENT** and shall continue for a period of Five (5) years.

3. The total **DISTRICT** contribution shall not exceed the amount of Five Hundred and Thirty Nine Thousand Eight Hundred Ninety Four Dollars and No Cents ($539,894.00). The **DISTRICT** will provide the full amount based on the Payment and Deliverable Schedule set forth in Exhibit "B", which is attached hereto and made a part of this **AGREEMENT**. The **DISTRICT's** contribution is subject to adequate documentation to support actual expenditures within the not-to-exceed **AGREEMENT** funding limitation of $539,894.00. In no event shall the **DISTRICT** be liable for any contribution hereunder in excess of this amount. If the total consideration for this **AGREEMENT** is subject to multi-year funding allocations, funding for each applicable fiscal year of this **AGREEMENT** will be subject to Governing Board budgetary appropriation. In the event the **DISTRICT** does not approve funding for any subsequent fiscal year, this **AGREEMENT** shall terminate upon expenditure of the current funding, notwithstanding other provisions in this **AGREEMENT** to the contrary. The **DISTRICT** will notify the **COUNTY** in writing

after the adoption of the final **DISTRICT** budget for each subsequent fiscal year if funding is not approved for this **AGREEMENT**.

4. The **COUNTY** shall submit quarterly financial reports to the **DISTRICT** providing a detailed accounting of all expenditures incurred hereunder throughout the term of this **AGREEMENT**. The **COUNTY** shall report and document the amount of funds expended per month during the quarterly reporting period and the **AGREEMENT** expenditures to date within the maximum not-to-exceed **AGREEMENT** funding limitation.

5. The **COUNTY** is not required to cost share any specific and determined amount for this **AGREEMENT.**

6. All work to be performed under this **AGREEMENT** is set forth in Exhibit "A", Statement of Work, which is attached hereto and made a part of this **AGREEMENT**. The **COUNTY** shall submit quarterly progress reports detailing the status of work to date for each task. The work specified in Exhibit "A" shall be under the direction of the **COUNTY** but shall be open to periodic review and inspection by either party. No work set forth in Exhibit "A" shall be performed beyond the expiration date, unless authorized through execution of an amendment to cover succeeding periods.

7. The **COUNTY** is hereby authorized to contract with third parties (subcontracts) for services awarded through a competitive process required by Florida Statutes. The **COUNTY** shall not subcontract, assign or transfer any other work under this **AGREEMENT** without the prior written consent of the **DISTRICT's** Project Manager. The **COUNTY** agrees to be responsible for the fulfillment of all work elements included in any subcontract and agrees to be responsible for the payment of all monies due under any subcontract. It is understood and agreed by the **COUNTY** that the **DISTRICT** shall not be liable to any subcontractor for any expenses or liabilities incurred under the subcontract(s).

8. Both the **DISTRICT** and the **COUNTY** shall have joint ownership rights to all work items, including but not limited to, all documents, technical reports, research notes, scientific data, computer programs, including the source and object code, which are developed, created or otherwise originated hereunder by the other party, its subcontractor(s), assign(s), agent(s) and/or successor(s) as required by the Exhibit "A", Statement of Work. Both parties' rights to deliverables received under this **AGREEMENT** shall include the unrestricted and perpetual right to use, reproduce, modify and distribute such deliverables at no additional cost to the other party. Notwithstanding the foregoing, ownership of all equipment and hardware purchased by the **COUNTY** under this **AGREEMENT** shall be deemed to be the property of the **COUNTY** upon completion of this **AGREEMENT**. The **COUNTY** shall retain all ownership to tangible property.

9. The **COUNTY**, to the extent permitted by law, assumes any and all risks of personal injury, bodily injury and property damage attributable to negligent acts or omissions of the **COUNTY** and the officers, employees, servants and agents thereof. The **COUNTY** represents that it is self-funded for Worker's Compensation and liability insurance, covering bodily injury, personal injury and property damage, with such protection being applicable to the **COUNTY,** its officers and employees while acting within the scope of their employment during performance of under this **AGREEMENT**. In the event that the **COUNTY** subcontracts any part or all of the work hereunder to any third party, the **COUNTY** shall require each and every subcontractor to identify the **DISTRICT** as an additional insured on all insurance policies as required by the **COUNTY**. Any contract awarded by the **COUNTY** shall include a provision whereby the **COUNTY's** subcontractor agrees to indemnify, pay on behalf, and hold the **DISTRICT** harmless from all damages arising in connection with the **COUNTY's** subcontract.

10. The **COUNTY** and the **DISTRICT** further agree that nothing contained herein shall be construed or interpreted as (1) denying to either party any remedy or defense available to such party under the laws of the State of Florida; (2) the consent of the State of Florida or its agents and agencies to be sued; or (3) a waiver of sovereign immunity of the State of Florida beyond the waiver provided in Section 768.28, Florida Statutes.

11. The parties to this **AGREEMENT** are independent entities and are not employees or agents of the other parties. Nothing in this **AGREEMENT** shall be interpreted to establish any relationship other than that of independent entities, between the **DISTRICT**, the **COUNTY**, their employees, agents, subcontractors or assigns, during or after the term of this **AGREEMENT**. The parties to this **AGREEMENT** shall not assign, delegate or otherwise transfer their rights and obligations as set forth in this **AGREEMENT**

without the prior written consent of the other parties. Any attempted assignment in violation of this provision shall be void.

12. The parties to this **AGREEMENT** assure that no person shall be excluded on the grounds of race, color, creed, national origin, handicap, age or sex, from participation in, denied the benefits of, or be otherwise subjected to discrimination in any activity under this **AGREEMENT**.

13. The **COUNTY**, its employees, subcontractors or assigns, shall comply with all applicable federal, state and local laws and regulations relating to the performance of this **AGREEMENT**. The **DISTRICT** undertakes no duty to ensure such compliance, but will attempt to advise the **COUNTY**, upon request, as to any such laws of which it has present knowledge.

14. Either party may terminate this **AGREEMENT** at any time for convenience upon thirty (30) calendar days prior written notice to the other party. In the event of termination, all funds not expended by the **COUNTY** for authorized work performed through the termination date shall be returned to the **DISTRICT** within sixty (60) days of termination.

15. The **COUNTY** shall allow public access to all project documents and materials in accordance with the provisions of Chapter 119, Florida Statutes. Should the **COUNTY** assert any exemptions to the requirements of Chapter 119 and related Statutes, the burden of establishing such exemption, by way of injunctive or other relief as provided by law, shall be upon the **COUNTY**.

16. The **COUNTY** shall maintain records and the **DISTRICT** shall have inspection and audit rights below. The **COUNTY** shall similarly require each subcontractor to maintain and allow access to such records for audit purposes:

A. Maintenance of Records: The **COUNTY** shall maintain all financial and non-financial records and reports directly or indirectly related to the negotiation or performance of this **AGREEMENT** including supporting documentation for any service rates, expenses, research or reports. Such records shall be maintained and made available for inspection for a period of five (5) years from the expiration date of this **AGREEMENT**.

B. Examination of Records: The **DISTRICT** or designated agent shall have the right to examine in accordance with generally accepted governmental auditing standards all records directly or indirectly related to this **AGREEMENT**. Such examination may be made only within five (5) years from the expiration date of this **AGREEMENT**.

C. Extended Availability of Records for Legal Disputes: In the event that the **DISTRICT** should become involved in a legal dispute with a third party arising from performance under this **AGREEMENT**, the **COUNTY** shall extend the period of maintenance for all records relating to the **AGREEMENT** until the final disposition of the legal dispute. All such records shall be made readily available to the **DISTRICT**.

17. Whenever the **DISTRICT's** contribution includes state or federal appropriated funds, the **COUNTY** shall, in addition to the inspection and audit rights set forth in paragraph #16 above, maintain records and similarly require each subcontractor to maintain and allow access to such records in compliance with the requirements of the Florida State Single Audit Act and the Federal Single Audit Act, as follows:

A. Maintenance of Records: The **DISTRICT** shall provide the necessary information to the **COUNTY** as set forth in Exhibit "C". The **COUNTY** shall maintain all financial/non-financial records through:

(1) Identification of the state or federal awarding agency, as applicable
(2) Project identification information included in the Catalog of State Financial Assistance (CSFA) or the Catalog of Federal Financial Assistance (CFDA), as applicable
(3) Audit and accountability requirements for state projects as stated in the Single Audit Act and applicable rules of the Executive Office of Governor, rules of the Chief Financial Officer and rules of the Auditor General and the State Projects Compliance Supplement
(4) Audit/accountability requirements for federal projects as imposed by federal laws and regulations
(5) Submission of the applicable single audit report to the **DISTRICT**, as completed per fiscal year

B. Examination of Records: The **DISTRICT** or designated agent, the state awarding agency, the state's

Chief Financial Officer and the state's Auditor General and/or federal awarding agency shall have the right to examine the **COUNTY's** financial and non-financial records to the extent necessary to monitor the **COUNTY's** use of state or federal financial assistance and to determine whether timely and appropriate corrective actions have been taken with respect to audit findings and recommendations which may include onsite visits and limited scope audits.

18. All notices or other communication regarding this **AGREEMENT** shall be in writing and forwarded to the attention of the following individuals:

South Florida Water Management District

Attn: Bahram Charkhian, Project Manager
Telephone No. (561) 682-2284

Attn: Patrick Wienèr, Contract Specialist
Telephone No. (561) 682-6220

Address:
P.O. Box 24680
3301 Gun Club Road
West Palm Beach, FL 33416-4680

MIAMI DADE COUNTY

Attn: Stephen Blair, Project Manager
Telephone No. (305) 372-6853

Address:
Miami Dade County
Dept of Environmental Resource Management
DERM
701 N.W. First Court
Miami, FL 33136

19. **COUNTY** recognizes that any representations, statements or negotiations made by **DISTRICT** staff do not suffice to legally bind **DISTRICT** in a contractual relationship unless they have been reduced to writing and signed by an authorized **DISTRICT** representative. This **AGREEMENT** shall inure to the benefit of and shall be binding upon the parties, their respective assigns, and successors in interest.

20. This **AGREEMENT** may be amended, extended or renewed only with the written approval of the parties. The **DISTRICT** shall be responsible for initiating any amendments to this **AGREEMENT**, if required.

21. This **AGREEMENT**, and any work performed hereunder, is subject to the Laws of the State of Florida. Nothing in this **AGREEMENT** will bind any of the parties to perform beyond their respective authority, nor does this **AGREEMENT** alter the legal rights and remedies which the respective parties would otherwise have, under law or at equity.

22. Should any term or provision of this **AGREEMENT** be held, to any extent, invalid or unenforceable, as against any person, COUNTY or circumstance during the term hereof, by force of any statute, law, or ruling of any forum of competent jurisdiction, such invalidity shall not affect any other term or provision of this **AGREEMENT**, to the extent that the **AGREEMENT** shall remain operable, enforceable and in full force and effect to the extent permitted by law.

23. Failures or waivers to insist on strict performance of any covenant, condition, or provision of this **AGREEMENT** by the parties shall not be deemed a waiver of any of its rights or remedies, nor shall it relieve the other party from performing any subsequent obligations strictly in accordance with the terms of this **AGREEMENT**. No waiver shall be effective unless in writing and signed by the party against whom enforcement is sought. Such waiver shall be limited to provisions of this **AGREEMENT** specifically referred to therein and shall not be deemed a waiver of any other provision. No waiver shall constitute a continuing waiver unless the writing states otherwise.

24. Any dispute arising under this **AGREEMENT** which cannot be readily resolved shall be submitted jointly to the signatories of this **AGREEMENT** with each party agreeing to seek in good faith to resolve the issue through negotiation or other forms of non-binding alternative dispute resolution mutually acceptable to the parties. A joint decision of the signatories, or their designees, shall be the disposition of such dispute.

25. This **AGREEMENT** states the entire understanding and agreement between the parties and supersedes any and all written or oral representations, statements, negotiations, or agreements previously existing between the parties with respect to the subject matter of this **AGREEMENT**.

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26. Any inconsistency in this **AGREEMENT** shall be resolved by giving precedence in the following order:
(a) Terms and Conditions outlined in preceding paragraphs 1 – 24
(b) Exhibit "A" Statement of Work
(c) all other exhibits, attachments and documents specifically incorporated herein by reference

IN WITNESS WHEREOF, the parties or their duly authorized representatives hereby execute this **AGREEMENT** on the date first written above.

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

BY ITS GOVERNING BOARD

By:_____

Frank Hayden, Director of Procurement

SFWMD Procurement Approved

By: Patrick Wiener

Date: 6-13-2008 DM

MIAMI DADE COUNTY

By:_____

Title Asst. County Manager 7/22/08

COUNTY COMMISSIONERS DADE COUNTY FLORIDA

EXHIBIT "A"
STATEMENT OF WORK
South Florida Estuarine Submerged Aquatic Vegetation And Water Quality Monitoring Network

1. 0 - INTRODUCTION

This Cooperative Agreement with Miami-Dade County, Department of Environmental Resources Management (DERM) and the South Florida Water Management District (District) continues the long-term submerged aquatic vegetation (SAV) and water quality monitoring network in South Florida estuaries for five years (October 1, 2008 to September 30, 2013). This cooperative program, ongoing since 1993, has established a substantial period of record that shall serve as a valuable baseline to evaluate estuarine restoration efforts as well as to identify potential impacts on this valuable resource from upstream water management activities. Continuation of this sampling effort is imperative to document potential ecological and water quality impacts of Taylor Slough/C-111 discharge on SAV communities in northeast Florida Bay, Manatee Bay and Barnes Sound. This coastal region is likely to be very sensitive to changes in freshwater flow associated with improved operations and restoration (Figure1).

The District has a requirement for protection of Florida Bay from significant harm as part of the minimum Flows and Levels (MFL) and also has a requirement for protection because the Bay is a part of the Everglades Protection Area. Florida Bay resources, including seagrass habitat and fisheries species, are dependent on a supply of fresh water from the Everglades. A minimum hydrologic need was quantitatively defined in the adopted MFL Rule, but this Rule also recognized that the best available information at the time of rule-making may not have been sufficient for defining the needs of many of the Bay's resources and areas. Thus, an update of the technical basis for the Rule is required and the update cannot be accomplished without sufficient data. This coastal region is likely to be very sensitive to changes in freshwater flow associated with improved operations and restoration.

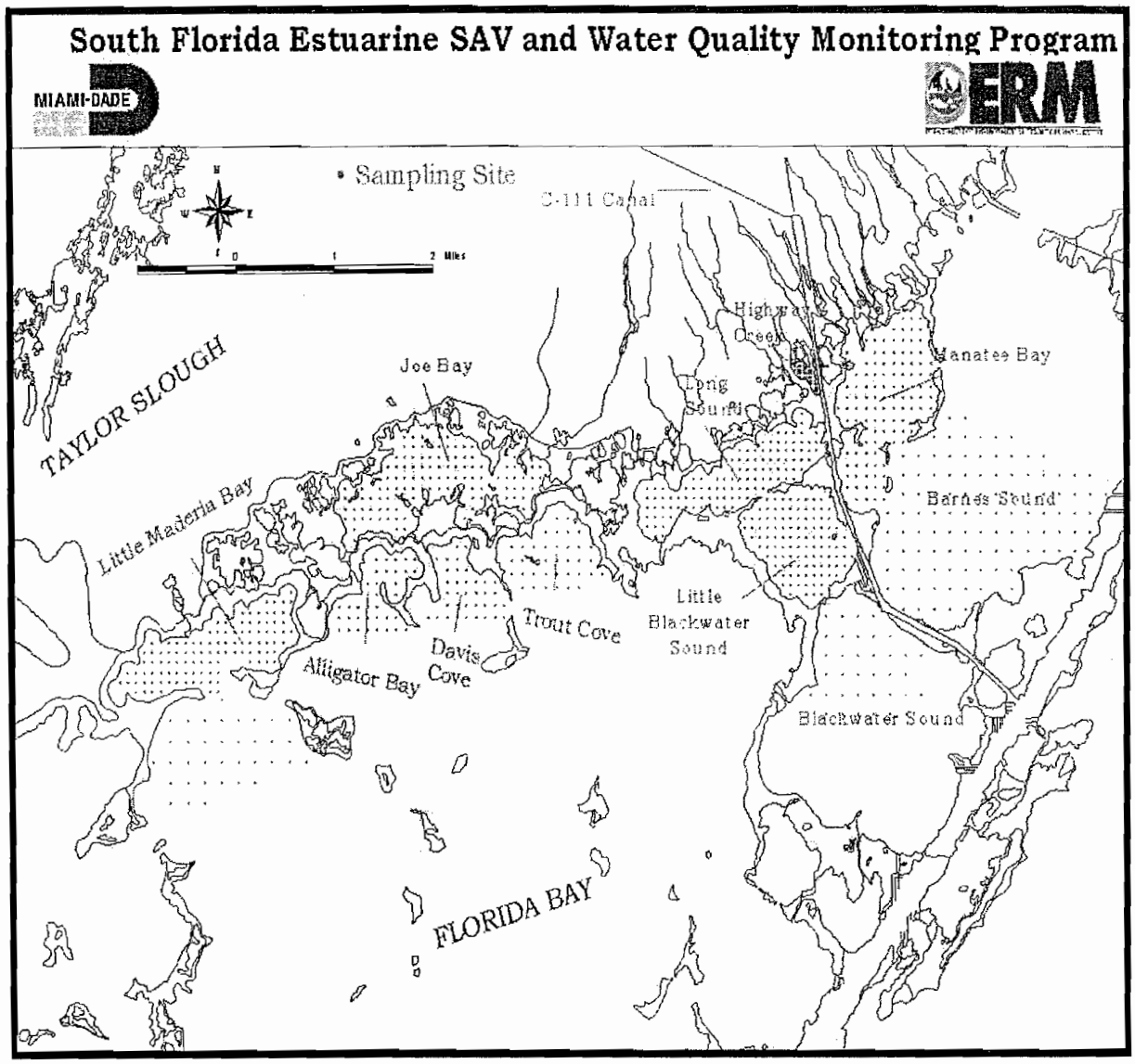

Figure 1 - South Florida Estuarine Submerged Aquatic vegetation and Water Quality Monitoring Network Example sites: Two sampling trips are shown so; actual number of sites would only be half for each trip

2.0 - OBJECTIVES

The objectives of this Cooperative Agreement are to:

- Developing and calibrating the FLORDIA BAY Seagrass Model, and applied to ecological assessment of combined structural operational plan (CSOP), MFLs , and comprehensive everglades restoration plan (CERP)
- Partnering with local governments
- To develop a basic understanding of the relationships among salinity, water quality and seagrass species distribution and abundance in South Florida

The protocol in this multi-year, adaptive statement of work may be modified by mutual agreement through a duly executed amendment to meet Florida Bay South Florida Estuarine Submerged Aquatic Vegetation Project objectives.
The **County** shall collect and analyze samples for a variety of chemical, physical and biological parameters that characterize water quality at 96 random and 10 fixed monitoring stations in Florida Bay regions (refer to Figure1). The **County** shall have a quality system in place to help ensure that the data generated are of acceptable and verifiable quality and are representative of actual field conditions.

