

BLM # PAA017025
USGS-BRD # 01HQAG0136
NPS # 1443CA309701200
DOD# DACA87-01-H-0007

**CHESAPEAKE WATERSHED
COOPERATIVE ECOSYSTEM STUDIES UNIT**

COOPERATIVE AGREEMENT

between

**DEPARTMENT OF THE INTERIOR
Bureau of Land Management
U.S. Geological Survey—Biological Resources Division
National Park Service**

**DEPARTMENT OF DEFENSE
Office of the Deputy Under Secretary of Defense
(Installations and Environment)**

and

**THE UNIVERSITY SYSTEM OF MARYLAND (HOST)
(University of Maryland Center for Environmental Science
University of Maryland, College Park
Frostburg State University)**

**George Mason University
Pennsylvania State University
University of the District of Columbia
University of Virginia
Institute of Ecosystem Studies**

ARTICLE I - BACKGROUND AND OBJECTIVES

- A. This Cooperative Agreement (hereinafter called agreement) between the Bureau of Land Management, U.S. Geological Survey–Biological Resources Division, National Park Service, and Department of Defense - Office of the Deputy Under Secretary of Defense (Installations and Environment), (hereinafter called Federal Agencies), and the University System of Maryland and its partner institutions is to establish and maintain the Chesapeake Watershed Cooperative Ecosystem Studies Unit. The Chesapeake Watershed CESU is associated with a national network of CESUs.
- B. The objectives of the Chesapeake Watershed Cooperative Ecosystem Studies Unit (CESU) are to:
- Provide research, technical assistance and education to federal land management, environmental and research agencies and their potential partners;
 - Develop a program of research, technical assistance and education that involves the biological, physical, social, and cultural sciences needed to address resources issues and interdisciplinary problem-solving at multiple scales and in an ecosystem context at the local, regional, and national level; and
 - Place special emphasis on the working collaboration among federal agencies and universities and their related partner institutions.
- C. The Bureau of Land Management (hereinafter called BLM) administers public lands within a framework of numerous laws. The most comprehensive of these is the Federal Land Policy and Management Act of 1976 (FLPMA). All Bureau policies, procedures and management actions must be consistent with FLPMA and the other laws that govern use of the public lands. It is the mission of the Bureau of Land Management to sustain the health, diversity and productivity of the public lands for the use and enjoyment of present and future generations (43 U.S.C. 1701 *et seq.*). In accordance with 43 U.S.C. 1737(b), the BLM is authorized to enter into a cooperative agreement to establish the Chesapeake Watershed CESU to assist in providing research, technical assistance and education.
- D. The U.S. Geological Survey–Biological Resources Division (hereinafter called BRD) works with others to provide scientific understanding and technologies needed to support the sound management and conservation of our Nation's biological resources (Secretarial Order No. 3202). In accordance with 16 U.S.C. 1a-2j, 16 U.S.C. 5933 and Secretarial Order No. 3202, the BRD is authorized to enter into a cooperative agreement to establish the Chesapeake Watershed CESU to assist in providing research, technical assistance and education.

- E. The National Park Service (hereinafter called NPS) is responsible for the management of areas in the National Park System to conserve the scenery, the natural and historic objects, and the wildlife therein and to provide for the enjoyment of the same in such a manner and by such means as will leave them unimpaired for the enjoyment of future generations (16 U.S.C. 1 et seq.). In accordance with 16 U.S.C. 1a-2j and 16 U.S.C. 5933, the NPS is authorized to enter into a cooperative agreement to establish the Chesapeake Watershed CESU to assist in providing research, technical assistance and education.
- F. The Department of Defense (hereinafter called DoD) manages nearly 25 million acres of land, and the natural and cultural resources found there, and for this agreement includes the Office of the Secretary of Defense, the Military Services, the Defense Logistics Agency, the National Guard Bureaus, and the Military Reserve Components. DoD's primary mission is national defense. DoD's conservation program supports this mission by ensuring realistic training areas, and managing its resources in ways that maximize available land, air, and water training opportunities. DoD environmental stewardship activities are authorized under the Sikes Act, as amended. In accordance with 16 U.S.C. 670, as amended, the DoD is authorized to enter into a cooperative agreement to establish the Chesapeake Watershed CESU to assist in providing research, technical assistance, and education.
- G. The University System of Maryland (USM) (hereinafter called Host University) participates in the Chesapeake Watershed CESU through three USM institutions: the University of Maryland Center for Environmental Science (UMCES), the University of Maryland College Park (UMCP), and Frostburg State University (FSU). UMCES serves as the administrative lead for the Host University. UMCES advances knowledge through scientific discovery, integration, application, and teaching, all leading toward a holistic understanding of our environmental and natural resources. UMCP is a public research university, sharing research, educational, and technological strengths with other institutions in the USM throughout the state, and is the original land-grant institution in Maryland. FSU serves as a premiere educational, economic, and cultural center for Western Maryland. Through inter-institutional collaboration, combined with the unique contributions of each constituent institution, the USM strives to contribute substantially to the cultural, economic, environmental, scientific, social and technological advancement of Maryland and the nation.
- H. The partner institutions to the Host University include George Mason University, Pennsylvania State University, University of the District of Columbia, University of Virginia, and the Baltimore Long-Term Ecological Research (LTER) Project represented by the Institute of Ecosystem Studies.

