

DEP CONTRACT / GRANT REVIEW FORM

DEP Contract No. SP676, Amendment No. 1

CONTRACTOR / GRANTEE INFORMATION

Name	Address	City, State, Zip	Contact Person	Phone	FY End	FEID
Smithsonian Institution	PO Box 28 647 Contees Wharf Road	Edgewater, MD 21037	Dr. Cynthia A. Gilmour	443-482-2498	12/31	53-0206027

DEP CONTRACT / GRANT INFORMATION

DEP Contract / Grant No.: SP676		DEP Original Contract / Grant Agreement: 		Amendment No.: 1		Funding Increment No.: 	
Type: ☒ Services ☐ Grants ☐ Commodities ☐ Visitor Services ☐ Other Type				Procurement Method: SS DEP 07/08 SSA027			
Change Order No.: 		Is travel cost reimbursable? N		DMS/Class Group: 973-360		Program Reference: 	
Grant Information		Are federal funds supporting this Contract? N		Are State funds supporting this contract being used as match to a federal grant? N		Enter Federal Grant here & CFDA# in FUNDING INFORMATION section. 	
Land/Equipment Ownership		Are equipment purchases authorized under this Contract? N		Will DEP retain ownership? N		Are land purchases authorized under Contract? N	
Is this a Certified Minority Business? N		If Yes, Certified MBE: 		Registered Minority Business? N		If Yes, Registered MBE Code: 	
Contract Period				Payment Method			
Contract Begin Date: August 18, 2008		End Date: December 31, 2009		☐ Cost Reimb. ☐ Cost Reimb./Fixed Fee ☒ Fixed Price ☐ Fee Schedule ☐ Advance Pmt.			
Subject/Brief Description of Contract:							
Aquatic cycling of mercury in the Everglades							

FUNDING INFORMATION

Contract Ceiling Amount, if any		\$0.00		For Amendments & Funding Increment Letters		☐ Increase Funding ☐ Decrease Funding ☒ No change		Change Amount		\$0.00		Contract Funding Amount		\$133,583.00		
Org Code	EO	Object Code	Fund/ FID	BE	Category	YR	GAA LI	CSFA/ CFDA	Rec. Type	Grant No.	OCA/ Module No.	Project No.	Amount			
Specify County or Counties where work is being performed.						For projects containing an object code of 75XXXX or 79XXXX, CFSA or CFDA and Recipient Type must be completed.						Journal Transfer Info (29 digit code)			B/F Object	
Statewide																

MANAGEMENT INFORMATION

Division/District/Office:	DEAR	Bureau/Office:	BARS
Contract Manager:	Don Axelrad	Phone No. of Manager:	850-245-2400
		Mail Station #:	6511

REVIEW AND EXECUTION INFORMATION

Review Role	Approved By - Signature	Date Approved	Identify Delegation of Authority for Person Executing Contract:	DEP125-DRAM	
Contract Manager:	<i>Don Axelrad</i>	06/30/2009	Reviewer Comments & Checks (for Procurement Section use only)		
Budget Representative:	<i>Patricia Paul</i>	06/30/09			
Bureau Chief:	<i>Patricia Paul</i>	7/6/09			
Division/District Director:	<i>Patricia Paul</i>	7/6/09			
Quality Assurance:	N/A	N/A			
Contracts Administrator:	<i>Paul Heagan</i>	6/24/09	Procurement Initials LPD		
General Counsel:	<i>Mon</i>	6/24/09			
Division/District IRM:	N/A	N/A			
Department CIO:	N/A	N/A	DOS Registered? ☐ Y ☒ N/A ☒ Required MFMP Registered? Transaction Fee Exemption Form? ☐ Y ☒ N/A ☒ Required Vendor/Recipient Relationship Checklist? Insurance Certificates? ☒ Y ☐ N/A ☒ Required Summary of Contractual Services Agreement (CSA) Form? Other Requirements? 		