The County shall perform the following:

1) Assemble and manage staff ensuring capacity to complete all tasks on time;
2) Provide transportation required to access all monitoring stations;
3) Provide all sampling and analysis equipment and supplies required to complete monitoring, analysis and reporting;
4) Work in compliance with **County's** Quality Manual, Chapter 62-160 F.A.C. including following Florida Department of Environmental Protection (FDEP) Field Sampling Standard Operating Procedures (SOP) and National Environmental Laboratory Accreditation Program (NELAP) requirements;
5) Consistently document and convey accurate, verified data including progress reports on a quarterly basis
6) Submitting corrective and preventative action reports as needed

3.0 SCOPE OF WORK

This monitoring project involves field collection, laboratory procedures, Summary of statistical analysis, preparation and submission of quarterly reports. The data collected under this contract shall be compiled in the District and the DERM databases, used to develop and calibrate the Florida Bay Seagrass Model, and applied to ecological assessments of CSOP, Develop technical criteria for water reservations and Minimum Flows and Levels, and CERP. The field surveys conducted under this Cooperative Agreement describes the distribution, composition, abundance, and biomass of macrophytes to yield information on spatial, seasonal and interannual trends. The biological techniques will be similar to that used by other researchers conducting work throughout Florida Bay and the Florida Keys National Marine Sanctuary (FKNMS). Since this is an adaptive statement of work, it is expected that the scope of work may change during the term of this agreement as a result of recurrent data evaluations. Any changes to the scope of work must be approved by both the District and DERM project managers prior to implementation

4.0 WORK BREAKDOWN STRUCTURE

Task 1- Quality Assurance Project Plan

A current quality assurance project plan (QAPP) shall be submitted to and approved by the District. **In order to ensure methodological consistency among regional SAV monitoring efforts, this plan shall include implementation of recommended intercalibration between Florida Bay monitoring programs. The District will invite all seagrass researchers partnered with the SFWMD to participate in an inter-agency Braun-Blanquet methods inter-calibration exercise this spring 2008. The purpose of this exercise is to: 1) have all investigators engage in an open discussion regarding the Braun-Blanquet method, the metrics measured, and the needs and applicability of the data collected for SFWMD purposes, 2) develop and implement a more rigorous and standardized method of scoring species and/or taxonomic groups in order to ensure better uniformity, accuracy, and precision of collected data, amongst all agencies, for further analysis of SAV status and trends related to water management and ecosystem restoration activities in Florida Bay and its adjacent systems, and 3) put these methods to practice in the field in order to assess and/or modify techniques for better quality assurance and quality control of data collection by all investigators .**

A- Surface Water Quality Monitoring

The quality system that will be implemented in sample collection (Surface water quality monitoring) through this Plan shall explicitly commit to incorporating procedures that shall reduce systematic errors within specified tolerable limits. In addition, the County will have to document Quality Control (QC) procedures and evaluate the quality of the data being produced.

District Quality Assurance (QA) staff may conduct laboratory and field quality control audits.

If a laboratory or field audit is conducted by the **DISTRICT** that results in corrective actions, the **County** shall respond with an explanation of how they will resolve each item within thirty (30) days from the receipt of the audit report. Follow-up audits may be conducted to verify implementation of corrective action plan.

The **County** shall notify the **DISTRICT** Project Manager immediately if it or its subcontractor loses certification for any parameter(s) analyzed for this contract. When requested, the laboratory shall provide the **DISTRICT** with results of all performance evaluation and Round Robin studies in which it participates, as well as audit reports. The **DISTRICT** may also ask for MDL studies and QC charts during the duration of the agreement. The laboratory may not change the method without prior written approval from the **DISTRICT**. If the laboratory's proposed method is not listed in the approved Quality Manual, they shall provide a FDEP-approved Method Validation package for each method.

All field activities including on-site tests and sample collection shall follow all applicable procedures described in DEP-SOP-001/01 (February 1, 2004). Alternate field procedures may be used only after they have been approved according to the requirements of Rules 62-160.220, and 62-160.330, F.A.C and approved by the District Project Manager.

B- Submerged Aquatic Vegetation

The quality system that will be implemented in sample collection (submerge aquatic vegetation) through this Plan shall explicitly commit to incorporating procedures that will reduce systematic errors within specified tolerable limits. In addition, the respondent will have to document Quality Control (QC) procedures and evaluate the quality of the data being produced.

Methods shall adhere to standardized methods published by the District, the Florida Department of Environmental Protection (FDEP) or the United States Environmental Protection Agency (EPA). All SAV survey data uploaded to the District database must have been validated following quality assurance (QA) requirements outlined in

DEP/QA-002./02. Any deviation from published District, FDEP, or EPA procedures must be approved by the District Program Manager and the District QA Officer.
In addition, <u>all sample collection and field measurements identified in the tasks of this Cooperative Agreement are subject to the following QA/QC specific requirements:</u>

a) The **County** shall ensure that only qualified and properly trained staff conduct sampling or field measurements for this project. The County staff shall demonstrate knowledge of FDEP Sampling SOPs, and operation of field instruments/equipment. The County shall document and keep a permanent file of training in employee's files to be available during audits.

b) The County shall submit a list of sampling personnel that are or will be assigned to the project, or updates on personnel to the District Project Manager during the term of this work order.

c) The County shall provide all deployed equipment, multi-parameter water quality analyzer and calibration standards. The County shall maintain an adequate stock of all supplies to ensure that measurements are collected according to schedule.

d) All field probes used for field measurements shall be calibrated before and verified after each day of sampling and documented accordingly per FDEP-SOP requirements. All calibration documentation shall be provided to the Project Manager as a part of the quarterly report

e) The District may review field sampling and laboratory quality assurance/quality control **(QA/QC)** procedures and conduct field and laboratory audits as desired at any time.

f) All site conditions observed during sample collection and in-situ field measurements shall be recorded on waterproof field sheets using indelible marker and as directed by the approved SOP.

g) The County shall be notified, in writing, 30 days in advance of any project related changes, including those related to sampling frequencies, parameter lists, etc.

h) If the District detects a problem with a sample result, the District Project Manager shall notify the County Project Manager in writing via email. The County shall address and resolve quality assurance issues within 45 days of District notification. The District Project Manager shall communicate any deficiencies to the County prior to payment authorization. In addition, the District will not reimburse the County for data that are not of acceptable quality.

I) Florida – Bay inter-agency group discussion and field practice of the **Braun-Blanquet metrics and methods inter-calibration, Personnel** exchange: At least one member from the County shall spend a day in the field with the other program's team. This exchange shall occur at least once a year and allow for cross-communication between groups on a more personal level. The County QA/QC data should be submitted in a **separate spreadsheet** to the SFWMD for archiving purposes, with all site and quadrat specifications included.

J) Annual inter-calibration exercise: The County shall participate in annual inter-calibration exercises. The annual field exercise would bring representatives from both groups together for participation, thus helping to facilitate greater communication between groups. This exercise would be organized by the SFWMD for every spring and any questions/concerns about metrics/methods that have arisen during the previous year of sampling would also be discussed

Task 2- Surface Water Quality Field Measurements

In situ measurements of the water column at each site shall include a photosynthetically active radiation (PAR) profile. A LiCor photometer system with two 4pi sensors shall be used to measure PAR. Associated data will be read, collected and stored using a LI-Cor 1400 datalogger (The Contractor shall document and report the time of day and GPS location of each monitoring site). Coefficients of light attenuation (K) shall be calculated from the raw values obtained from the instrument. A Hydrolab Surveyor or YSI multiparameter analyzer shall be used to measure other water column parameters (dissolved oxygen, salinity, conductivity, Oxidation-Reduction Potential (ORP) P, temperature and pH) at the surface, one meter and bottom. Measurements shall be made quarterly (to be specified by the District's Project Manager) for each Level One site described in Task 3.1; whereas semiannual (November and May) measurements shall be made for each Level Two site described in Task 3.2 (Refer to Attachment# 2 for detail list of stations, frequency, and parameters).

Temporal and spatial consistency in sampling is needed to reduce variation. There shall be intrasite consistency with respect to time of day and time of month in which the sample is taken. For example, these measurements shall be made at roughly the same time of day at each site. It is preferred that sampling be carried out on a routine schedule, with a regular sampling sequence for each site. The greatest extent possible, each site shall be sampled once within a minimum of 90 days (every quarter) interval. This effort to reduce variation involves adherence to quality control methods for all field measurements (Refer to Attachment# 2 for detail list of stations, frequency, and parameters).

Task 3- Submerged Aquatic Vegetation (SAV) Monitoring

The primary objective of this program is to identify if spatial trends in vegetation across the study area are changing with time; thus the approach to analysis is based on both spatial and temporal trends. The analysis of the data shall look for differences among the study basins as well as trends over time. Hence, the design has two levels of sampling to examine both the current status of, and changes over time in the SAV communities. The first level is based on a rapid assessment of a large number of sites to quantify basin level dynamics. The second level is based on relatively intensive sampling of a few fixed sites to examine seagrass specific dynamics such as above- to below- ground ratios.

The study area shall include the following **12 basins which may be affected by upstream water management practices: Manatee Bay, Barnes Sound, Highway Creek, Long Sound, Little Blackwater Sound, northwest Blackwater Sound, Joe Bay, Alligator Bay, Davis Cove, Trout Cove, Little Madeira Bay, and an area south of Little Madeira Bay.** These basins were selected to reflect effects due to point and/or non-point sources, i.e. the C-111 Canal, watershed runoff, and water released through Taylor Slough.

DERM shall collaborate with the Florida Fish and Wildlife Conservation Commission (FFWCC) Florida Bay Seagrass Monitoring Program staff to ensure that SAV sampling frequencies and methodologies are consistent, and that spatial coverage does not overlap, except as noted below.

Current overlap (either full basin or partial basin) between DERM and the fisheries habitat assessment program (FHAP) programs occur in the following basins: Manatee Bay, Barnes Sound, Blackwater Sound, and Eagle Key Basin. The same quadrat placement, at random numbers along the transect and oriented on the same side of the transect, would need to be communicated between groups to make the data comparable. These intercalibration sites will aid in verifying the comparability of the SAV data collected by the two agencies over a large range of SAV benthic community conditions.

Task 3.1 Level One Sampling Protocol - Rapid Assessment (Quarterly)

The primary objective of this design is to assess how SAV habitat along the northeast coast of Florida Bay and in southern Biscayne Bay changes in response to changing water management. Level One sampling and analysis shall quantify the spatial patterns of this habitat and how these patterns change with restoration. Level One sampling shall be conducted during wet and dry seasons. Level One sampling during wet and dry seasons shall be specified by the District Program Manager (Please refer to Attachment# 2 for detail list of frequency, and parameters).

A. Site Definition and Selection

Miami- DERM completed site selection. The SFWMD/ Miami- DERM's sampling network consist of a fixed set of monitoring sites per sub region. Each selected region within network have either four or 12 sub- regions with nine potential sample locations in each sub-region. The SFWMD/ Miami- DERM's sampling network consist of:

- Large Regions (i.e. Manatee Bay, Barnes Sound, Long Sound, Little Blackwater Sound, Joe Bay, and Little Madeira Bay) have 12 subregions, each with a total of 108 possible sample sites
- Smaller Regions (i.e.: Highway Creek, northwest Blackwater Sound, Alligator Bay, Davis Cove, Trout Cove, and south of Little Madeira Bay) have sub-regions each with a total of 36 possible sample sites
- **An array of equidistant points totaling 36 or 108 were distributed over the study region and used to define the sample sites by Miami-DERM**

These points shall then be grouped geographically into sets of nine sample points to form the sub-regions. The location of each sample point estimated (latitude and longitude) using Geographical Information System (GIS) based software.
Sampling shall consist of randomly selecting and visiting one of the sample sites within each sub-region quarterly. Navigation to sample sites shall be accomplished using a Global Positioning System (GPS).

B. SAV Sampling Techniques (Braun-Blanquet)

The sample sites are accessed by boat quarterly. The following specifically outlines and describes the Braun-Blanquet metrics necessary for SFWMD data requirements related to southern estuaries' monitoring, restoration, and water management activities as well as for future use in model construction and calibration. The objective for outlining these metrics is to ensure uniform data collection and reporting by numerous investigators across several agencies contracted by the SFWMD. These metrics are designed to allow the investigator to emphasize scoring functional groups of different macrophyte taxa while diminishing the scoring of species which may result in inaccurate data due to the limitations of an investigator's command and familiarity of particular species, particularly with respect to red, green (calcareous and fleshy), and brown algae. These metrics may also allow for increased resolution of total macrophyte cover and functional group cover in order to better document and model the status and trends of benthic community composition and for ground truthing of remote sensing data (Refer to Appendix A, Table 1, and attachment #2).

Braun-Blanquet Cover Abundance Index Intervals

Working definition of BBCA intervals:

0.1 = <5% cover with a solitary individual/shoot
0.5 = <5% cover with few individuals/shoots (sparse)
1 = <5% cover with numerous individuals/shoots
2 = ≥5% cover and ≤25% cover
3 = >25% cover and ≤50% cover
4 = >50% cover and ≤75% cover
5 = >75% cover

An important consideration for the BBCA scale that was discussed was **solitary individuals with large cover**. The consensus was that if the total cover of the individual was less than 5% then the score should be 0.1, but if the cover was greater than or equal to 5% then the score would be whichever score represented the cover amount (2 through 5). Similarly, if a single individual occupied less than 5% but seemed large, the score is still a 0.1 even though most observers agreed that the gut instinct may be to score it higher so that it has more weight. This is applicable to sparse (0.5) and numerous (1) individuals as well. In summary, if the cover is less than 5%, the abundance (not the cover) determines the score, but if the cover is 5% or greater, then only cover should be considered.

Physical parameters metrics

Braun-Blanquet metrics and methods inter-calibration

Core totals metrics:

TOT = Total benthic macrophyte cover – includes drift reds (DR) but excludes animals or other non-submersed aquatic vegetation constituents (e.g. mangrove prop roots/seedlings, benthic mat algae).

TDR = Total drift red algae – after scoring, DR should be removed from quadrat sample area, taking care to not disturb the underlying macrophyte position and profile. For defining purposes, DR is any algae that is **not attached to the substrate and/or is free-living**. Epiphytic algae **should not** be counted as drift.

T-DR = Total benthic macrophyte cover after DR removal – excludes animals and other benthic constituents.

TSG = Total seagrass cover.

TMA = Total macroalgae cover – includes calcareous green algae, fleshy green algae, red algae (fleshy and coralline), and brown algae. **Excludes DR and epiphytic algae**.

TCAL = Total calcareous green algae – includes Penicillus, Halimeda, Udotea, Rhipocephalus, Acetabularia, and Neomaris (rare species that is not included on BB sheet).

TGO = Total green other algae – includes Caulerpa, Batophora, Dasycladus, Avrainvilla, Chara, etc.

TRO = Total red other algae – includes Laurencia, coralline reds, etc. **Excludes DR and epiphytic algae**.

TBR = Total brown algae – includes Dictyota, Sargassum, etc.

Seagrass, algae, and rare species metrics:

TT = Thalassia testudinum – receives a score when present.

HW = Halodule wrightii – receives a score when present.

SF = Syringodium filiforme – receives a score when present.

HD = Halophila decipiens – receives a score when present.

HE = Halophila engelmanii – receives a score when present.

HJ = Halophila johnsonii – receives a score when present.

RM = Ruppia maritima – receives a score when present.

PEN = Penicillus spp. – FHAP will score when present, DERM will note presence with check.

RHI = Rhipocephalus spp. – FHAP will score when present, DERM will note presence with check.

HAL = Halimeda spp. – FHAP will score when present, DERM will note presence with check.

UDO = Udotea spp. – FHAP will score when present, DERM will note presence with check.

ACE = Acetabularia spp. – FHAP will score when present, DERM will note presence with check.

BAT = Batophora – FHAP will score when present, DERM will note presence with check. **NOTE:** may also be used interchangeably and/or in conjunction with to denote Dasycladus as well.

CA = Caulerpa spp. – FHAP will score when present, DERM will note presence with check. **NOTE:** all pooled species present to be scored as a total.

ANA = Anadyomene spp. – FHAP will score when present.

COR = Hard and soft coral species – pooled species (hard and soft) total will be scored when present. **NOTE:** corals are **not included** in total benthic macrophyte cover.

SP = Sponge species – pooled species total will be scored when present. **NOTE:** sponges are **not included** in total benthic macrophyte cover.