ARTICLE II - STATEMENT OF WORK

A. Each Federal Agency agrees to:

1. Provide administrative assistance, as appropriate, necessary to execute this agreement and subsequent modifications;
2. Conduct, with the Host University and Partner Institutions, a program of research, technical assistance and education related to the Chesapeake Watershed CESU objectives to the extent allowed by each Federal Agencies' authorizing legislation;
3. Provide opportunities for research on federal lands or using federal facilities in cooperation with Federal Agencies, as appropriate, and according to all applicable laws, regulations and Federal Agencies' policies;
4. Provide funds for basic support and salary for participating Host University and Partner Institution faculty, as appropriate;
5. Provide project funds and/or collaboration to support specific research, technical assistance and education projects, as appropriate;
6. Make available managers to serve on the Chesapeake Watershed CESU Manager's Committee;
7. Comply with the Host University's and Partner Institutions' rules, regulations, and policies regarding professional conduct, health, safety, use of services and facilities, use of animals, recombinant DNA, infectious agents or radioactive substances, as well as other policies generally applied to Host University and Partner Institution personnel;
8. Ensure its employees follow the Code of Ethics for Government Employees;
9. Allow Federal Agency employees to participate in the activities of the Host University and Partner Institutions, including serving on graduate committees and teaching courses, as appropriate, and as specifically determined in modifications to the agreement; and
10. Be individually responsible for their agency's role in administering the agreement, transferring funds, and supervision of agency employees, as appropriate.

B. The Host University agrees to:

1. Establish, in consultation with the Federal Agencies and Partner Institutions, the Chesapeake Watershed CESU;
2. Conduct, with participating Federal Agencies and Partner Institutions, a program of research, technical assistance and education related to the Chesapeake Watershed CESU objectives;
3. Allow and encourage faculty to engage in participating Federal Agencies' research, technical assistance and education activities related to the Chesapeake Watershed CESU objectives, as appropriate;
4. Provide basic administrative and clerical support as appropriate;
5. Provide access for Chesapeake Watershed CESU staff to campus facilities, including library, laboratories, computer facilities on the same basis or costs as other faculty members of the Host University to the maximum extent allowable under state laws and regulations;

6. Provide suitable office space, furniture and laboratory space, utilities, computer network access and basic telephone service for Federal Agencies personnel to be located at the Host University, as appropriate;
7. Offer educational and training opportunities to participating Federal Agency employees, as appropriate;
8. Encourage its students to participate in the activities of the Chesapeake Watershed CESU;
9. Coordinate activities, as appropriate, with the Partner Institutions and develop administrative policies for such coordination; and
10. Establish a Chesapeake Watershed CESU Manager's Committee and convene a meeting of this committee, at least annually, to provide advice and guidance, review of the annual work and multi-year strategic plans, and assist in evaluating the Chesapeake Watershed CESU.

C. Each Partner Institution agrees to:

1. Conduct, with participating Federal Agencies and the Host University, a program of research, technical assistance, and education related to the Chesapeake Watershed CESU objectives and allow and encourage faculty to participate in the program as appropriate;
2. Offer educational and training opportunities to participating Federal Agency employees, as appropriate; and
3. Encourage students and employees to participate in the activities of the Chesapeake Watershed CESU.