DEP CONTRACT NO. SP676
AMENDMENT NO. 1

THIS CONTRACT as entered into on the 18th day of August, 2008, between the STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (hereinafter referred to as the "Department") and the SMITHSONIAN INSTITUTION, INC. (hereinafter referred to as the "Contractor") is hereby amended as follows:

- Paragraph 4 is hereby revised to change the completion date of the Contract from August 17, 2009 to December 31, 2009.
- In order to revise the completion dates for the tasks, Attachment A, Scope of Services, is hereby deleted in its entirety and replaced with Attachment A-1, Revised Scope of Services, attached hereto and made a part hereof.

In all other respects, the Contract of which this is an Amendment, and attachments relative thereto shall remain in full force and effect.

IN WITNESS WHEREOF, the parties have caused this Amendment to be duly executed the day and year last written below.

SMITHSONIAN INSTITUTION, INC.

By: J. Scott Robin
Date: 7/15/09

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

By: [Signature]
Director, Division Environmental
Assessment and Restoration or designee
Date: 7/2/09

[Signature]
Don Axelrad, DEP Contract Manager

[Signature]
DEP Contracts Administrator

Approved as to form and legality:

[Signature]
DEP Attorney

List of attachments/exhibits included as part of this Amendment:

Specify Type	Letter/ Number	Description (include number of pages)
Attachment	A-1	Revised Scope of Services (3 Pages)

ATTACHMENT A-1

REVISED SCOPE OF SERVICES

OVERVIEW

Since 1995, the Aquatic Cycling of Mercury in the Everglades (ACME) project team has studied mercury cycling in the Everglades. See: <http://infotrek.er.usgs.gov/mercury/acme.html> and http://sofia.usgs.gov/projects/evergl_merc/

The ACME study has focused on the biogeochemical mechanisms driving the high rates of methylmercury (MeHg) bioaccumulation in the ecosystem. Key findings have been as regards the roles of sulfur and dissolved organic carbon (DOC) in MeHg production, and reduction in mercury (Hg) bioavailability for methylation as it ages in soils.

The core ACME project team consists of:

David Krabbenhoft, Ph.D., U.S. Geological Survey (USGS), Middleton, WI

William Orem, Ph.D., USGS, Reston, VA

George Aiken, Ph.D., USGS, Boulder, CO

Cynthia Gilmour, Ph.D., Smithsonian Environmental Research Center, Edgewater, MD

The ACME study has included two main components. One is a detailed assessment, through time, of the biogeochemistry of core sites across the full length of the Everglades ecosystem. These core sites include locations in each of the main components of the system, from Arthur R. Marshall Loxahatchee National Wildlife Refuge (LNWR) to Everglades national Park (ENP). The core study sites – LOX (in LNWR), F1, U3 (in WCA 2A), 2BS (WCA 2B), 3A15 (WCA 3A), TS7 and TS9 (ENP) - have been sampled most years since 1995. From 1995 - 1998, these sites were visited 2-4 times per year. Over the years, many stormwater treatment areas (STAs) have also been sampled by the project team. This data set provides correlative information on the relationship between MeHg production and biogeochemical variables, like nutrients, sulfate and sulfide.

The data set for core ACME sites includes information on Hg and MeHg concentrations in surface water, soil interstitial waters (pore waters), soils, and the food web. Food web components include invertebrates and small fish. Detailed biogeochemical data for the sites was also measured, including microbial activity and soils and water chemistry, with a focus on sulfur cycling and organic matter characterization.

The second component of the study is a series of field mesocosm experiments designed to test cause and effect hypotheses. Additions to mesocosms have included mercury, sulfate, dissolved organic carbon (DOC), and phosphate. Mesocosm experiments have been run at LOX, F1, U3, 2BS and 3A15. The most detailed sulfate and DOC addition studies were carried out at site 3A15.