- **Do not manipulate macrophytes after throwing sample quadrat**. The area of scoring interest lies within the sample quadrat as viewed from directly above. Therefore, macrophytes that are in contact with quadrat edges should be scored according to how they occlude the bottom (bent, compacted, or otherwise) in the scoring area. **Do not adjust macrophytes on quadrat edges for their inclusion or exclusion**. Similarly, any short shoots that hang over the quadrat and are in the scoring area should be scored accordingly.
- Quadrat design and construction: The construction of the quadrats may cause visual and/or scoring bias. The County Shall utilize the ¾" PVC quadrats with the "T" joints on the corners would be more appropriate for sampling because they seemed to impact the benthic community less (bending and compaction), caused less glare, and were lighter and easier to throw. There should be no strings crossing the quadrat used for scoring as they can cause compaction of the vegetation and possibly increase the total cover estimate. The **interior** dimensions of the sample quadrat should measure 50 cm on each side (total interior area = 0.25 m^2).
- When estimating BB scores, The County should focus on the scoring area that is not covered (bare sediment) versus the area that is covered because macrophyte morphology (vertical profile and abundance) can cause visual bias leading the observer to increase the total estimate of cover.
- Short shoot counts should never be taken before BBs. Again, this can cause a bias in the mind of the observer, especially when plants are numerous but have little cover (e.g. *Halodule*).

- Benthic microbial mats are not to be included in total macrophyte cover estimates and are otherwise not scored in any way.
- Detritus, it should be removed if it is obscuring the view of macrophytes in a way that could impact scoring ability. However, it may not be possible to remove it without impacting macrophyte profile or visibility (sediment re-suspension) in some locations, so observers should use their own judgment and caution.

Field and Data Management QA/QC Considerations

All QA/QC data should be submitted in a **separate spreadsheet** to the SFWMD for archiving purposes, with all site and quadrat specifications included. This will provide a record of intra-agency performance to be used to evaluate trends in scoring drift among investigators. In theory, any demonstrable scoring differences may be higher at the beginning of the field season, and any drift should be able to be corrected relatively quickly.

NOTE: DERM will continue to note total green algae (TGA) cover (calcareous + fleshy) in order to compare older data with newer data. This will be revisited after one year to assess the comparability and sufficiency of the set of green algal categories. Pending the outcome of this assessment, it is expected that the total green algae category then will be dropped.

Table 1- Sample Braun-Blanquet Data Sheet

TOT Total Macrophytes **TDR** Total Drift Red **T-DR** Total Macrophytes-Drift Red **TSG** Total Seagrass **TMA** Total Macroalgae **TCAL** Total Calcareous **TGO** Total Green Other (fleshy) **TRO** Total Red Other **TBR** Total Brown

Seagrass Species: **TT** Thalassia **HW** Halodule **SF** Syringodium **HD** H.decipiens **HE** H.engelmanii **HJ** H.johnsonii **RM** Ruppia **Animal Species:** **COR** Hard/soft coral **SP** Sponges

Calcareous Algae Species: **PEN**icillus **RHI**pocephalus **HAL**imeda **UDO**tea **ACE**tabularia **Fleshy Green Algae Species:** **BAT** Batophora/Dasycladus **ANA** Anadyomene **CH** Chara

0.1 = <5% solitary **0.5** = <5% sparse **1** = <5% numerous **2** = cover ≥5% - ≤25% **3** = cover >25% - ≤50% **4** = cover >50 - ≤75% **5** = cover >75%

STN	Quad		TOT	TDR	T-DR	TSG	TMA	TCAL	TGO	TRO	TBR	TT	HW	SF	HD	HE	HJ	RM	PEN	RHI	HAL	UDO	ACE	BAT	ANA	CH	COR	SP	Comments	
STN	Quad		TOT	TDR	T-DR	TSG	TMA	TCAL	TGO	TRO	TBR	TT	HW	SF	HD	HE	HJ	RM	PEN	RHI	HAL	UDO	ACE	BAT	ANA	CH	COR	SP	Comments	

Task 3.2 Level Two Sampling Protocol - Intensive Monitoring (Semiannual)

The primary objective of this sampling design is to determine seasonal and interannual trends in the South Florida estuarine SAV communities with respect to potential impacts of upstream water management practices. Data from selected intensively monitored sites shall help to interpret the broader scale but less quantitative results from Level One monitoring and shall provide data necessary for SAV habitat model calibration and validation (Please refer to Attachment# 2 for detail list of stations, frequency, and parameters).

A. Site Selection and Definition

Relatively intensive surveys shall be conducted semiannually at seven fixed sites in northeast Florida Bay. DERM shall relocate these sites as needed to assist the District with seagrass modeling efforts. Sampling shall correspond with FHAP's semiannual monitoring schedule (currently May and November). GPS coordinates of each site shall be reported to the District.

B. SAV Sampling Techniques

Each site shall consist of a 50m transect with three randomly located, fixed $1m^2$ sampling areas. A $1m^2$ portable grid shall be placed in each sampling area. Parameters have been prioritized to increase the study's sensitivity to detect temporal change. Cover-abundance estimates and density measurements shall be made at all three quadrat stations per site. Additionally, an observation of community health, and the presence of macrofauna shall be noted when time permits. Photographs of quadrat stations shall be taken and submitted to the **District** annually as field conditions permit.

1) Density Measurements

Actual density counts shall be made in each sampling area. To accomplish this, a $1m^2$ quadrat is subdivided into 20cm x 20cm subunits, and separate short shoot and blade counts are determined per species in five randomly-chosen units (only short shoots shall be counted for Halodule wrightii and Ruppia maritima).

2) Cover - Abundance Estimates

Overall cover for each species and total cover for all species shall be estimated, and abundance shall be calculated using the Braun-Blanquet scale described in Level One SAV Sampling Techniques (Task 3.1B). A scale rating shall be recorded for each seagrass species and major macroalgal groups present within the $1m^2$ quadrat.

3) **Biomass Determinations**

Biomass samples shall be collected semiannually (May and November) from three cores arbitrarily placed on the sediment surface adjacent to the transect at each site and processed to provide estimates per species of shoot density, leaf area, total standing crop, and below-ground biomass. Samples are collected by rotating the 8" diameter corer into the sediment ~30cm. They are rinsed in the field to remove adhered sediment and frozen in separate zipper-lock freezer bags until analysis. If removal of the sediment is unsuccessful, the sample shall be discarded. In the laboratory, samples are thawed and rinsed to remove remaining sediment and sorted into seagrass by species or macroalgal groups. The number of short shoots, leaf number, and leaf area measurements shall be made on intact *Thalassia testudinum* , Halodule; and Ruppia shoots. Each seagrass species is divided into fractions representing live rhizomes and roots, shoots and stems, blades, and dead material. Epiphytes are removed by scraping and all fractions are then rinsed in 10% HCl, dried at 60 degrees C, and weighed. Macroalgae are also rinsed in 10% HCl, dried at 60 degrees C, and weighed. These specific procedures used to estimate biomass parameters are comparable with those used in the FFWCC's Florida Bay seagrass monitoring project.

Task 5.0 Purchase Replacement Surface Water Sampling Equipment

Equipment utilized by DERM for this sampling program was originally purchased under Contract #ML060543 with the District. The equipment is over 3 years old and is no longer supported by the manufacturer. Mounting repair costs and/or lack of technical support by the manufacturer warrant the complete replacement of these units. DERM shall purchase one complete Hydrolab or YSI sampling system during Year 2 of this contract and one complete Li-cor sampling system during Year 4 of this contract.

4.0 DELIVERABLES

Task 1- Approved QAPP

The District shall hold a mandatory workshop within one month of contract execution to discuss methodological consistency among regional SAV monitoring entities. A QAPP shall be submitted to the District within three months of contract execution: included in this plan shall be a report summarizing conclusions of the monitoring methods workshop and specifying any modifications of past methods for this program.

Tasks 2 and 3- Surface Water Quality Field Measurements and Submerged Aquatic Vegetation Monitoring

The data shall be supplied to the District quarterly or upon request and a statement attesting to the validity of the data shall accompany all data reports. Quarterly status reports shall provide schedule updates, identify activities undertaken during the reporting period, and state any problems encountered. The status reports and data shall be supplied in both written and digital formats. The last quarterly report of each Year shall also include a summary of results of the field intercalibration exercise to be scheduled for each year (Please refer to Attachment# 2 for detail list of stations, frequency, and parameters)

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All data received shall conform to the following guidelines or other data format as desired by the District:

5.0- DATA MANAGEMENT AND REPORTING

5.1 - Data Format for Deliverables

The data shall be submitted to the **DISTRICT** in a specific digital format. The **County** shall validate the data in accordance with the data quality objectives stated in the monitoring plan and this agreement. At a minimum, the **County** shall validate the data to determine conformance to field and laboratory method and QA/QC requirements, meeting accuracy and precision targets, that documentation and entries are complete and accurate, that the results are reasonable and within historical limits, and that any anomalous results or non-conformances are reflected in data reports by using appropriate data qualifiers.

All data submittals shall conform to existing **DISTRICT** guidelines or other format as requested by the **DISTRICT**. For all sample matrices, the result data shall be submitted in both hard copy and electronic formats. This tool aids in processing analytical data, validating format and completeness, checking the data quality and compliance with the method and data quality objectives for all analytical data submitted to the **DISTRICT**.

5.2 - Database

Though the **County** generates and stores data under contract for the **DISTRICT**, the **DISTRICT** retains sole ownership of the data. The County will work toward development of a web based tool for access of the data

5.4 Field Data Sheets

The **County** shall be required to document field collection information and measurements on Field Data sheets including pre and post sonde calibration information. Field notes shall be documented using waterproof ink in a bound waterproof notebook. Data entry and reporting: All Field data entered into a spreadsheet should be initialized and dated by the technician.

Data entry needs to be QA/QC'd by two technicians – one checking the field data sheet, the other checking the data spreadsheet **simultaneously**. This will help to eliminate any reporting errors, typos, or omissions from the field sheet to the master spreadsheet. Additionally, the QA/QC procedure should be initialized and dated by both technicians. Any corrections or changes made on a data sheet should be recorded by a single line-strike (not erasing) and initialed and dated by the person making the change.

Field Data sheets shall be batched and submitted to the **DISTRICT** Project Manager on a quarterly basis in electronic format by scanning into an Adobe Acrobat file and submitted on a CD.

6.0 REPORTING

Quarterly reports will be submitted at the end of each quarter of the contract, with the date of submittal listed in the Task Description and Work Order. The PI will provide an electronic copy of the annual report that will include at minimum the following: methods, results and statistical analyses of sampling efforts, discussion, conclusions, and lessons learned, preventive, and corrective actions. An electronic copy of raw data will also be provided.

Quarterly data reports shall: 1) identify activities undertaken during the reporting period; 2) state any problems encountered; 3) attest to the validity of the data; 4) include all quality assurance data with laboratory and field QA/QC reports (*i.e.,* the results of field blanks, equipment blanks, precision as percent relative standard deviation, accuracy checks, method blanks and calibration data (initial and continuing verification)) consistent with the Field Service Quality Manual (FSQM); 5) briefly summarize quarterly water quality conditions in the network; 6) include electronic scans of all sample chain of custody forms, field equipment calibration, field equipment maintenance and field notes in accordance with the deliverable schedule; and 7) include all electronic analytical data in accordance with the deliverable schedule. Additionally, the **County** shall summarize quarterly water quality conditions for each of the projects within the network with simple statistics (min, max, median), and provide summaries in a graphical format. Quarterly reports shall also include results of all internal and external system and performance audits, as well as any corrective actions and shall be due within ninety (90) days after the end of the quarter.

The **County** shall list all publications and reports that make use of the data collected in the aforementioned reports submitted to the **DISTRICT.**

The County shall, at a minimum, include/discuss the following information in the Quarterly monitoring report:

I. Executive Summary

II. Project Background (or Introduction)

- Description of the monitoring area
- Historical information
- Purpose of monitoring project
- Period covered by report
- Include a map of study area with monitoring stations

III. Methods

A. Field Data collection and Laboratory Analyses

- QA/QC summary of: 1) accuracy and precision data; 2) calibration data (correlation or regression coefficients, instrument response for each calibration standard); 3) a description of all analytical, instrumentation or computer problems detected during testing of **DISTRICT** samples; 4) how each problem was resolved; 5) any observed/expected effect on the result; 6) sample analysis date and time; and 7) description of all quality control problems encountered and identification of the District samples affected.

  The **County's** shall be expected to qualify any data that failed the QA/QC criteria, and notify the **DISTRICT** of these failures, in writing, including those that are noted after data submittal to the **DISTRICT**. The **DISTRICT** may instruct the **County** to suspend or discontinue sending regular samples to their laboratory if there is any major or recurring problems, until the problem root cause has been solved and corrective actions are implemented.

B. Monitoring Problems

- In narrative form (Problems/ issues and corrective actions), specify any monitoring problems that may have occurred during the course of the monitoring quarter. Monitoring problems can be (and are not limited to) inclement weather (i.e., tropical storms and hurricanes), equipment failures, scheduling problems, etc. Also include how these problems were resolved and what steps have been taken (with the exception of climatological events) to ensure that these problems are not repeated.

C. Statistical Analyses

- Discuss statistical analyses performed on data
- List statistical packages (i.e., software) used to analyze data
- Include graphical representation of all significant statistical trends

A. Short- and Long-Term Trends (Annual Reports)

- Compare current annual data to long-term trends (period of record, 1991 to present) in water quality and discuss differences/similarities observed for the area. The county shall submit annual report.

IV. Changes/Updates to Previously Submitted Data/Reports

V. References

7.0 DELIVERABLES SCHEDULE

Table 3- Deliverables Schedule

Quarterly Reporting	Year 1	Due Date
Quarterly Project Report 10-12/2008	DERM shall participate in an inter-agency Braun-Blanquet methods inter-calibration exercises that will be held by SFWMD and inter-agency ADAPT program workshop	Upon completion (No later than 9/29/2009)
	Submission of a QAPP	30-Jan-09
	Quarterly Data Report 10-12/2008	30-Jan-09
Quarterly Project Report 1-3/2009	Quarterly Data Report	30-Apr-09
Quarterly Project Report 4-6/2009	Quarterly Data Report	31-Jul-09
Quarterly Project Report 7-9/2009	Quarterly Data Report	29-Sep-09

Table 3- Deliverables Schedule - Continued

Quarterly Reporting	Year 2	Due Date
Quarterly Project Report 10-12/2009	DERM shall participate in an inter-agency Braun-Blanquet methods inter-calibration exercises that will be held by SFWMD and inter-agency ADAPT program workshop	Upon completion (No later than 9/29/2010)
	Submission of report documenting replacement of a YSI sampling system	30-Jan-10
	Quarterly Data Report 10-12/2008	30-Jan-10
Quarterly Project Report 1-3/2010	Quarterly Data Report	30-Apr-10
Quarterly Project Report 4-6/2010	Quarterly Data Report	31-Jul-10
Quarterly Project Report 7-9/2010	Quarterly Data Report	29-Sep-10

Table 3- Deliverables Schedule - Continued

Quarterly Reporting	Year 3	Due Date
Quarterly Project Report 10-12/2010	DERM shall participate in an inter-agency Braun-Blanquet methods inter-calibration exercises that will be held by SFWMD and inter-agency ADAPT program workshop	Upon completion (No later than 9/29/2011)
	Quarterly Data Report 10-12/2008	30-Jan-11
Quarterly Project Report 1-3/2011	Quarterly Data Report	30-Apr-11
Quarterly Project Report 4-6/2011	Quarterly Data Report	31-Jul-11
Quarterly Project Report 7-9/2011	Quarterly Data Report	29-Sep-11

Table 3- Deliverables Schedule - Continued

Quarterly Reporting	Year 4	Due Date
Quarterly Project Report 10-12/2011	DERM shall participate in an inter-agency Braun-Blanquet methods inter-calibration exercises that will be held by SFWMD and inter-agency ADAPT program workshop	Upon completion (No later than 9/29/2012)
	Submission of report documenting replacement of a Li-Cor sampling system	30-Jan-12
	Quarterly Data Report 10-12/2008	30-Jan-12
Quarterly Project Report 1-3/2012	Quarterly Data Report	30-Apr-12
Quarterly Project Report 4-6/2012	Quarterly Data Report	31-Jul-12
Quarterly Project Report 7-9/2012	Quarterly Data Report	29-Sep-12

Table 3- Deliverables Schedule - Continued

Quarterly Reporting	Year 5	Due Date
Quarterly Project Report 10-12/2012	DERM shall participate in an inter-agency Braun-Blanquet methods inter-calibration exercises that will be held by SFWMD and inter-agency ADAPT program workshop	Upon completion (No later than 9/29/2013)
	Quarterly Data Report 10-12/2008	30-Jan-13
Quarterly Project Report 1-3/2013	Quarterly Data Report	30-Apr-13
Quarterly Project Report 4-6/2013	Quarterly Data Report	31-Jul-13
Quarterly Project Report 7-9/2013	Quarterly Data Report	29-Sep-13

8.0 DISTRICT COSTS

The total amount of funds allocated under this Cooperative Agreement from the District shall not exceed $539,894. The actual funds shall be disbursed up to $105,437 for Fiscal Year 2009, $105,437 for Fiscal Year 2010, $105,432 for Fiscal Year 2011, $111,976 for Fiscal Year 2012; and $111,612 for Fiscal Year 2013.

9.0 CONTINGENCIES

Every effort shall be made to complete all the tasks as described; however, it is recognized that some measurements may be missed occasionally due to inclement weather, unforeseen unsafe working conditions, or equipment failure. The District may amend this Cooperative Agreement for a time extension in the event of a natural disaster or major storm.

Expedient monitoring may be requested during or after unusual events that may affect water-related resources. While every effort shall be made to accommodate such requests, unscheduled monitoring shall be conducted based on staff availability and it is understood that some requests may not be fulfilled. Field data collected from these sampling events shall be provided to the District in a preliminary letter report within one week of collection. The final version of these data shall conform to the formats described in the Deliverables section of this document and shall be reported in a separate section of the quarterly report for that period.

EXHIBIT "B"

PAYMENT AND DELIVERABLES SCHEDULE

A summary deliverable schedule for each task associated with this project is set forth below. The schedule is based on a three year period (Please refer to table4).