D. All Federal Agencies, the Host University and Partner Institutions agree to:

1. Establish and maintain the Chesapeake Watershed CESU closely following the CESU Introduction (June 1999), adapting key elements to local and regional needs, as appropriate;
2. Develop and adopt a Chesapeake Watershed CESU role and mission statement;
3. Develop a multi-year strategic plan;
4. Make modifications, as appropriate, to this agreement that individually include a specific "scope of work" statement and a brief explanation of the following:
 - (a) the proposed work and what is being modified in the agreement;
 - (b) the project contribution to the objectives of the CESU;
 - (c) the methodology of the project;
 - (d) the substantial involvement of each party;
 - (e) the project budget and schedule;
 - (f) the specific deliverables;
5. Coordinate in obtaining all necessary state, federal, and tribal permits and/or permissions from private landowners in order to conduct projects occurring under this agreement;
6. Follow OMB Circulars A-21, A-87, A-102, A-110, A-122, and A-133, as appropriate, and specifically 43 CFR Part 12 (Department of the Interior), and 22 CFR Part 518 (Department of Defense).

ARTICLE III – TERMS OF AGREEMENT

- A. This agreement shall continue for a period of five (5) years from the effective date of execution. The effective date of this agreement shall be determined from the date of the last signature.
- B. By mutual consent and at the end of this agreement, a new agreement, for a separate and distinct five (5) year period, can be entered into to continue the activities of the Chesapeake Watershed CESU.
- C. For the purposes of this agreement, amendments are changes (edits, deletions, or additions) to the agreement that do not involve the transfer of funds. Amendments may be proposed by any of the Federal Agencies, the Host University or by the Host University on behalf of any of the Partner Institutions. Amendments shall be in writing, signed and agreed to by all signatories to this agreement.
- D. For the purposes of this agreement, modifications are specific two-party agreements between one of the Federal Agencies and the Host University and/or a Partner Institution in support of the goals of this broad agreement. Modifications will be issued by a Federal Agency, will transfer funds to support the statement of work, and will conform to each Federal Agency's respective procedures.
- E. A separate interagency agreement is required to facilitate transfer of funds from one federal agency to another federal agency.

ARTICLE IV - KEY OFFICIALS

- A. The technical representatives for the Federal Agencies are as follows:

- 1. Bureau of Land Management

- Geoffrey Walsh
 - Bureau of Land Management
 - Eastern States Office
 - 7450 Boston Boulevard
 - Springfield, VA 22153
 - Phone: (703) 440-1668
 - Fax: (703) 440-1551
 - gwalsh@es.blm.gov

- 2. U.S. Geological Survey-Biological Resources Division

- R. Michael Erwin
 - U.S. Geological Survey, Patuxent Wildlife Research Center
 - Clark Hall, Department of Environmental Sciences
 - University of Virginia
 - Charlottesville, VA 22903
 - Phone: (804) 924-3207
 - Fax: (804)982-2137
 - rme5g@virginia.edu

3. National Park Service

James L. Sherald
Chief of Natural Resources and Science
National Capital Region
National Park Service
4598 MacArthur Boulevard, NW
Washington, DC 20007-4227
Phone: (202) 342-1443 x 208
Fax: (202) 282-1031
jim_sherald@nps.gov

4. Department of Defense

Glenn P. Markwith
DOD Chesapeake Bay Program Coordinator
Navy Public Works Center, Code 910
9742 Maryland Avenue
Norfolk, VA 23511
Phone: (757)444-3009, ext 386
Fax: (757)444-3000
markwithgp@pwcnorva.navy.mil

B. The technical representative for the Host University is:

Dr. Louis F. Pitelka, Director
Appalachian Laboratory
University of Maryland Center for Environmental Science
301 Braddock Road
Frostburg, MD 21532
Phone: 301-689-7101
Fax: 301-689-7200
pitelka@al.umces.edu

C. The technical representatives for the Partner Institutions are:

1. George Mason University

Dr. George Taylor
Biology Department
George Mason University
Fairfax, VA 22030
Phone: 703-993-4443
Fax: 703-993-1046
gtaylor@wpgate.gmu.edu