Study data have been published in a variety of papers in the primary literature and in reports to the Florida Department of Environmental Protection (FDEP), South Florida Water Management District (SFWMD), and the U.S. Geological Survey (USGS). Updates on the study appear regularly in the South Florida Environmental Report (SFER) (https://my.sfwmd.gov/portal/page?_pageid=2714,14424186&_dad=portal&_schema=PORTAL).

However, the full data set from the study has not been compiled in one location nor undergone final QA.

This project will compile data from all ACME researchers in one central data set (Excel or Access), where it can be queried and studied as controls on sulfur inputs to the Everglades are debated. Metadata will be included. The data set will be made openly accessible to the public (as well as submitted to the USGS for consideration for publication as an open file report). The project will also include a text report on the synthesized dataset.

As part of that report, a synthesis of the literature on methylmercury production with a detailed focus on studies of the relationship between sulfate, sulfide and MeHg will be provided. The literature summary will help to put the ACME data sets into a larger context, and provide information to decision makers.

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SCOPE OF WORK

The specific tasks to be accomplished under this Contract are set out below:

Task 1. Compile and synthesize field data sets from ACME intensive biogeochemical study sites 1995- 2007

- Lox, F1, U3, 2BS, 3A15, TS7, TS9 + scattered other sites, including STAs
- Deliverables and due dates:
 - 1. Full data set(s) including metadata
 - Teleconference(s) with the Department to discuss and refine metadata and data organization needs. Initial teleconference within the first month of the Contract, other teleconferences scheduled as needed.
 - Quarterly progress reports
 - First draft data set, Jan. 1, 2009
 - Second draft data set, April 1, 2009
 - Third draft data set, August 1, 2009
 - Final data set, December 1, 2009
 - 2. Text data report
 - Quarterly progress reports
 - First draft, April 1, 2009
 - Second draft, August 1, 2009
 - Final report, December 1, 2009
- Task 1 Total Cost: \$98,790

Task 2. Synthesis of available literature on sulfate and sulfide effects on MeHg production in all types of ecosystems.

- Deliverables and due dates:
 - 1. Detailed report, to be integrated with the ACME data report from Task 1. To include a synthesis of the literature on methylmercury production with a detailed focus on studies of the relationship between sulfate, sulfide and MeHg.
 - First draft report, May 1, 2009
 - Second draft report, October 1, 2009
 - Final data and literature synthesis report, December 1, 2009
 - 2. Attendance at the Department workshop to present data and conclusions and receive comment on the integrated data and literature synthesis report, and if necessary revise report.
 - Attend Workshop, June 2009
- Task 2 Total Cost: \$34,793

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TARGET ACTIVITIES FOR QUARTERLY BUDGET PERIODS, BY TASK

TASK 1. Synthesis of ACME field data sets - Florida Fiscal Year 2008/2010

Work Products' Due Dates	Target activities		Anticipated % completion of task
First month of Contract (others as needed)	Teleconference(s) with the Department regarding metadata and data organization		0%
Oct. 1, 2008		Quarterly progress report	30%
Jan. 1, 2009	First draft data set	Quarterly progress report	30%
Apr. 1, 2009	Second draft data set	First draft report	20%
Aug. 1, 2009	Third draft data set	Second draft report	0%
Dec. 1, 2009	Final data set	Final Report	20%

TASK 2. Literature synthesis – Florida Fiscal Year 2008/2009

Work Products' Due Dates	Target activities		Anticipated % completion of task
Oct. 1, 2008	Quarterly progress report		20%
Jan. 1, 2009	Quarterly progress report		30%
Apr. 1, 2009	Quarterly progress report		0%
May 2009	Attend meeting with the Department Tallahassee regarding work products		0%
May 1, 2009	First Draft Report		30%
June 2009	Attend Department Workshop in Florida		0%
July 1, 2009	Quarterly Progress Report		0%
Oct. 1, 2009	Second Draft Report		0%
Dec. 1, 2009	Final Report		20%