The County hereby agrees to provide the District all deliverables, data and information described in the Statement of Work in both written and electronic four-digit format. Acceptability of all work shall be based on the judgment of the District that the work is technically credible, accurate, precise and timely.

The District shall review and forward, within fifteen (15) working days of receipt, recommended revisions (letter format) to each report for incorporation by the County into the final submission.

The County shall submit invoices in the fixed amounts listed in the schedule below. All invoices shall list the deliverables submitted to the District as set forth under Tasks 1 through 6 of this Cooperative Agreement. **The District may refuse payment for data that does not meet District/ FDEP quality assurance/ quality control criteria. Payment of invoices shall be contingent upon delivery and acceptance by the District of all deliverables and work products due within the invoiced period.**

Total payment by the District for all work completed herein shall not exceed the amount of **$539,894**. All payments are subject to District fiscal year appropriations, including exceed $105,437 for Fiscal Year 2009, $105,437 for Fiscal Year 2010, $105,432 for Fiscal Year 2011, $111,976 for Fiscal Year 2012; and $111,612 for Fiscal Year 2013.

Table 4- PAYMENT AND DELIVERABLE SCHEDULE

Year 1	Deliverable Description	Deliverable Due Date	Invoice Due Date	Total Payments
	DERM shall participate in an inter-agency Braun-Blanquet methods inter-calibration exercises that will be held by SFWMD and inter-agency ADAPT program workshop	As needed	Upon completion (No later than 9/29/2009)	$3,437
	Submission of a QAPP	Within 90 days of contract execution	23-Jan-09	$5,500
	Quarterly Data Report 10-12/2008	30-Jan-09	30-Jan-09	$24,125
	Quarterly Data Report 1-3/2009	30-Apr-09	30-Apr-09	$24,125
	Quarterly Data Report 4-6/2009	31-Jul-09	31-Jul-09	$24,125
	Quarterly Data Report 7-9/2009	29-Sep-09	29-Sep-09	$24,125
	Total (Fiscal Year 2009)			**$105,437**
Year 2	DERM shall participate in an inter-agency Braun-Blanquet methods inter-calibration exercises that will be held by SFWMD and inter-agency ADAPT program workshop	As needed	Upon completion (No later than 9/29/2010)	$3,437
	Submission of report documenting replacement of a YSI sampling system	Upon Completion	23-Jan-10	$5,500
	Quarterly Data Report 10-12/2009	30-Jan-10	30-Jan-10	$24,125
	Quarterly Data Report 1-3/2010	30-Apr-10	30-Apr-10	$24,125
	Quarterly Data Report 4-6/2010	31-Jul-10	31-Jul-10	$24,125
	Quarterly Data Report 7-9/2010	29-Sep-10	29-Sep-10	$24,125
	Total (Fiscal Year 2010)			**$105,437**

Table 4- PAYMENT AND DELIVERABLE SCHEDULE

	Deliverable Description	Deliverable Due Date	Invoice Due Date	Total Payments
Year 3	DERM shall participate in an inter-agency Braun-Blanquet methods inter-calibration exercises that will be held by SFWMD and inter-agency ADAPT program workshop	As needed	Upon completion (No later than 9/29/2011)	$4,000
	Quarterly Data Report 10-12/2010	30-Jan-11	30-Jan-11	$25,358
	Quarterly Data Report 1-3/2011	30-Apr-11	30-Apr-11	$25,358
	Quarterly Data Report 4-6/2011	31-Jul-11	31-Jul-11	$25,358
	Quarterly Data Report 7-9/2011	29-Sep-11	29-Sep-11	$25,358
	Total (Fiscal Year 2011)			**$105,432**
Year 4	DERM shall participate in an inter-agency Braun-Blanquet methods inter-calibration exercises that will be held by SFWMD and inter-agency ADAPT program workshop	As needed	Upon completion (No later than 9/29/2012)	$4,000
	Submission of report documenting replacement of a Li-Cor sampling system	Upon Completion	1/30/2011	$3,500
	Quarterly Data Report 10-12/2011	30-Jan-12	30-Jan-12	$26,119
	Quarterly Data Report 1-3/2012	30-Apr-12	30-Apr-12	$26,119
	Quarterly Data Report 4-6/2012	31-Jul-12	31-Jul-12	$26,119
	Quarterly Data Report 7-9/2012	29-Sep-12	29-Sep-12	$26,119
	Total (Fiscal Year 2012)			**$111,976**
Year 5	DERM shall participate in an inter-agency Braun-Blanquet methods inter-calibration exercises that will be held by SFWMD and inter-agency ADAPT program workshop	As needed	Upon completion (No later than 9/29/2013)	$4,000
	Quarterly Data Report 10-12/2012	30-Jan-13	30-Jan-13	$26,903
	Quarterly Data Report 1-3/2013	30-Apr-13	30-Apr-13	$26,903
	Quarterly Data Report 4-6/2013	31-Jul-13	31-Jul-13	$26,903
	Quarterly Data Report 7-9/2013	29-Sep-13	29-Sep-13	$26,903
	Total (Fiscal Year 2013)			**$111,612**
	Total Payment			**$539.894**

Note: This value represents an estimate and may be higher or lower for any given quarter as long as the total amount for these tasks shall not exceed $105,437 for Fiscal Year 2009, $105,437 for Fiscal Year 2010, $105,432 for Fiscal Year 2011, $111,976 for Fiscal Year 2012; and $111,612 for Fiscal Year 2013.

Attachment A

I. Braun-Blanquet Metrics and Functional Group Tallies Overview

The following specifically outlines and describes the BB metrics necessary for SFWMD data requirements related to southern estuaries' monitoring, restoration, and water management activities as well as for future use in model construction and calibration. The objective for outlining these metrics is to ensure uniform data collection and reporting by numerous investigators across several agencies contracted by the SFWMD. These metrics are designed to allow the investigator to emphasize scoring functional groups of different macrophyte taxa while diminishing the scoring of species which may result in inaccurate data due to the limitations of an investigator's command and familiarity of particular species, particularly with respect to red, green (calcareous and fleshy), and brown algae. These metrics may also allow for increased resolution of total macrophyte cover and functional group cover in order to better document and model the status and trends of benthic community composition and for ground truthing of remote sensing data.

Braun-Blanquet Cover Abundance Index Intervals

Working definition of BBCA intervals:

0.1 = <5% cover with a solitary individual/shoot
0.5 = <5% cover with few individuals/shoots (sparse)
1 = <5% cover with numerous individuals/shoots
2 = ≥5% cover and ≤25% cover
3 = >25% cover and ≤50% cover
4 = >50% cover and ≤75% cover
5 = >75% cover

An important consideration for the BBCA scale that was discussed was **solitary individuals with large cover**. The consensus was that if the total cover of the individual was less than 5% then the score should be 0.1, but if the cover was greater than or equal to 5% then the score would be whichever score represented the cover amount (2 through 5). Similarly, if a single individual occupied less than 5% but seemed large, the score is still a 0.1 even though most observers agreed that the gut instinct may be to score it higher so that it has more weight. This is applicable to sparse (0.5) and numerous (1) individuals as well. In summary, if the cover is less than 5%, the abundance (not the cover) determines the score, but if the cover is 5% or greater, then only cover should be considered.

Physical parameters metrics

Core totals metrics:

TOT = Total benthic macrophyte cover – includes drift reds (DR) but excludes animals or other non-submersed aquatic vegetation constituents (e.g. mangrove prop roots/seedlings, benthic mat algae).

TDR = Total drift red algae – after scoring, DR should be removed from quadrat sample area, taking care to not disturb the underlying macrophyte position and profile. For defining purposes, DR is any algae that is **not attached to the substrate and/or is free-living**. Epiphytic algae **should not** be counted as drift.

T-DR = Total benthic macrophyte cover after DR removal – excludes animals and other benthic constituents.

TSG = Total seagrass cover.

TMA = Total macroalgae cover – includes calcareous green algae, fleshy green algae, red algae (fleshy and coralline), and brown algae. **Excludes DR and epiphytic algae**.

TCAL = Total calcareous green algae – includes Penicillus, Halimeda, Udotea, Rhipocephalus, Acetabularia, and Neomaris (rare species that is not included on BB sheet).

TGO = Total green other algae – includes Caulerpa, Batophora, Dasycladus, Avrainvilla, Chara, etc.

TRO = Total red other algae – includes Laurencia, coralline reds, etc. **Excludes DR and epiphytic algae**.

TBR = Total brown algae – includes Dictyota, Sargassum, etc.

Seagrass, algae, and rare species metrics:

TT = Thalassia testudinum – receives a score when present.

HW = Halodule wrightii – receives a score when present.

SF = Syringodium filiforme – receives a score when present.

HD = Halophila decipiens – receives a score when present.

HE = Halophila engelmanii – receives a score when present.

HJ = Halophila johnsonii – receives a score when present.

RM = Ruppia maritima – receives a score when present.

PEN = Penicillus spp. – FHAP will score when present, DERM will note presence with check.

RHI = Rhipocephalus spp. – FHAP will score when present, DERM will note presence with check.

HAL = Halimeda spp. – FHAP will score when present, DERM will note presence with check.

UDO = Udotea spp. – FHAP will score when present, DERM will note presence with check.

ACE = Acetabularia spp. – FHAP will score when present, DERM will note presence with check.

BAT = Batophora – FHAP will score when present, DERM will note presence with check. **NOTE:** may also be used interchangeably and/or in conjunction with to denote Dasycladus as well.

CA = Caulerpa spp. – FHAP will score when present, DERM will note presence with check. **NOTE:** all pooled species present to be scored as a total.

ANA = Anadyomene spp. – FHAP will score when present.

COR = Hard and soft coral species – pooled species (hard and soft) total will be scored when present. **NOTE:** corals are **not included** in total benthic macrophyte cover.

SP = Sponge species – pooled species total will be scored when present. **NOTE:** sponges are **not included** in total benthic macrophyte cover.

Mean seagrass canopy height (cm) - to be taken only when seagrass species are present in a quadrat. The investigator should determine one mean canopy height measurement, to the nearest cm, that incorporates all species present in the quadrate **without any physical manipulation of the seagrass short shoots**.

Sediment depth (cm) - using a 75 cm rod marked in 5 cm intervals, one measurement, to the nearest cm, to be taken inside each quadrate by inserting the rod into the sediment until limestone is encountered. If the sediment is deeper than 75 cm, then report as "> 75 cm". To be measured **after all BB scoring is complete**.

II. Concerns Regarding the BB Methodology

- **Do not manipulate macrophytes after throwing sample quadrat**. The area of scoring interest lies within the sample quadrat as viewed from directly above. Therefore, macrophytes that are in contact with quadrat edges should be scored according to how they occlude the bottom (bent, compacted, or otherwise) in the scoring area. **Do not adjust macrophytes on quadrat edges for their inclusion or exclusion**. Similarly, any short shoots that hang over the quadrat and are in the scoring area should be scored accordingly.
- Quadrat design and construction: The construction of the quadrats may cause visual and/or scoring bias. The County Shall utilize the ¾" PVC quadrats with the "T" joints on the corners would be more appropriate for sampling because they seemed to impact the benthic community less (bending and compaction), caused less glare, and were lighter and easier to throw. There should be no strings crossing the quadrat used for scoring as they can cause compaction of the vegetation and possibly increase the total cover estimate. The interior dimensions of the sample quadrat should measure 50 cm on each side (total interior area = 0.25 m^2).
- When estimating BB scores, The County should focus on the scoring area that is not covered (bare sediment) versus the area that is covered because macrophyte morphology (vertical profile and abundance) can cause visual bias leading the observer to increase the total estimate of cover.
- Short shoot counts should never be taken before BBs. Again, this can cause a bias in the mind of the observer, especially when plants are numerous but have little cover (e.g. *Halodule*).
- Benthic microbial mats are not to be included in total macrophyte cover estimates and are otherwise not scored in any way.
- Detritus, it should be removed if it is obscuring the view of macrophytes in a way that could impact scoring ability. However, it may not be possible to remove it without impacting macrophyte profile or visibility (sediment re-suspension) in some locations, so observers should use their own judgment and caution.

Field and Data Management QA/QC Considerations

- Daily team field QA/QC: Each group's investigators should make an effort to score a common quadrat at a site at least once a day. This common quadrat should be previously assigned to one investigator for data reporting purposes (i.e. there are not two sets of data reported for one quadrat) and another investigator for QC reporting. Following BB scoring, investigators should compare and discuss their scoring on the boat in order to facilitate better accuracy and precision amongst team members. There should be **no changes** made to the data sheets arising from discussion and comparison. This procedure should be relatively easy for the FHAP crew, as they typically have two people performing BBs at a site. For DERM, who rotates out single investigators from day to day, an effort should be made to perform this procedure between successive investigators at some point in a day's work when possible. All QA/QC data should be submitted in a **separate spreadsheet** to the SFWMD for archiving purposes, with all site and quadrat specifications included. This will provide a record of intra-agency performance to be used to evaluate trends in scoring drift among investigators. In theory, any demonstrable scoring differences may be higher at the beginning of the field season, and any drift should be able to be corrected relatively quickly.

- Establish and continue overlapping inter-calibration sites: This serves as an independent inter-agency check that both groups (FHAP and DERM) are performing (scoring) in a consistent manner. However, this does not correct any potential problems and does not increase communication between the groups, so it cannot be the only method used. To eliminate sample size skewing and spatial variability, exactly the same quadrats would need to be used by both groups. This is a slightly more difficult option, logistically speaking, but one that is important for the evaluation of drift in the measurements. It was suggested that at least one transect for both groups be used in the overlapping basins. Overlapping basins with transects that would be easy to use include Barnes Sound, Blackwater Sound, and Manatee Bay. The same quadrat placement, at random numbers along the transect and oriented on the same side of the transect, would need to be communicated between groups to make the data comparable.

- Personnel exchange: At least one member from each group will spend a day in the field with the other program's team. This exchange would occur at least once a year and allow for cross-communication between groups on a more personal level. All inter-agency QA/QC data should be submitted in a **separate spreadsheet** to the SFWMD for archiving purposes, with all site and quadrat specifications included.

- Annual inter-calibration exercise: Similar to day two of this year's workshop, this annual field exercise would bring representatives from both groups together for participation, thus helping to facilitate greater communication between groups. This exercise would be organized by the SFWMD for every spring and any

questions/concerns about metrics/methods that have arisen during the previous year of sampling would also be discussed.

- Data entry and reporting: Field data entered into a spreadsheet should be initialized and dated by the technician. **Data entry needs to be QA/QC'd by two people** – one checking the field data sheet, the other checking the data spreadsheet **simultaneously**. This will help to eliminate any reporting errors, typos, or omissions from the field sheet to the master spreadsheet. Additionally, the QA/QC procedure needs to be initialized and dated by both technicians. Any corrections or changes made on a data sheet should be recorded by a single line-strike (not erasing) and initialed and dated by the person making the change.

EXHIBIT"C"

GENERAL QUALITY ASSURANCE/QUALITY CONTROL REQUIREMENT

All protocols must adhere to the FDEP's QA Rule 62-160, NELAC, and applicable chapters of CERP QASR. The Contractor must provide copies for District records as soon as new information becomes available for list of deficiencies and corrective actions from internal/external system audits.

The District must be allowed to conduct laboratory and field audits of Contractor during normal working hours. Signed custody sheets and field instrumentation calibration logs must be sent back to the District Project Manager with the data reports. Final reports paper and electronic shall be resubmitted within (1) week of any corrections taken place along with letter explaining corrections.

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Attachment 1

Project Management

Statement of Work Change Control: Changes in the statement of work must be requested of the project manager in writing, with supporting justification. Any requested changes in the statement of work will require, on part of the contractor or partnering agency, submission of an updated project work plan with supporting detail, updated scheduling and budget information. **No changes in the statement of work will occur without the appropriate approvals from the funding agency**. Any delays or changes in the project scheduling and budget will require consultation with the AT. If the original statement of work requires any approved changes, the contractor or partnering agency must include documentation of these scope changes in the "lessons learned" section of the final project report.

Data Management: Any data derived from the project will be provided to the project manager with the submission of each annual report. The raw data for each year will be provided on a CD/DVD with the submission of the annual report including a summary indexing the data contained on the CD/DVD. The data CD/DVD will be archived. A data management system is under development and will be used once the system is fully operational. In the interim, PIs are to submit their annual data on a CD/DVD with their annual report. Submission of all data is required for contract or interagency agreement closeout. At the end of the contract the complete data set will be delivered to the project manager on a CD/DVD with the submission of the final report. All data formatting, analysis, and delivery will be required to meet the CERP data standards developed by the project.