2. Pennsylvania State University
Dr. Larry A. Nielsen, Director
School of Forest Resources
The Pennsylvania State University
113 Ferguson Building
University Park, PA 16802
Phone: (814) 863-7093
Fax: (814) 865-3725
lan3@psu.edu

3. University of the District of Columbia
Dr. Gloria S. Wyche-Moore
Agricultural Experiment Station, Bldg. 52
Room 322D
University of the District of Columbia
4200 Connecticut Ave., N.W.
Washington, DC 20008
Phone: 202-274-7118 or 7124
Fax: 202-274-7119
GloriaW268@aol.com

4. University of Virginia
Dr. James N. Galloway
Department of Environmental Sciences
Clark Hall
University of Virginia
Charlottesville, VA 22903
Phone: (804) 924-1303 or 7761 (general)
Fax: (804) 982-2137
jng@virginia.edu

5. Baltimore LTER / Institute of Ecosystem Studies
Dr. Steward Pickett
Institute of Ecosystem Studies
P.O. Box AB
Millbrook, NY 12545-0129
Phone: 845-677-5343
Fax: 845-677-5976
picketts@ecostudies.org

ARTICLE V – AWARD

- A. Award under this agreement is as specified in the incorporated proposal and budget (Article XI 1. and 2.).
- B. Upon signature of all parties and upon satisfactory submission of a budget from the Host University, the Federal Agencies will obligate funds as follows:

Bureau of Land Management

\$10,000 is awarded to the Host University to carry out this agreement.

U.S. Geological Survey–Biological Resources Division

\$10,000 is awarded to the Host University to carry out this agreement.

National Park Service

\$10,000 is awarded to the Host University to carry out this agreement.

Department of Defense (represented by the U.S. Army Engineer and Support Center, Huntsville)

\$10,000 is awarded to the Host University to carry out this agreement.

- C. Payments will be made by the Federal Agencies for work in accordance with OMB Circulars A-21, A-110, A-87, A-102, A-122, A-133, and specifically, 43 CFR Part 12 (Department of the Interior) and 22 CFR 518.20-28 (Department of Defense).
- D. A 15% indirect cost rate will be paid on work covered by the agreement and all its modifications.

No indirect cost will be charged by the Host University for funds transferred directly from a participating Federal Agency to a Partner Institution via a modification to the agreement.

- E. Award of additional funds or in-kind resources will be made through modifications to the agreement subject to the rules, regulations, and policies of the individual Federal Agency proposing the modification. Copies of all modifications to the agreement shall be kept on file with the Host University.
- F. Nothing herein shall be construed as obligating the Federal Agencies to expend, or as involving the Federal Agencies in any contract or other obligation for the future payment of money, in excess of appropriations authorized by law and administratively allocated for specific work.

ARTICLE VI - PRIOR APPROVAL

Prior approvals are in accordance with OMB Circulars A-110 or A-102, specifically 43 CFR Part 12 (Department of the Interior), and 22 CFR Part 518 (Department of Defense).

ARTICLE VII - REPORTS AND/OR DELIVERABLES

- A. OMB Circulars A-110 or A-102, specifically 43 CFR Part 12 (Department of the Interior), and 22 CFR Part 518.50-53 (Department of Defense) establish uniform reporting procedures for financial and technical reporting.
- B. As appropriate, the Host University will convene periodic meetings of Chesapeake Watershed CESU Federal Agencies and Partner Institutions for the purpose of collaboration and coordination of CESU activities. The first meeting will be convened within 90 days from the date this agreement is executed. Five (5) copies of the meeting minutes will be delivered to each Federal Agency.
- C. A role and mission statement for the Chesapeake Watershed CESU will be prepared, adopted and agreed to by all CESU Federal Agencies and Partner Institutions within 120 days from the date this agreement is executed. Five (5) copies of the adopted mission statement will be delivered to each Federal Agency.
- D. Annual work plans will be developed to guide the specific activities of the Chesapeake Watershed CESU and will:
1. Describe the Chesapeake Watershed CESU's ongoing and proposed research, technical assistance and education activities;
 2. Describe anticipated projects and products; and
 3. Identify faculty, staff and students involved in the Chesapeake Watershed CESU during the year.
- The first annual work plan (for FY2002) will be delivered 120 days from the date this agreement is executed. Five (5) copies of the annual work plan will be delivered to each Federal Agency.
- E. A multi-year strategic plan will be developed to generally guide the Chesapeake Watershed CESU and will be delivered within 12 months from the date this agreement is executed. Five (5) copies of the multi-year strategic plan will be delivered to each Federal Agency.