Attachment 2

Table 2- FLORDIA BAY Seagrass (Braun-Blanquet) Fixed monitoring stations

BASIN	STATION	X coordinate (NAD27)	y coordinate (NAD27)	TEMP	PH	SPCOND	SALIN	DO	ORP	DEPTH	PAR	SAV DENSITY	SAV BBCA	BIOMASS
JB	FBJB	683418.1	335028.9	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
HC	FBHC	678924.6	327863.0	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
LS	FBLS	685777.6	306908.9	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
BW	FBBW	656443.0	325761.0	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
TC	FBTC	659004.4	321299.9	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
LM	FBLM	621287.1	305487.1	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
LM	FBTR	620372.2	311578.0	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
MB	M1	695338.4	338805.0	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
MB	M2	690473.9	323616.4	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
BS	M3	697268.6	325875.2	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA

SA = Semi-Annual

Table 2- FLORDIA BAY Seagrass (Braun-Blanquet) Fixed Monitoring Stations

BASIN	STATION	x coordinate (NAD27)	y coordinate (NAD27)	TEMP	PH	SPCOND	SALIN	DO	ORP	DEPTH	PAR	SAV DENSITY	SAV BBCA
AB	ABA5	643247	318201	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
AB	ABB2	638247	316201	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
AB	ABC9	637247	312201	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
AB	ABD4	641247	313201	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
BS	BSA3	698097	328829	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
BS	BSB5	696447	325529	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
BS	BSC3	703047	325529	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
BS	BSD9	707997	323879	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
BS	BSE5	712947	325529	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
BS	BSF8	694797	318929	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
BS	BSK5	694797	315629	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
BS	BSH4	704697	318929	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
BS	BSI1	706347	322229	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
BS	BSJ4	712947	322229	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
BS	BSK5	694797	315629	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
BS	BSL6	701397	315629	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
BW	BWA2	688339	313307	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
BW	BWB9	691689	308282	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
BW	BWC7	686664	304932	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
BW	BWD9	695039	304932	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
DC	DCA6	646603	317274	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
DC	DCB5	652603	313274	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
DC	DCC3	646603	315274	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
DC	DCD9	652603	314274	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q

Q- Quarterly Sampling events

Table 3- FLORDIA BAY Seagrass (Braun-Blanquet) Rapid Assessment Monitoring Stations - Continued

BASIN	STATION	x coordinate (NAD27)	y coordinate (NAD27)	TEMP	PH	SPCOND	SALIN	DO	ORP	DEPTH	PAR	SAV DENSITY	SAV BBCA
FB	FBA5	619277.7	302616.9	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
FB	FBB9	628152.7	302616.9	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
FB	FBC2	622827.7	300841.9	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
FB	FBD5	628152.7	300841.9	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
HC	HCA1	683095.1	335414.8	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
HC	HCB4	683685.1	334234.8	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
HC	HCC1	684865.1	334529.8	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
HC	HCD2	685160.1	333349.8	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
JB	JBA7	639543	323503	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
JB	JBB5	641323	325283	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
JB	JBC4	643103	327953	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
JB	JBD2	645773	328843	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
JB	JBE6	649333	327063	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
JB	JBF5	656453	326173	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
JB	JBG4	635983	321723	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
JB	JBH8	641323	320833	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
JB	JBI3	643103	325283	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
JB	JBJ4	645773	325283	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
JB	JBK3	652003	325283	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
JB	JBL5	655563	324393	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
LB	LBA5	680422	322593	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
LB	LBB8	682897	321768	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
LB	LBC3	684547	322593	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
LB	LBD3	677947	320943	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
LB	LBE4	681247	320118	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
LB	LBF6	685372	320118	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
LB	LBG5	686197	320118	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
LB	LBH1	679597	319293	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q

Q- Quarterly Sampling events

Table 3- FLORDIA BAY Seagrass (Braun-Blanquet) Rapid Assessment Monitoring Stations - Continued

BASIN	STATION	x coordinate (NAD27)	y coordinate (NAD27)	TEMP	PH	SPCOND	SALIN	DO	ORP	DEPTH	PAR	SAV DENSITY	SAV BBCA
LB	LBI4	685372	318468	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
LB	LBJ6	687022	317643	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
LB	LBK1	682897	317643	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
LB	LBL4	684547	315993	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
LM	LMA3	615607.5	310289.3	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
LM	LMB5	618187.5	310289.3	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
LM	LMC2	623347.5	312869.3	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
LM	LMD3	625067.5	312869.3	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
LM	LME3	628507.5	314589.3	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
LM	LMF3	614747.5	308569.3	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
LM	LMG3	617327.5	308569.3	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
LM	LMH1	619047.5	309429.3	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
LM	LMI9	622487.5	306849.3	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
LM	LMJ1	623347.5	311149.3	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
LM	LMK6	629367.5	312009.3	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
LM	LML8	627647.5	309429.3	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
LS	LSA8	668626.2	322707.7	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
LS	LSB1	667816.2	321897.7	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
LS	LSC2	670246.2	323517.7	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
LS	LSD3	672676.2	324327.7	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
LS	LSE1	677536.2	327567.7	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
LS	LSF5	675916.2	323517.7	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
LS	LSG7	678346.2	325947.7	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
LS	LSH6	679156.2	324327.7	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
LS	LSI7	680776.2	327567.7	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q

Q- Quarterly Sampling events

Table 3- FLORDIA BAY Seagrass (Braun-Blanquet) Rapid Assessment Monitoring Stations - Continued

BASIN	STATION	x coordinate (NAD27)	y coordinate (NAD27)	TEMP	PH	SPCOND	SALIN	DO	ORP	DEPTH	PAR	SAV DENSITY	SAV BBCA
LS	LSJ4	680776.2	325947.7	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
LS	LSK5	685636.2	329187.7	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
LS	LSL8	683206.2	325947.7	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
MB	MBA2	695782	339025	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
MB	MBB6	692857	336100	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
MB	MBC7	697732	335125	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
MB	MBD6	691882	334150	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
MB	MBE1	694807	335125	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
MB	MBF9	697732	331225	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
MB	MBG4	688957	331225	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
MB	MBH7	693832	331225	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
MB	MBI2	695782	331225	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
MB	MBJ1	691882	329275	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
MB	MBK9	689932	324400	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
MB	MBL2	692857	325375	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
TC	TCA4	658168	320553	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
TC	TCB4	656968	319353	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
TC	TCC7	660568	316953	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
TC	TCD9	660568	315753	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q

Q- Quarterly Sampling events

Table 4- FLORDIA BAY Seagrass (Braun-Blanquet) List of all Random Monitoring Stations

BASIN	SUBREGION	STATION	x coordinate (NAD27)	y coordinate (NAD27)	latdegdec	londegdec
AB	A	ABA1	639247	318201	25.2088	80.5786
AB	A	ABA2	640247	318201	25.2088	80.5756
AB	A	ABA3	641247	318201	25.2088	80.5726
AB	A	ABA4	642247	318201	25.2088	80.5696
AB	A	ABA5	643247	318201	25.2088	80.5665
AB	A	ABA6	640247	317201	25.206	80.5756
AB	A	ABA7	641247	317201	25.206	80.5726
AB	A	ABA8	642247	317201	25.206	80.5696
AB	A	ABA9	643247	317201	25.206	80.5665
AB	B	ABB1	639247	317201	25.2061	80.5786
AB	B	ABB2	638247	316201	25.2033	80.5817
AB	B	ABB3	639247	316201	25.2033	80.5786
AB	B	ABB4	641247	316201	25.2033	80.5726
AB	B	ABB5	638247	315201	25.2006	80.5817
AB	B	ABB6	639247	315201	25.2006	80.5787
AB	B	ABB7	641247	315201	25.2005	80.5726
AB	B	ABB8	638247	314201	25.1978	80.5817
AB	B	ABB9	639247	314201	25.1978	80.5787
AB	C	ABC1	635247	314201	25.1978	80.5908
AB	C	ABC2	636247	314201	25.1978	80.5877
AB	C	ABC3	637247	314201	25.1978	80.5847
AB	C	ABC4	635247	313201	25.1951	80.5908
AB	C	ABC5	636247	313201	25.1951	80.5877
AB	C	ABC6	637247	313201	25.1951	80.5847
AB	C	ABC7	635247	312201	25.1923	80.5908
AB	C	ABC8	636247	312201	25.1923	80.5878
AB	C	ABC9	637247	312201	25.1923	80.5847

Table 4- FLORDIA BAY Seagrass (Braun-Blanquet) List of all Random Monitoring Stations- Continued

BASIN	SUBREGION	STATION	x coordinate (NAD27)	y coordinate (NAD27)	latdegdec	londegdec
AB	D	ABD1	638247	313201	25.1951	80.5817
AB	D	ABD2	639247	313201	25.195	80.5787
AB	D	ABD3	640247	313201	25.195	80.5756
AB	D	ABD4	641247	313201	25.195	80.5726
AB	D	ABD5	638247	312201	25.1923	80.5817
AB	D	ABD6	639247	312201	25.1923	80.5787
AB	D	ABD7	640247	312201	25.1923	80.5757
AB	D	ABD8	641247	312201	25.1923	80.5726
AB	D	ABD9	642247	312201	25.1923	80.5696
BS	A	BSA1	699747	330479	25.242	80.3955
BS	A	BSA2	701397	330479	25.2419	80.3905
BS	A	BSA3	698097	328829	25.2374	80.4005
BS	A	BSA4	699747	328829	25.2374	80.3955
BS	A	BSA5	701397	328829	25.2374	80.3905
BS	A	BSA6	703047	328829	25.2374	80.3855
BS	A	BSA7	699747	327179	25.2329	80.3955
BS	A	BSA8	701397	327179	25.2329	80.3905
BS	A	BSA9	703047	327179	25.2328	80.3855
BS	B	BSB1	694797	327179	25.2329	80.4105
BS	B	BSB2	696447	327179	25.2329	80.4055
BS	B	BSB3	698097	327179	25.2329	80.4005
BS	B	BSB4	694797	325529	25.2284	80.4105
BS	B	BSB5	696447	325529	25.2284	80.4055
BS	B	BSB6	698097	325529	25.2284	80.4005
BS	B	BSB7	694797	323879	25.2239	80.4105
BS	B	BSB8	696447	323879	25.2238	80.4056
BS	B	BSB9	698097	323879	25.2238	80.4006

Table 4- FLORDIA BAY Seagrass (Braun-Blanquet) List of all Random Monitoring Stations- Continued

BASIN	SUBREGION	STATION	x coordinate (NAD27)	y coordinate (NAD27)	latdegdec	londegdec
BS	C	BSC1	699747	325529	25.2283	80.3955
BS	C	BSC2	701397	325529	25.2283	80.3906
BS	C	BSC3	703047	325529	25.2283	80.3856
BS	C	BSC4	699747	323879	25.2238	80.3956
BS	C	BSC5	701397	323879	25.2238	80.3906
BS	C	BSC6	703047	323879	25.2238	80.3856
BS	C	BSC7	704697	323879	25.2237	80.3806
BS	C	BSC8	703047	322229	25.2192	80.3856
BS	C	BSC9	704697	322229	25.2192	80.3806
BS	D	BSD1	704697	328829	25.2374	80.3805
BS	D	BSD2	706347	328829	25.2373	80.3755
BS	D	BSD3	704697	327179	25.2328	80.3806
BS	D	BSD4	706347	327179	25.2328	80.3756
BS	D	BSD5	704697	325529	25.2283	80.3806
BS	D	BSD6	706347	325529	25.2283	80.3756
BS	D	BSD7	707997	325529	25.2282	80.3706
BS	D	BSD8	706347	323879	25.2237	80.3756
BS	D	BSD9	707997	323879	25.2237	80.3706
BS	E	BSE1	707997	327179	25.2328	80.3706
BS	E	BSE2	709647	327179	25.2328	80.3656
BS	E	BSE3	709647	325529	25.2282	80.3656
BS	E	BSE4	711297	325529	25.2282	80.3606
BS	E	BSE5	712947	325529	25.2282	80.3556
BS	E	BSE6	714597	325529	25.2282	80.3506
BS	E	BSE7	709647	323879	25.2237	80.3656
BS	E	BSE8	711297	323879	25.2237	80.3606
BS	E	BSE9	712947	323879	25.2236	80.3556
BS	F	BSF1	693147	322229	25.2193	80.4156

Table 4- FLORDIA BAY Seagrass (Braun-Blanquet) List of all Random Monitoring Stations- Continued

BASIN	SUBREGION	STATION	x coordinate (NAD27)	y coordinate (NAD27)	latdegdec	londegdec
BS	F	BSF2	694797	322229	25.2193	80.4106
BS	F	BSF3	696447	322229	25.2193	80.4056
BS	F	BSF4	693147	320579	25.2148	80.4156
BS	F	BSF5	694797	320579	25.2148	80.4106
BS	F	BSF6	696447	320579	25.2148	80.4056
BS	F	BSF7	693147	318929	25.2103	80.4156
BS	F	BSF8	694797	318929	25.2102	80.4106
BS	F	BSF9	696447	318929	25.2102	80.4056
BS	G	BSG1	698097	322229	25.2193	80.4006
BS	G	BSG2	699747	322229	25.2193	80.3956
BS	G	BSG3	701397	322229	25.2192	80.3906
BS	G	BSG4	698097	320579	25.2147	80.4006
BS	G	BSG5	699747	320579	25.2147	80.3956
BS	G	BSG6	701397	320579	25.2147	80.3906
BS	G	BSG7	698097	318929	25.2102	80.4006
BS	G	BSG8	699747	318929	25.2102	80.3956
BS	G	BSG9	701397	318929	25.2102	80.3906
BS	H	BSH1	703047	320579	25.2147	80.3856
BS	H	BSH2	704697	320579	25.2147	80.3806
BS	H	BSH3	703047	318929	25.2101	80.3857
BS	H	BSH4	704697	318929	25.2101	80.3807
BS	H	BSH5	706347	318929	25.2101	80.3757
BS	H	BSH6	703047	317279	25.2056	80.3857
BS	H	BSH7	704697	317279	25.2056	80.3807
BS	H	BSH8	706347	317279	25.2056	80.3757
BS	H	BSH9	706347	315629	25.201	80.3757

Table 4- FLORDIA BAY Seagrass (Braun-Blanquet) List of all Random Monitoring Stations- Continued

BASIN	SUBREGION	STATION	x coordinate (NAD27)	y coordinate (NAD27)	latdegdec	londegdec
BS	I	BSI1	706347	322229	25.2192	80.3756
BS	I	BSI2	707997	322229	25.2192	80.3706
BS	I	BSI3	709647	322229	25.2191	80.3656
BS	I	BSI4	706347	320579	25.2146	80.3757
BS	I	BSI5	707997	320579	25.2146	80.3707
BS	I	BSI6	709647	320579	25.2146	80.3657
BS	I	BSI7	707997	318929	25.2101	80.3707
BS	I	BSI8	709647	318929	25.2101	80.3657
BS	I	BSI9	711297	318929	25.21	80.3607
BS	J	BSJ1	714597	323879	25.2236	80.3507
BS	J	BSJ2	716247	323879	25.2236	80.3457
BS	J	BSJ3	711297	322229	25.2191	80.3607
BS	J	BSJ4	712947	322229	25.2191	80.3557
BS	J	BSJ5	714597	322229	25.2191	80.3507
BS	J	BSJ6	711297	320579	25.2146	80.3607
BS	J	BSJ7	712947	320579	25.2146	80.3557
BS	J	BSJ8	714597	320579	25.2145	80.3507
BS	J	BSJ9	712947	318929	25.21	80.3557
BS	K	BSK1	693147	317279	25.2057	80.4156
BS	K	BSK2	694797	317279	25.2057	80.4106
BS	K	BSK3	696447	317279	25.2057	80.4056
BS	K	BSK4	693147	315629	25.2012	80.4156
BS	K	BSK5	694797	315629	25.2012	80.4107
BS	K	BSK6	696447	315629	25.2011	80.4057
BS	K	BSK7	694797	313979	25.1966	80.4107
BS	K	BSK8	696447	313979	25.1966	80.4057
BS	K	BSK9	698097	313979	25.1966	80.4007

Table 4- FLORDIA BAY Seagrass (Braun-Blanquet) List of all Random Monitoring Stations- Continued

BASIN	SUBREGION	STATION	x coordinate (NAD27)	y coordinate (NAD27)	latdegdec	londegdec
BS	L	BSL1	698097	317279	25.2057	80.4007
BS	L	BSL2	699747	317279	25.2056	80.3957
BS	L	BSL3	701397	317279	25.2056	80.3907
BS	L	BSL4	698097	315629	25.2011	80.4007
BS	L	BSL5	699747	315629	25.2011	80.3957
BS	L	BSL6	701397	315629	25.2011	80.3907
BS	L	BSL7	703047	315629	25.2011	80.3857
BS	L	BSL8	699747	313979	25.1966	80.3957
BS	L	BSL9	701397	313979	25.1965	80.3907
BW	A	BWA1	686664	313307	25.1949	80.4353
BW	A	BWA2	688339	313307	25.1948	80.4302
BW	A	BWA3	686664	311632	25.1903	80.4353
BW	A	BWA4	688339	311632	25.1902	80.4302
BW	A	BWA5	690014	311632	25.1902	80.4252
BW	A	BWA6	686664	309957	25.1856	80.4353
BW	A	BWA7	688339	309957	25.1856	80.4302
BW	A	BWA8	690014	309957	25.1856	80.4252
BW	A	BWA9	686664	308282	25.181	80.4353
BW	B	BWB1	690014	313307	25.1948	80.4251
BW	B	BWB2	691689	313307	25.1948	80.4201
BW	B	BWB3	691689	311632	25.1902	80.4201
BW	B	BWB4	693364	311632	25.1902	80.415
BW	B	BWB5	691689	309957	25.1856	80.4201
BW	B	BWB6	693364	309957	25.1856	80.4151
BW	B	BWB7	695039	309957	25.1855	80.41
BW	B	BWB8	696714	309957	25.1855	80.4049
BW	B	BWB9	691689	308282	25.181	80.4201
BW	C	BWC1	688339	308282	25.181	80.4303
BW	C	BWC2	690014	308282	25.181	80.4252
BW	C	BWC3	684989	306607	25.1764	80.4404
BW	C	BWC4	686664	306607	25.1764	80.4354

Table 4- FLORDIA BAY Seagrass (Braun-Blanquet) List of all Random Monitoring Stations- Continued

BASIN	SUBREGION	STATION	x coordinate (NAD27)	y coordinate (NAD27)	latdegdec	londegdec
BW	C	BWC5	688339	306607	25.1764	80.4303
BW	C	BWC6	690014	306607	25.1764	80.4252
BW	C	BWC7	686664	304932	25.1718	80.4354
BW	C	BWC8	688339	304932	25.1718	80.4303
BW	C	BWC9	690014	304932	25.1718	80.4252
BW	D	BWD1	693364	308282	25.181	80.4151
BW	D	BWD2	695039	308282	25.1809	80.41
BW	D	BWD3	691689	306607	25.1764	80.4202
BW	D	BWD4	693364	306607	25.1763	80.4151
BW	D	BWD5	695039	306607	25.1763	80.41
BW	D	BWD6	696714	306607	25.1763	80.405
BW	D	BWD7	691689	304932	25.1718	80.4202
BW	D	BWD8	693364	304932	25.1717	80.4151
BW	D	BWD9	695039	304932	25.1717	80.4101
DC	A	DCA1	647603	319274	25.2117	80.5533
DC	A	DCA2	648603	319274	25.2117	80.5503
DC	A	DCA3	645603	318274	25.209	80.5594
DC	A	DCA4	646603	318274	25.2089	80.5564
DC	A	DCA5	647603	318274	25.2089	80.5534
DC	A	DCA6	646603	317274	25.2062	80.5564
DC	A	DCA7	647603	317274	25.2062	80.5534
DC	A	DCA8	648603	317274	25.2062	80.5503
DC	A	DCA9	646603	316274	25.2034	80.5564
DC	B	DCB1	648603	313274	25.1952	80.5504
DC	B	DCB2	649603	313274	25.1952	80.5474
DC	B	DCB3	650603	313274	25.1952	80.5443
DC	B	DCB4	651603	313274	25.1951	80.5413

Table 4- FLORDIA BAY Seagrass (Braun-Blanquet) List of all Random Monitoring Stations- Continued

BASIN	SUBREGION	STATION	x coordinate (NAD27)	y coordinate (NAD27)	latdegdec	londegdec
DC	B	DCB5	652603	313274	25.1951	80.5383
DC	B	DCB6	644603	313274	25.1952	80.5625
DC	B	DCB7	645603	313274	25.1952	80.5594
DC	B	DCB8	646603	313274	25.1952	80.5564
DC	B	DCB9	647603	313274	25.1952	80.5534
DC	C	DCC1	647603	316274	25.2034	80.5534
DC	C	DCC2	648603	316274	25.2034	80.5503
DC	C	DCC3	646603	315274	25.2007	80.5564
DC	C	DCC4	647603	315274	25.2007	80.5534
DC	C	DCC5	648603	315274	25.2007	80.5504
DC	C	DCC6	646603	314274	25.1979	80.5564
DC	C	DCC7	647603	314274	25.1979	80.5534
DC	C	DCC8	648603	314274	25.1979	80.5504
DC	C	DCC9	649603	314274	25.1979	80.5473
DC	D	DCD1	649603	316274	25.2034	80.5473
DC	D	DCD2	650603	316274	25.2034	80.5443
DC	D	DCD3	651603	316274	25.2034	80.5413
DC	D	DCD4	649603	315274	25.2007	80.5473
DC	D	DCD5	650603	315274	25.2006	80.5443
DC	D	DCD6	651603	315274	25.2006	80.5413
DC	D	DCD7	650603	314274	25.1979	80.5443
DC	D	DCD8	651603	314274	25.1979	80.5413
DC	D	DCD9	652603	314274	25.1979	80.5383
FB	A	FBA1	617502.7	304391.9	25.171	80.6445
FB	A	FBA2	619277.7	304391.9	25.171	80.6391
FB	A	FBA3	621052.7	304391.9	25.171	80.6338

Table 4- FLORDIA BAY Seagrass (Braun-Blanquet) List of all Random Monitoring Stations- Continued

BASIN	SUBREGION	STATION	x coordinate (NAD27)	y coordinate (NAD27)	latdegdec	londegdec
FB	A	FBA4	617502.7	302616.9	25.1661	80.6445
FB	A	FBA5	619277.7	302616.9	25.1661	80.6391
FB	A	FBA6	621052.7	302616.9	25.1661	80.6338
FB	A	FBA7	615727.7	300841.9	25.1612	80.6499
FB	A	FBA8	617502.7	300841.9	25.1612	80.6445
FB	A	FBA9	619277.7	300841.9	25.1612	80.6392
FB	B	FBB1	622827.7	306166.9	25.1758	80.6284
FB	B	FBB2	622827.7	304391.9	25.1709	80.6284
FB	B	FBB3	624602.7	304391.9	25.1709	80.623
FB	B	FBB4	626377.7	304391.9	25.1709	80.6177
FB	B	FBB5	628152.7	304391.9	25.1709	80.6123
FB	B	FBB6	622827.7	302616.9	25.1661	80.6284
FB	B	FBB7	624602.7	302616.9	25.166	80.623
FB	B	FBB8	626377.7	302616.9	25.166	80.6177
FB	B	FBB9	628152.7	302616.9	25.166	80.6123
FB	C	FBC1	621052.7	300841.9	25.1612	80.6338
FB	C	FBC2	622827.7	300841.9	25.1612	80.6284
FB	C	FBC3	617502.7	299066.9	25.1563	80.6445
FB	C	FBC4	619277.7	299066.9	25.1563	80.6392
FB	C	FBC5	621052.7	299066.9	25.1563	80.6338
FB	C	FBC6	622827.7	299066.9	25.1563	80.6284
FB	C	FBC7	617502.7	297291.9	25.1514	80.6446
FB	C	FBC8	619277.7	297291.9	25.1514	80.6392
FB	C	FBC9	621052.7	297291.9	25.1514	80.6338
FB	D	FBD1	629927.7	304391.9	25.1709	80.6069
FB	D	FBD2	629927.7	302616.9	25.166	80.6069
FB	D	FBD3	624602.7	300841.9	25.1612	80.6231
FB	D	FBD4	626377.7	300841.9	25.1611	80.6177
FB	D	FBD5	628152.7	300841.9	25.1611	80.6123
FB	D	FBD6	629927.7	300841.9	25.1611	80.607
FB	D	FBD7	631702.7	300841.9	25.1611	80.6016

Table 4- FLORDIA BAY Seagrass (Braun-Blanquet) List of all Random Monitoring Stations- Continued

BASIN	SUBREGION	STATION	x coordinate (NAD27)	y coordinate (NAD27)	latdegdec	londegdec
FB	D	FBD7	631702.7	300841.9	25.1611	80.6016
FB	D	FBD8	624602.7	299066.9	25.1563	80.6231
FB	D	FBD9	626377.7	299066.9	25.1563	80.6177
HC	A	HCA1	683095.1	335414.8	25.2557	80.4458
HC	A	HCA2	683095.1	335119.8	25.2549	80.4458
HC	A	HCA3	683390.1	335119.8	25.2549	80.4449
HC	A	HCA4	684275.1	335119.8	25.2549	80.4422
HC	A	HCA5	683390.1	334824.8	25.2541	80.4449
HC	A	HCA6	683685.1	334824.8	25.2541	80.444
HC	A	HCA7	683980.1	334824.8	25.2541	80.4431
HC	A	HCA8	684275.1	334824.8	25.2541	80.4422
HC	A	HCA9	683390.1	334529.8	25.2533	80.4449
HC	B	HCB1	683685.1	334529.8	25.2533	80.444
HC	B	HCB2	683980.1	334529.8	25.2533	80.4431
HC	B	HCB3	684275.1	334529.8	25.2533	80.4422
HC	B	HCB4	683685.1	334234.8	25.2525	80.444
HC	B	HCB5	683980.1	334234.8	25.2525	80.4431
HC	B	HCB6	684275.1	334234.8	25.2525	80.4422
HC	B	HCB7	683980.1	333939.8	25.2517	80.4431
HC	B	HCB8	684275.1	333939.8	25.2517	80.4422
HC	B	HCB9	684570.1	333939.8	25.2517	80.4413
HC	C	HCC1	684865.1	334529.8	25.2533	80.4404
HC	C	HCC2	685160.1	334529.8	25.2533	80.4396
HC	C	HCC3	684570.1	334234.8	25.2525	80.4413
HC	C	HCC4	684865.1	334234.8	25.2525	80.4404
HC	C	HCC5	685160.1	334234.8	25.2525	80.4396
HC	C	HCC6	684865.1	333939.8	25.2517	80.4405
HC	C	HCC7	685160.1	333939.8	25.2517	80.4396
HC	C	HCC8	684865.1	333644.8	25.2508	80.4405
HC	C	HCC9	685160.1	333644.8	25.2508	80.4396
HC	D	HCD1	685455.1	333644.8	25.2508	80.4387

Table 4- FLORDIA BAY Seagrass (Braun-Blanquet) List of all Random Monitoring Stations- Continued

BASIN	SUBREGION	STATION	x coordinate (NAD27)	y coordinate (NAD27)	latdegdec	londegdec
HC	D	HCD2	685160.1	333349.8	25.25	80.4396
HC	D	HCD3	685455.1	333349.8	25.25	80.4387
HC	D	HCD4	685750.1	333349.8	25.25	80.4378
HC	D	HCD5	685455.1	333054.8	25.2492	80.4387
HC	D	HCD6	685750.1	333054.8	25.2492	80.4378
HC	D	HCD7	685455.1	332759.8	25.2484	80.4387
HC	D	HCD8	685750.1	332759.8	25.2484	80.4378
HC	D	HCD9	685750.1	332464.8	25.2476	80.4378
JB	A	JBA1	635983	324393	25.2259	80.5884
JB	A	JBA2	637763	324393	25.2259	80.5831
JB	A	JBA3	639543	324393	25.2258	80.5777
JB	A	JBA4	635983	323503	25.2234	80.5884
JB	A	JBA5	637763	323503	25.2234	80.5831
JB	A	JBA6	638653	323503	25.2234	80.5804
JB	A	JBA7	639543	323503	25.2234	80.5777
JB	A	JBA8	640433	323503	25.2234	80.575
JB	A	JBA9	635983	322613	25.221	80.5885
JB	B	JBB1	640433	326173	25.2307	80.575
JB	B	JBB2	641323	326173	25.2307	80.5723
JB	B	JBB3	642213	325283	25.2283	80.5696
JB	B	JBB4	640433	325283	25.2283	80.575
JB	B	JBB5	641323	325283	25.2283	80.5723
JB	B	JBB6	642213	326173	25.2307	80.5696
JB	B	JBB7	640433	324393	25.2258	80.575
JB	B	JBB8	641323	324393	25.2258	80.5723
JB	B	JBB9	642213	324393	25.2258	80.5696
JB	C	JBC1	642213	328843	25.2381	80.5696
JB	C	JBC2	643103	328843	25.2381	80.5669
JB	C	JBC3	642213	327953	25.2356	80.5696
JB	C	JBC4	643103	327953	25.2356	80.5669

Table 4- FLORDIA BAY Seagrass (Braun-Blanquet) List of all Random Monitoring Stations- Continued

BASIN	SUBREGION	STATION	x coordinate (NAD27)	y coordinate (NAD27)	latdegdec	londegdec
JB	C	JBC5	641323	327063	25.2332	80.5723
JB	C	JBC6	642213	327063	25.2332	80.5696
JB	C	JBC7	643103	327063	25.2332	80.5669
JB	C	JBC8	643993	327063	25.2331	80.5642
JB	C	JBC9	643103	326173	25.2307	80.5669
JB	D	JBD1	643993	328843	25.238	80.5642
JB	D	JBD2	645773	328843	25.238	80.5588
JB	D	JBD3	646663	328843	25.238	80.5561
JB	D	JBD4	643993	327953	25.2356	80.5642
JB	D	JBD5	645773	327953	25.2356	80.5588
JB	D	JBD6	646663	327953	25.2356	80.5561
JB	D	JBD7	644883	327063	25.2331	80.5615
JB	D	JBD8	645773	327063	25.2331	80.5588
JB	D	JBD9	646663	327063	25.2331	80.5561
JB	E	JBE1	647553	327953	25.2356	80.5534
JB	E	JBE2	648443	327953	25.2356	80.5507
JB	E	JBE3	649333	327953	25.2355	80.548
JB	E	JBE4	647553	327063	25.2331	80.5534
JB	E	JBE5	648443	327063	25.2331	80.5507
JB	E	JBE6	649333	327063	25.2331	80.548
JB	E	JBE7	648443	326173	25.2307	80.5507
JB	E	JBE8	649333	326173	25.2307	80.548
JB	E	JBE9	650223	326173	25.2306	80.5453
JB	F	JBF1	653783	327063	25.2331	80.5346
JB	F	JBF2	652893	326173	25.2306	80.5373
JB	F	JBF3	653783	326173	25.2306	80.5346
JB	F	JBF4	655563	326173	25.2306	80.5292
JB	F	JBF5	656453	326173	25.2306	80.5265
JB	F	JBF6	653783	325283	25.2282	80.5346
JB	F	JBF7	654673	325283	25.2282	80.5319
JB	F	JBF8	655563	325283	25.2281	80.5292
JB	F	JBF9	656453	325283	25.2281	80.5265

Table 4- FLORDIA BAY Seagrass (Braun-Blanquet) List of all Random Monitoring Stations- Continued

BASIN	SUBREGION	STATION	x coordinate (NAD27)	y coordinate (NAD27)	latdegdec	londegdec
JB	G	JBG1	636873	322613	25.221	80.5858
JB	G	JBG2	637763	322613	25.221	80.5831
JB	G	JBG3	638653	322613	25.221	80.5804
JB	G	JBG4	635983	321723	25.2185	80.5885
JB	G	JBG5	636873	321723	25.2185	80.5858
JB	G	JBG6	637763	321723	25.2185	80.5831
JB	G	JBG7	638653	321723	25.2185	80.5804
JB	G	JBG8	636873	320833	25.2161	80.5858
JB	G	JBG9	636873	319943	25.2136	80.5858
JB	H	JBH1	639543	322613	25.2209	80.5777
JB	H	JBH2	640433	322613	25.2209	80.575
JB	H	JBH3	641323	322613	25.2209	80.5723
JB	H	JBH4	639543	321723	25.2185	80.5777
JB	H	JBH5	640433	321723	25.2185	80.575
JB	H	JBH6	641323	321723	25.2185	80.5723
JB	H	JBH7	642213	321723	25.2185	80.5696
JB	H	JBH8	641323	320833	25.216	80.5723
JB	H	JBH9	642213	320833	25.216	80.5696
JB	I	JBI1	643993	326173	25.2307	80.5642
JB	I	JBI2	644883	326173	25.2307	80.5615
JB	I	JBI3	643103	325283	25.2283	80.5669
JB	I	JBI4	643993	325283	25.2283	80.5642
JB	I	JBI5	644883	325283	25.2282	80.5615
JB	I	JBI6	643103	324393	25.2258	80.5669
JB	I	JBI7	643993	324393	25.2258	80.5642
JB	I	JBI8	644883	324393	25.2258	80.5615
JB	I	JBI9	643103	323503	25.2234	80.5669
JB	J	JBJ1	645773	326173	25.2307	80.5588
JB	J	JBJ2	646663	326173	25.2307	80.5561
JB	J	JBJ3	647553	326173	25.2307	80.5534
JB	J	JBJ4	645773	325283	25.2282	80.5588

Table 4- FLORDIA BAY Seagrass (Braun-Blanquet) List of all Random Monitoring Stations- Continued

BASIN	SUBREGION	STATION	x coordinate (NAD27)	y coordinate (NAD27)	latdegdec	londegdec
LB	B	LBB1	682897	323418	25.2227	80.4465
LB	B	LBB2	683722	323418	25.2227	80.444
LB	B	LBB3	684547	323418	25.2227	80.4415
LB	B	LBB4	682072	322593	25.2205	80.449
LB	B	LBB5	682897	322593	25.2205	80.4465
LB	B	LBB6	683722	322593	25.2204	80.4441
LB	B	LBB7	682072	321768	25.2182	80.4491
LB	B	LBB8	682897	321768	25.2182	80.4466
LB	B	LBB9	683722	321768	25.2182	80.4441
LB	C	LBC1	685372	323418	25.2227	80.4391
LB	C	LBC2	686197	323418	25.2227	80.4366
LB	C	LBC3	684547	322593	25.2204	80.4416
LB	C	LBC4	685372	322593	25.2204	80.4391
LB	C	LBC5	686197	322593	25.2204	80.4366
LB	C	LBC6	687022	322593	25.2204	80.4341
LB	C	LBC7	684547	321768	25.2182	80.4416
LB	C	LBC8	685372	321768	25.2182	80.4391
LB	C	LBC9	686197	321768	25.2181	80.4366
LB	D	LBD1	677947	321768	25.2182	80.4615
LB	D	LBD2	678772	321768	25.2182	80.459
LB	D	LBD3	677947	320943	25.216	80.4615
LB	D	LBD4	678772	320943	25.216	80.459
LB	D	LBD5	679597	320943	25.216	80.4566
LB	D	LBD6	680422	320943	25.2159	80.4541
LB	D	LBD7	678772	320118	25.2137	80.4591
LB	D	LBD8	679597	320118	25.2137	80.4566
LB	D	LBD9	680422	320118	25.2137	80.4541
LB	E	LBE1	681247	320943	25.2159	80.4516
LB	E	LBE2	682072	320943	25.2159	80.4491
LB	E	LBE3	682897	320943	25.2159	80.4466

Table 4- FLORDIA BAY Seagrass (Braun-Blanquet) List of all Random Monitoring Stations- Continued

BASIN	SUBREGION	STATION	x coordinate (NAD27)	y coordinate (NAD27)	latdegdec	londegdec
JB	J	JBJ5	646663	325283	25.2282	80.5561
JB	J	JBJ6	647553	325283	25.2282	80.5534
JB	J	JBJ7	648443	325283	25.2282	80.5507
JB	J	JBJ8	645773	324393	25.2258	80.5588
JB	J	JBJ9	646663	324393	25.2258	80.5561
JB	K	JBK1	649333	325283	25.2282	80.548
JB	K	JBK2	650223	325283	25.2282	80.5454
JB	K	JBK3	652003	325283	25.2282	80.54
JB	K	JBK4	649333	324393	25.2258	80.5481
JB	K	JBK5	650223	324393	25.2257	80.5454
JB	K	JBK6	649333	323503	25.2233	80.5481
JB	K	JBK7	650223	323503	25.2233	80.5454
JB	K	JBK8	649333	322613	25.2209	80.5481
JB	K	JBK9	648443	321723	25.2184	80.5508
JB	L	JBL1	652893	325283	25.2282	80.5373
JB	L	JBL2	652893	324393	25.2257	80.5373
JB	L	JBL3	653783	324393	25.2257	80.5346
JB	L	JBL4	654673	324393	25.2257	80.5319
JB	L	JBL5	655563	324393	25.2257	80.5292
JB	L	JBL6	652893	323503	25.2233	80.5373
JB	L	JBL7	653783	323503	25.2233	80.5346
JB	L	JBL8	654673	323503	25.2233	80.5319
JB	L	JBL9	654673	322613	25.2208	80.5319
LB	A	LBA1	680422	323418	25.2228	80.454
LB	A	LBA2	681247	323418	25.2227	80.4515
LB	A	LBA3	682072	323418	25.2227	80.449
LB	A	LBA4	679597	322593	25.2205	80.4565
LB	A	LBA5	680422	322593	25.2205	80.454
LB	A	LBA6	681247	322593	25.2205	80.4515
LB	A	LBA7	679597	321768	25.2182	80.4565
LB	A	LBA8	680422	321768	25.2182	80.454
LB	A	LBA9	681247	321768	25.2182	80.4515

Table 4- FLORDIA BAY Seagrass (Braun-Blanquet) List of all Random Monitoring Stations- Continued

BASIN	SUBREGION	STATION	x coordinate (NAD27)	y coordinate (NAD27)	latdegdec	londegdec
LB	B	LBB1	682897	323418	25.2227	80.4465
LB	B	LBB2	683722	323418	25.2227	80.444
LB	B	LBB3	684547	323418	25.2227	80.4415
LB	B	LBB4	682072	322593	25.2205	80.449
LB	B	LBB5	682897	322593	25.2205	80.4465
LB	B	LBB6	683722	322593	25.2204	80.4441
LB	B	LBB7	682072	321768	25.2182	80.4491
LB	B	LBB8	682897	321768	25.2182	80.4466
LB	B	LBB9	683722	321768	25.2182	80.4441
LB	C	LBC1	685372	323418	25.2227	80.4391
LB	C	LBC2	686197	323418	25.2227	80.4366
LB	C	LBC3	684547	322593	25.2204	80.4416
LB	C	LBC4	685372	322593	25.2204	80.4391
LB	C	LBC5	686197	322593	25.2204	80.4366
LB	C	LBC6	687022	322593	25.2204	80.4341
LB	C	LBC7	684547	321768	25.2182	80.4416
LB	C	LBC8	685372	321768	25.2182	80.4391
LB	C	LBC9	686197	321768	25.2181	80.4366
LB	D	LBD1	677947	321768	25.2182	80.4615
LB	D	LBD2	678772	321768	25.2182	80.459
LB	D	LBD3	677947	320943	25.216	80.4615
LB	D	LBD4	678772	320943	25.216	80.459
LB	D	LBD5	679597	320943	25.216	80.4566
LB	D	LBD6	680422	320943	25.2159	80.4541
LB	D	LBD7	678772	320118	25.2137	80.4591
LB	D	LBD8	679597	320118	25.2137	80.4566
LB	D	LBD9	680422	320118	25.2137	80.4541
LB	E	LBE1	681247	320943	25.2159	80.4516
LB	E	LBE2	682072	320943	25.2159	80.4491
LB	E	LBE3	682897	320943	25.2159	80.4466

Table 4- FLORDIA BAY Seagrass (Braun-Blanquet) List of all Random Monitoring Stations- Continued

BASIN	SUBREGION	STATION	x coordinate (NAD27)	y coordinate (NAD27)	latdegdec	londegdec
LB	E	LBE4	681247	320118	25.2137	80.4516
LB	E	LBE5	682072	320118	25.2137	80.4491
LB	E	LBE6	682897	320118	25.2136	80.4466
LB	E	LBE7	682072	319293	25.2114	80.4491
LB	E	LBE8	682897	319293	25.2114	80.4466
LB	E	LBE9	683722	319293	25.2114	80.4441
LB	F	LBF1	683722	320943	25.2159	80.4441
LB	F	LBF2	684547	320943	25.2159	80.4416
LB	F	LBF3	685372	320943	25.2159	80.4391
LB	F	LBF4	683722	320118	25.2136	80.4441
LB	F	LBF5	684547	320118	25.2136	80.4416
LB	F	LBF6	685372	320118	25.2136	80.4391
LB	F	LBF7	684547	319293	25.2114	80.4416
LB	F	LBF8	685372	319293	25.2113	80.4391
LB	F	LBF9	686197	319293	25.2113	80.4366
LB	G	LBG1	687022	321768	25.2181	80.4341
LB	G	LBG2	686197	320943	25.2159	80.4366
LB	G	LBG3	687022	320943	25.2159	80.4341
LB	G	LBG4	687847	320943	25.2159	80.4316
LB	G	LBG5	686197	320118	25.2136	80.4366
LB	G	LBG6	687022	320118	25.2136	80.4341
LB	G	LBG7	688672	320118	25.2136	80.4291
LB	G	LBG8	687022	319293	25.2113	80.4341
LB	G	LBG9	687847	319293	25.2113	80.4316
LB	H	LBH1	679597	319293	25.2114	80.4566
LB	H	LBH2	680422	319293	25.2114	80.4541
LB	H	LBH3	681247	319293	25.2114	80.4516
LB	H	LBH4	680422	318468	25.2091	80.4541
LB	H	LBH5	681247	318468	25.2091	80.4516

Table 4- FLORDIA BAY Seagrass (Braun-Blanquet) List of all Random Monitoring Stations- Continued

BASIN	SUBREGION	STATION	x coordinate (NAD27)	y coordinate (NAD27)	latdegdec	londegdec
LB	H	LBH6	682072	318468	25.2091	80.4491
LB	H	LBH7	681247	317643	25.2069	80.4516
LB	H	LBH8	682072	317643	25.2068	80.4491
LB	H	LBH9	681247	316818	25.2046	80.4516
LB	I	LBI1	682897	318468	25.2091	80.4466
LB	I	LBI2	683722	318468	25.2091	80.4441
LB	I	LBI3	684547	318468	25.2091	80.4416
LB	I	LBI4	685372	318468	25.2091	80.4391
LB	I	LBI5	686197	318468	25.2091	80.4366
LB	I	LBI6	683722	317643	25.2068	80.4441
LB	I	LBI7	684547	317643	25.2068	80.4416
LB	I	LBI8	685372	317643	25.2068	80.4391
LB	I	LBI9	686197	317643	25.2068	80.4366
LB	J	LBJ1	688672	319293	25.2113	80.4291
LB	J	LBJ2	687022	318468	25.2091	80.4341
LB	J	LBJ3	687847	318468	25.209	80.4316
LB	J	LBJ4	688672	318468	25.209	80.4291
LB	J	LBJ5	689497	318468	25.209	80.4266
LB	J	LBJ6	687022	317643	25.2068	80.4341
LB	J	LBJ7	687847	317643	25.2068	80.4316
LB	J	LBJ8	688672	317643	25.2068	80.4291
LB	J	LBJ9	687847	316818	25.2045	80.4316
LB	K	LBK1	682897	317643	25.2068	80.4466
LB	K	LBK2	682072	316818	25.2046	80.4491
LB	K	LBK3	682897	316818	25.2046	80.4466
LB	K	LBK4	683722	316818	25.2046	80.4441
LB	K	LBK5	684547	316818	25.2045	80.4416
LB	K	LBK6	682072	315993	25.2023	80.4491
LB	K	LBK7	682897	315993	25.2023	80.4466
LB	K	LBK8	683722	315993	25.2023	80.4441
LB	K	LBK9	682897	315168	25.2	80.4466

Table 4- FLORDIA BAY Seagrass (Braun-Blanquet) List of all Random Monitoring Stations- Continued

BASIN	SUBREGION	STATION	x coordinate (NAD27)	y coordinate (NAD27)	latdegdec	londegdec
LB	L	LBL1	685372	316818	25.2045	80.4391
LB	L	LBL2	686197	316818	25.2045	80.4366
LB	L	LBL3	687022	316818	25.2045	80.4341
LB	L	LBL4	684547	315993	25.2023	80.4416
LB	L	LBL5	685372	315993	25.2023	80.4391
LB	L	LBL6	686197	315993	25.2023	80.4367
LB	L	LBL7	684547	315168	25.2	80.4417
LB	L	LBL8	685372	315168	25.2	80.4392
LB	L	LBL9	686197	315168	25.2	80.4367
LM	A	LMA1	615607.5	311149.3	25.1896	80.6502
LM	A	LMA2	614747.5	310289.3	25.1872	80.6528
LM	A	LMA3	615607.5	310289.3	25.1872	80.6502
LM	A	LMA4	616467.5	310289.3	25.1872	80.6476
LM	A	LMA5	617327.5	310289.3	25.1872	80.645
LM	A	LMA6	614747.5	309429.3	25.1849	80.6528
LM	A	LMA7	615607.5	309429.3	25.1849	80.6502
LM	A	LMA8	616467.5	309429.3	25.1848	80.6476
LM	A	LMA9	617327.5	309429.3	25.1848	80.645
LM	B	LMB1	617327.5	311149.3	25.1896	80.645
LM	B	LMB2	618187.5	311149.3	25.1896	80.6424
LM	B	LMB3	619047.5	311149.3	25.1896	80.6398
LM	B	LMB4	619907.5	311149.3	25.1896	80.6372
LM	B	LMB5	618187.5	310289.3	25.1872	80.6424
LM	B	LMB6	619047.5	310289.3	25.1872	80.6398
LM	B	LMB7	619907.5	310289.3	25.1872	80.6372
LM	B	LMB8	620767.5	310289.3	25.1872	80.6346
LM	B	LMB9	618187.5	309429.3	25.1848	80.6424
LM	C	LMC1	622487.5	312869.3	25.1943	80.6294
LM	C	LMC2	623347.5	312869.3	25.1943	80.6268
LM	C	LMC3	621627.5	312009.3	25.1919	80.632
LM	C	LMC4	622487.5	312009.3	25.1919	80.6294
LM	C	LMC5	623347.5	312009.3	25.1919	80.6268

Table 4- FLORDIA BAY Seagrass (Braun-Blanquet) List of all Random Monitoring Stations- Continued

BASIN	SUBREGION	STATION	x coordinate (NAD27)	y coordinate (NAD27)	latdegdec	londegdec
LM	C	LMC6	620767.5	311149.3	25.1896	80.6346
LM	C	LMC7	621627.5	311149.3	25.1895	80.632
LM	C	LMC8	622487.5	311149.3	25.1895	80.6294
LM	C	LMC9	621627.5	310289.3	25.1872	80.632
LM	D	LMD1	625067.5	313729.3	25.1966	80.6215
LM	D	LMD2	625927.5	313729.3	25.1966	80.6189
LM	D	LMD3	625067.5	312869.3	25.1943	80.6216
LM	D	LMD4	625927.5	312869.3	25.1942	80.619
LM	D	LMD5	626787.5	312869.3	25.1942	80.6164
LM	D	LMD6	624207.5	312009.3	25.1919	80.6242
LM	D	LMD7	625067.5	312009.3	25.1919	80.6216
LM	D	LMD8	625927.5	312009.3	25.1919	80.619
LM	D	LMD9	626787.5	312009.3	25.1919	80.6164
LM	E	LME1	630227.5	315449.3	25.2013	80.6059
LM	E	LME2	627647.5	314589.3	25.199	80.6137
LM	E	LME3	628507.5	314589.3	25.199	80.6111
LM	E	LME4	629367.5	314589.3	25.1989	80.6085
LM	E	LME5	630227.5	314589.3	25.1989	80.6059
LM	E	LME6	626787.5	313729.3	25.1966	80.6163
LM	E	LME7	627647.5	313729.3	25.1966	80.6137
LM	E	LME8	628507.5	313729.3	25.1966	80.6111
LM	E	LME9	629367.5	313729.3	25.1966	80.6085
LM	F	LMF1	613027.5	308569.3	25.1825	80.658
LM	F	LMF2	613887.5	308569.3	25.1825	80.6554
LM	F	LMF3	614747.5	308569.3	25.1825	80.6528
LM	F	LMF4	612167.5	307709.3	25.1801	80.6606
LM	F	LMF5	613027.5	307709.3	25.1801	80.658
LM	F	LMF6	613887.5	307709.3	25.1801	80.6554
LM	F	LMF7	614747.5	307709.3	25.1801	80.6528
LM	F	LMF8	613887.5	306849.3	25.1778	80.6554
LM	F	LMF9	614747.5	306849.3	25.1778	80.6528

Table 4- FLORDIA BAY Seagrass (Braun-Blanquet) List of all Random Monitoring Stations- Continued

BASIN	SUBREGION	STATION	x coordinate (NAD27)	y coordinate (NAD27)	latdegdec	londegdec
LM	G	LMG1	615607.5	308569.3	25.1825	80.6502
LM	G	LMG2	616467.5	308569.3	25.1825	80.6476
LM	G	LMG3	617327.5	308569.3	25.1825	80.645
LM	G	LMG4	618187.5	308569.3	25.1825	80.6424
LM	G	LMG5	615607.5	307709.3	25.1801	80.6502
LM	G	LMG6	616467.5	307709.3	25.1801	80.6476
LM	G	LMG7	617327.5	307709.3	25.1801	80.645
LM	G	LMG8	615607.5	306849.3	25.1778	80.6502
LM	G	LMG9	616467.5	306849.3	25.1778	80.6476
LM	H	LMH1	619047.5	309429.3	25.1848	80.6398
LM	H	LMH2	619907.5	309429.3	25.1848	80.6372
LM	H	LMH3	620767.5	309429.3	25.1848	80.6346
LM	H	LMH4	621627.5	309429.3	25.1848	80.632
LM	H	LMH5	619047.5	308569.3	25.1825	80.6398
LM	H	LMH6	619907.5	308569.3	25.1825	80.6372
LM	H	LMH7	618187.5	307709.3	25.1801	80.6424
LM	H	LMH8	619047.5	307709.3	25.1801	80.6398
LM	H	LMH9	619907.5	307709.3	25.1801	80.6372
LM	I	LMI1	622487.5	309429.3	25.1848	80.6294
LM	I	LMI2	620767.5	308569.3	25.1825	80.6346
LM	I	LMI3	621627.5	308569.3	25.1824	80.632
LM	I	LMI4	622487.5	308569.3	25.1824	80.6294
LM	I	LMI5	620767.5	307709.3	25.1801	80.6346
LM	I	LMI6	621627.5	307709.3	25.1801	80.632
LM	I	LMI7	622487.5	307709.3	25.1801	80.6294
LM	I	LMI8	621627.5	306849.3	25.1777	80.632
LM	I	LMI9	622487.5	306849.3	25.1777	80.6294
LM	J	LMJ1	623347.5	311149.3	25.1895	80.6268
LM	J	LMJ2	624207.5	311149.3	25.1895	80.6242
LM	J	LMJ3	625067.5	311149.3	25.1895	80.6216
LM	J	LMJ4	625927.5	311149.3	25.1895	80.619
LM	J	LMJ5	622487.5	310289.3	25.1872	80.6294

Table 4- FLORDIA BAY Seagrass (Braun-Blanquet) List of all Random Monitoring Stations- Continued

BASIN	SUBREGION	STATION	x coordinate (NAD27)	y coordinate (NAD27)	latdegdec	londegdec
LM	J	LMJ6	623347.5	310289.3	25.1872	80.6268
LM	J	LMJ7	624207.5	310289.3	25.1872	80.6242
LM	J	LMJ8	625067.5	310289.3	25.1872	80.6216
LM	J	LMJ9	625927.5	310289.3	25.1871	80.619
LM	K	LMK1	627647.5	312869.3	25.1942	80.6138
LM	K	LMK2	628507.5	312869.3	25.1942	80.6112
LM	K	LMK3	629367.5	312869.3	25.1942	80.6086
LM	K	LMK4	627647.5	312009.3	25.1919	80.6138
LM	K	LMK5	628507.5	312009.3	25.1919	80.6112
LM	K	LMK6	629367.5	312009.3	25.1919	80.6086
LM	K	LMK7	630227.5	312009.3	25.1918	80.606
LM	K	LMK8	628507.5	311149.3	25.1895	80.6112
LM	K	LMK9	629367.5	311149.3	25.1895	80.6086
LM	L	LML1	626787.5	311149.3	25.1895	80.6164
LM	L	LML2	627647.5	311149.3	25.1895	80.6138
LM	L	LML3	626787.5	310289.3	25.1871	80.6164
LM	L	LML4	627647.5	310289.3	25.1871	80.6138
LM	L	LML5	628507.5	310289.3	25.1871	80.6112
LM	L	LML6	625927.5	309429.3	25.1848	80.619
LM	L	LML7	626787.5	309429.3	25.1848	80.6164
LM	L	LML8	627647.5	309429.3	25.1848	80.6138
LM	L	LML9	628507.5	309429.3	25.1848	80.6112
LS	A	LSA1	667816.2	324327.7	25.2254	80.4921
LS	A	LSA2	668626.2.	324327.7	25.2254	80.4897
LS	A	LSA3	669436.2	324327.7	25.2254	80.4872
LS	A	LSA4	667816.2	323517.7	25.2232	80.4922

Table 4- FLORDIA BAY Seagrass (Braun-Blanquet) List of all Random Monitoring Stations- Continued

BASIN	SUBREGION	STATION	x coordinate (NAD27)	y coordinate (NAD27)	latdegdec	londegdec
LS	A	LSA5	668626.2	323517.7	25.2232	80.4897
LS	A	LSA6	669436.2	323517.7	25.2231	80.4873
LS	A	LSA7	667816.2	322707.7	25.2209	80.4922
LS	A	LSA8	668626.2	322707.7	25.2209	80.4897
LS	A	LSA9	669436.2	322707.7	25.2209	80.4873
LS	B	LSB1	667816.2	321897.7	25.2187	80.4922
LS	B	LSB2	668626.2	321897.7	25.2187	80.4897
LS	B	LSB3	669436.2	321897.7	25.2187	80.4873
LS	B	LSB4	670246.2	321897.7	25.2187	80.4848
LS	B	LSB5	667816.2	321087.7	25.2165	80.4922
LS	B	LSB6	668626.2	321087.7	25.2165	80.4897
LS	B	LSB7	669436.2	321087.7	25.2165	80.4873
LS	B	LSB8	668626.2	320277.7	25.2142	80.4897
LS	B	LSB9	669436.2	320277.7	25.2142	80.4873
LS	C	LSC1	671866.2	324327.7	25.2253	80.4799
LS	C	LSC2	670246.2	323517.7	25.2231	80.4848
LS	C	LSC3	671056.2	323517.7	25.2231	80.4824
LS	C	LSC4	671866.2	323517.7	25.2231	80.4799
LS	C	LSC5	672676.2	323517.7	25.2231	80.4775
LS	C	LSC6	670246.2	322707.7	25.2209	80.4848
LS	C	LSC7	671056.2	322707.7	25.2209	80.4824
LS	C	LSC8	671866.2	322707.7	25.2209	80.4799
LS	C	LSC9	672676.2	322707.7	25.2209	80.4775

Table 4- FLORDIA BAY Seagrass (Braun-Blanquet) List of all Random Monitoring Stations- Continued

BASIN	SUBREGION	STATION	x coordinate (NAD27)	y coordinate (NAD27)	latdegdec	londegdec
LS	D	LSD1	672676.2	325137.7	25.2276	80.4774
LS	D	LSD2	673486.2	325137.7	25.2276	80.475
LS	D	LSD3	672676.2	324327.7	25.2253	80.4774
LS	D	LSD4	673486.2	324327.7	25.2253	80.475
LS	D	LSD5	674296.2	324327.7	25.2253	80.4725
LS	D	LSD6	675106.2	324327.7	25.2253	80.4701
LS	D	LSD7	673486.2	323517.7	25.2231	80.475
LS	D	LSD8	674296.2	323517.7	25.2231	80.4726
LS	D	LSD9	673486.2	322707.7	25.2209	80.475
LS	E	LSE1	677536.2	327567.7	25.2342	80.4627
LS	E	LSE2	676726.2	326757.7	25.232	80.4652
LS	E	LSE3	677536.2	326757.7	25.232	80.4627
LS	E	LSE4	676726.2	325947.7	25.2298	80.4652
LS	E	LSE5	677536.2	325947.7	25.2297	80.4627
LS	E	LSE6	675106.2	325137.7	25.2275	80.4701
LS	E	LSE7	675916.2	325137.7	25.2275	80.4676
LS	E	LSE8	676726.2	325137.7	25.2275	80.4652
LS	E	LSE9	677536.2	325137.7	25.2275	80.4627
LS	F	LSF1	675916.2	324327.7	25.2253	80.4676
LS	F	LSF2	676726.2	324327.7	25.2253	80.4652
LS	F	LSF3	677536.2	324327.7	25.2253	80.4627
LS	F	LSF4	675106.2	323517.7	25.2231	80.4701
LS	F	LSF5	675916.2	323517.7	25.2231	80.4677
LS	F	LSF6	676726.2	323517.7	25.2231	80.4652
LS	F	LSF7	675106.2	322707.7	25.2209	80.4701
LS	F	LSF8	675916.2	322707.7	25.2208	80.4677
LS	F	LSF9	676726.2	322707.7	25.2208	80.4652
LS	G	LSG1	678346.2	327567.7	25.2342	80.4603
LS	G	LSG2	679156.2	327567.7	25.2342	80.4578
LS	G	LSG3	679966.2	327567.7	25.2342	80.4554

Table 4- FLORDIA BAY Seagrass (Braun-Blanquet) List of all Random Monitoring Stations- Continued

BASIN	SUBREGION	STATION	x coordinate (NAD27)	y coordinate (NAD27)	latdegdec	londegdec
LS	G	LSG4	678346.2	326757.7	25.232	80.4603
LS	G	LSG5	679156.2	326757.7	25.232	80.4578
LS	G	LSG6	679966.2	326757.7	25.2319	80.4554
LS	G	LSG7	678346.2	325947.7	25.2297	80.4603
LS	G	LSG8	679156.2	325947.7	25.2297	80.4578
LS	G	LSG9	679966.2	325947.7	25.2297	80.4554
LS	H	LSH1	678346.2	325137.7	25.2275	80.4603
LS	H	LSH2	679156.2	325137.7	25.2275	80.4578
LS	H	LSH3	679966.2	325137.7	25.2275	80.4554
LS	H	LSH4	680776.2	325137.7	25.2275	80.4529
LS	H	LSH5	678346.2	324327.7	25.2253	80.4603
LS	H	LSH6	679156.2	324327.7	25.2253	80.4578
LS	H	LSH7	679966.2	324327.7	25.2253	80.4554
LS	H	LSH8	677536.2	323517.7	25.2231	80.4628
LS	H	LSH9	678346.2	323517.7	25.2231	80.4603
LS	I	LSI1	681586.2	329187.7	25.2386	80.4504
LS	I	LSI2	682396.2	329187.7	25.2386	80.448
LS	I	LSI3	679966.2	328377.7	25.2364	80.4553
LS	I	LSI4	680776.2	328377.7	25.2364	80.4529
LS	I	LSI5	681586.2	328377.7	25.2364	80.4504
LS	I	LSI6	682396.2	328377.7	25.2364	80.448
LS	I	LSI7	680776.2	327567.7	25.2342	80.4529
LS	I	LSI8	681586.2	327567.7	25.2342	80.4505
LS	I	LSI9	682396.2	327567.7	25.2341	80.448
LS	J	LSJ1	680776.2	326757.7	25.2319	80.4529
LS	J	LSJ2	681586.2	326757.7	25.2319	80.4505
LS	J	LSJ3	682396.2	326757.7	25.2319	80.448

Table 4- FLORDIA BAY Seagrass (Braun-Blanquet) List of all Random Monitoring Stations- Continued

BASIN	SUBREGION	STATION	x coordinate (NAD27)	y coordinate (NAD27)	latdegdec	londegdec
LS	J	LSJ4	680776.2	325947.7	25.2297	80.4529
LS	J	LSJ5	681586.2	325947.7	25.2297	80.4505
LS	J	LSJ6	682396.2	325947.7	25.2297	80.448
LS	J	LSJ7	681586.2	325137.7	25.2275	80.4505
LS	J	LSJ8	682396.2	325137.7	25.2275	80.448
LS	J	LSJ9	683206.2	325137.7	25.2275	80.4456
LS	K	LSK1	684016.2	330807.7	25.243	80.4431
LS	K	LSK2	684016.2	329997.7	25.2408	80.4431
LS	K	LSK3	683206.2	329187.7	25.2386	80.4455
LS	K	LSK4	684016.2	329187.7	25.2386	80.4431
LS	K	LSK5	685636.2	329187.7	25.2386	80.4382
LS	K	LSK6	683206.2	328377.7	25.2364	80.4455
LS	K	LSK7	684016.2	328377.7	25.2364	80.4431
LS	K	LSK8	684826.2	328377.7	25.2363	80.4406
LS	K	LSK9	685636.2	328377.7	25.2363	80.4382
LS	L	LSL1	683206.2	327567.7	25.2341	80.4456
LS	L	LSL2	684016.2	327567.7	25.2341	80.4431
LS	L	LSL3	684826.2	327567.7	25.2341	80.4407
LS	L	LSL4	685636.2	327567.7	25.2341	80.4382
LS	L	LSL5	683206.2	326757.7	25.2319	80.4456
LS	L	LSL6	684016.2	326757.7	25.2319	80.4431
LS	L	LSL7	684826.2	326757.7	25.2319	80.4407
LS	L	LSL8	683206.2	325947.7	25.2297	80.4456
LS	L	LSL9	684016.2	325947.7	25.2297	80.4431
MB	A	MBA1	694807	339025	25.2655	80.4311
MB	A	MBA2	695782	339025	25.2655	80.4282
MB	A	MBA3	696757	339025	25.2655	80.4282
MB	A	MBA4	693832	338050	25.2629	80.4282
MB	A	MBA5	694807	338050	25.2629	80.4282
MB	A	MBA6	695782	338050	25.2628	80.4281
MB	A	MBA7	696757	338050	25.2628	80.4281

Table 4- FLORDIA BAY Seagrass (Braun-Blanquet) List of all Random Monitoring Stations- Continued

BASIN	SUBREGION	STATION	x coordinate (NAD27)	y coordinate (NAD27)	latdegdec	londegdec
MB	A	MBA8	694807	337075	25.2602	80.4281
MB	A	MBA9	695782	337075	25.2602	80.4281
MB	B	MBB1	690907	337075	25.2602	80.4281
MB	B	MBB2	691882	337075	25.2602	80.4253
MB	B	MBB3	692857	337075	25.2602	80.4253
MB	B	MBB4	693832	337075	25.2602	80.4252
MB	B	MBB5	691882	336100	25.2575	80.4252
MB	B	MBB6	692857	336100	25.2575	80.4252
MB	B	MBB7	693832	336100	25.2575	80.4252
MB	B	MBB8	692857	335125	25.2548	80.4252
MB	B	MBB9	693832	335125	25.2548	80.4252
MB	C	MBC1	696757	337075	25.2601	80.4251
MB	C	MBC2	694807	336100	25.2575	80.4251
MB	C	MBC3	695782	336100	25.2575	80.4223
MB	C	MBC4	696757	336100	25.2575	80.4223
MB	C	MBC5	695782	335125	25.2548	80.4223
MB	C	MBC6	696757	335125	25.2548	80.4223
MB	C	MBC7	697732	335125	25.2548	80.4223
MB	C	MBC8	696757	34150	25.2521	80.4223
MB	C	MBC9	697732	334150	25.2521	80.4222
MB	D	MBD1	688957	336100	25.2576	80.4222
MB	D	MBD2	690907	335125	25.2549	80.4222
MB	D	MBD3	691882	335125	25.2548	80.4222
MB	D	MBD4	689932	334150	25.2522	80.4222
MB	D	MBD5	690907	334150	25.2522	80.4222
MB	D	MBD6	691882	334150	25.2522	80.4221
MB	D	MBD7	688957	333175	25.2495	80.4194
MB	D	MBD8	689932	333175	25.2495	80.4194
MB	D	MBD9	690907	333175	25.2495	80.4193
MB	E	MBE1	694807	335125	25.2548	80.4193
MB	E	MBE2	692857	334150	25.2521	80.4193

Table 4- FLORDIA BAY Seagrass (Braun-Blanquet) List of all Random Monitoring Stations- Continued

BASIN	SUBREGION	STATION	x coordinate (NAD27)	y coordinate (NAD27)	latdegdec	londegdec
MB	E	MBE3	693832	334150	25.2521	80.4193
MB	E	MBE4	694807	334150	25.2521	80.4193
MB	E	MBE5	695782	334150	25.2521	80.4193
MB	E	MBE6	691882	333175	25.2495	80.4193
MB	E	MBE7	692857	333175	25.2495	80.4193
MB	E	MBE8	693832	333175	25.2495	80.4192
MB	E	MBE9	694807	333175	25.2494	80.4192
MB	F	MBF1	695782	333175	25.2494	80.4192
MB	F	MBF2	696757	333175	25.2494	80.4192
MB	F	MBF3	697732	333175	25.2494	80.4192
MB	F	MBF4	694807	332200	25.2468	80.4164
MB	F	MBF5	695782	332200	25.2467	80.4164
MB	F	MBF6	696757	332200	25.2467	80.4164
MB	F	MBF7	697732	332200	25.2467	80.4164
MB	F	MBF8	696757	331225	25.2441	80.4163
MB	F	MBF9	697732	331225	25.244	80.4163
MB	G	MBG1	688957	332200	25.2468	80.4163
MB	G	MBG2	689932	332200	25.2468	80.4163
MB	G	MBG3	687982	331225	25.2442	80.4163
MB	G	MBG4	688957	331225	25.2441	80.4163
MB	G	MBG5	689932	331225	25.2441	80.4163
MB	G	MBG6	690907	331225	25.2441	80.4163
MB	G	MBG7	688957	330250	25.2415	80.4162
MB	G	MBG8	689932	330250	25.2415	80.4134
MB	G	MBG9	690907	330250	25.2414	80.4134
MB	H	MBH1	690907	332200	25.2468	80.4134
MB	H	MBH2	691882	332200	25.2468	80.4134
MB	H	MBH3	692857	332200	25.2468	80.4134
MB	H	MBH4	693832	332200	25.2468	80.4133

Table 4- FLORDIA BAY Seagrass (Braun-Blanquet) List of all Random Monitoring Stations- Continued

BASIN	SUBREGION	STATION	x coordinate (NAD27)	y coordinate (NAD27)	latdegdec	londegdec
MB	H	MBH5	691882	331225	25.2441	80.4133
MB	H	MBH6	692857	331225	25.2441	80.4133
MB	H	MBH7	693832	331225	25.2441	80.4133
MB	H	MBH8	691882	330250	25.2414	80.4133
MB	H	MBH9	692857	330250	25.2414	80.4133
MB	I	MBI1	694807	331225	25.2441	80.4105
MB	I	MBI2	695782	331225	25.2441	80.4104
MB	I	MBI3	693832	330250	25.2414	80.4104
MB	I	MBI4	694807	330250	25.2414	80.4104
MB	I	MBI5	693832	329275	25.2387	80.4104
MB	I	MBI6	694807	329275	25.2387	80.4104
MB	I	MBI7	695782	329275	25.2387	80.4104
MB	I	MBI8	693832	328300	25.236	80.4104
MB	I	MBI9	694807	328300	25.236	80.4104
MB	J	MBJ1	691882	329275	25.2387	80.4103
MB	J	MBJ2	692857	329275	25.2387	80.4103
MB	J	MBJ3	690907	328300	25.2361	80.4103
MB	J	MBJ4	691882	328300	25.2361	80.4075
MB	J	MBJ5	689932	327325	25.2334	80.4075
MB	J	MBJ6	690907	327325	25.2334	80.4075
MB	J	MBJ7	691882	327325	25.2334	80.4074
MB	J	MBJ8	691882	326350	25.2307	80.4074
MB	J	MBJ9	692857	326350	25.2307	80.4074
MB	K	MBK1	688957	327325	25.2334	80.4074
MB	K	MBK2	688957	326350	25.2307	80.4074
MB	K	MBK3	689932	326350	25.2307	80.4074
MB	K	MBK4	690907	326350	25.2307	80.4074

Table 4- FLORDIA BAY Seagrass (Braun-Blanquet) List of all Random Monitoring Stations- Continued

BASIN	SUBREGION	STATION	x coordinate (NAD27)	y coordinate (NAD27)	latdegdec	londegdec
MB	K	MBK5	688957	325375	25.228	80.4045
MB	K	MBK6	689932	325375	25.228	80.4045
MB	K	MBK7	690907	325375	25.228	80.4045
MB	K	MBK8	688957	324400	25.2254	80.4045
MB	K	MBK9	689932	324400	25.2254	80.4045
MB	L	MBL1	691882	325375	25.228	80.4045
MB	L	MBL2	692857	325375	25.228	80.4044
MB	L	MBL3	690907	324400	25.2253	80.4044
MB	L	MBL4	691882	324400	25.2253	80.4044
MB	L	MBL5	692857	324400	25.2253	80.4016
MB	L	MBL6	689932	323425	25.2227	80.4016
MB	L	MBL7	690907	323425	25.2227	80.4015
MB	L	MBL8	691882	323425	25.2226	80.4015
MB	L	MBL9	692857	323425	25.2226	80.4015
TC	A	TCA1	658168	321753	25.2184	80.5214
TC	A	TCA2	659368	321753	25.2184	80.5177
TC	A	TCA3	656968	320553	25.2151	80.525
TC	A	TCA4	658168	320553	25.2151	80.5214
TC	A	TCA5	659368	320553	25.2151	80.5177
TC	A	TCA6	660568	320553	25.2151	80.5141
TC	A	TCA7	658168	319353	25.2118	80.5214
TC	A	TCA8	659368	319353	25.2118	80.5178
TC	A	TCA9	660568	319353	25.2118	80.5141
TC	B	TCB1	653368	319353	25.2118	80.5359
TC	B	TCB2	654568	319353	25.2118	80.5323
TC	B	TCB3	655768	319353	25.2118	80.5286
TC	B	TCB4	656968	319353	25.2118	80.525
TC	B	TCB5	653368	318153	25.2085	80.5359

Table 4- FLORDIA BAY Seagrass (Braun-Blanquet) List of all Random Monitoring Stations- Continued

BASIN	SUBREGION	STATION	x coordinate (NAD27)	y coordinate (NAD27)	latdegdec	londegdec
TC	B	TCB6	654568	318153	25.2085	80.5323
TC	B	TCB7	656968	318153	25.2085	80.525
TC	B	TCB8	653368	316953	25.2052	80.5359
TC	B	TCB9	654568	316953	25.2052	80.5323
TC	C	TCC1	661768	319353	25.2118	80.5105
TC	C	TCC2	658168	318153	25.2085	80.5214
TC	C	TCC3	659368	318153	25.2085	80.5178
TC	C	TCC4	660568	318153	25.2085	80.5141
TC	C	TCC5	661768	318153	25.2085	80.5105
TC	C	TCC6	659368	316953	25.2052	80.5178
TC	C	TCC7	660568	316953	25.2052	80.5142
TC	C	TCC8	661768	316953	25.2052	80.5105
TC	C	TCC9	662968	316953	25.2051	80.5069
TC	D	TCD1	655768	316953	25.2052	80.5287
TC	D	TCD2	656968	316953	25.2052	80.525
TC	D	TCD3	658168	316953	25.2052	80.5214
TC	D	TCD4	654568	315753	25.2019	80.5323
TC	D	TCD5	655768	315753	25.2019	80.5287
TC	D	TCD6	656968	315753	25.2019	80.5251
TC	D	TCD7	658168	315753	25.2019	80.5214
TC	D	TCD8	659368	315753	25.2019	80.5178
TC	D	TCD9	660568	315753	25.2019	80.5142