ARTICLE VIII - PROPERTY UTILIZATION AND DISPOSITION

Property utilization and disposition is in accordance with OMB Circulars A-110 or A-102, specifically 43 CFR Part 12 (Department of the Interior), and 22 CFR 518.31-37 (Department of Defense) .

ARTICLE IX - TERMINATION

Termination of this agreement is in accordance with OMB Circulars A-110 or A-102, specifically 43 CFR Part 12 (Department of the Interior), and 22 CFR 518.60-62 (Department of Defense) and requires approval of each of the Federal Agencies and the Host University.

ARTICLE X – REQUIRED/SPECIAL PROVISIONS

A. REQUIRED PROVISIONS:

1. **NON-DISCRIMINATION:** All activities pursuant to this agreement and the provisions of Executive Order 11246; shall be in compliance with requirements of Title VI of the Civil Rights Act of 1964 (78 Stat. 252 42 U.S.C. § 2000d et seq.); Title V, Section 504 of the Rehabilitation Act of 1973 (87 Stat. 394; 29 U.S.C. § 794); the Age Discrimination Act of 1975 (89 Stat. 728; 42 U.S.C. § 6101 et seq.); and with all other Federal laws and regulations prohibiting discrimination on grounds of race, color, national origin, handicap, religious or sex in providing of facilities and service to the public.
2. **CONSISTENCY WITH PUBLIC LAWS:** Nothing herein contained shall be deemed to be inconsistent with or contrary to the purpose of or intent of any Act of Congress establishing, affecting, or relating to the agreement.
3. **APPROPRIATIONS (Anti-Deficiency Act, 31 U.S.C. 1341):** Nothing herein contained in this agreement shall be construed as binding the Federal Agencies to expend in any one fiscal year any sum in excess of appropriations made by Congress, for the purposes of this agreement for that fiscal year, or other obligation for the further expenditure of money in excess of such appropriations.
4. **OFFICIALS NOT TO BENEFIT:** No Member of, Delegate to, Resident Commissioner in, Congress shall be admitted to any share or part of this agreement or to any benefit to arise therefrom, unless the share or part benefit is for the general benefit of a corporation or company.
5. **LOBBYING PROHIBITION:** The parties will abide by the provisions of 18 U.S.C. 1913 (Lobbying with Appropriated Moneys), which states:

No part of the money appropriated by any enactment of Congress shall, in the absence of express authorization by Congress, be used directly or indirectly to pay for any personal service, advertisement, telegram, telephone, letter, printed or written matter, or other device, intended or designed to influence in any manner a Member of Congress, to favor or oppose, by vote or otherwise, any legislation or appropriation by Congress, whether before or after the introduction of any bill or resolution proposing such legislation or appropriation: but this shall not prevent officers or employees of the United States or of its departments or agencies from communicating to Members of Congress on the request of any Member or to Congress, through the proper official channels, requests for legislation or appropriations which they deem necessary for the efficient conduct of the public business.

6. LIABILITY PROVISION:

Governmental Parties

The Federal Agencies, Host University and Partner Institutions which are governmental parties, accept responsibility for any property damage, injury, or death caused by the acts or omissions of their respective employees, acting within the scope of their employment, to the fullest extent permitted by law, including laws concerning self-insurance.

To the extent work by governmental parties is to be performed through sub-contract by non-governmental entities or persons, the governmental party sub-contracting work will require that subcontracted entity or person to meet provisions (a),(b), and (c) for non-governmental parties stated below.

Non-governmental Parties

Work provided by non-governmental entities or persons, will require that entity or person to:

- (a) Have public and employee liability insurance from a responsible company or companies with a minimum limitation of one million dollars (\$1,000,000) per person for any one claim, and an aggregate limitation of three million dollars (\$3,000,000) for any number of claims arising from anyone incident. In subsequent modifications, the parties may negotiate different levels of liability coverage, as appropriate. The policies shall name the United States as an additional insured, shall specify that the insured shall have no right of subrogation against the United States for payments of any premiums or deductibles due thereunder, and shall specify that the insurance shall be assumed by, be for the account of, and be at the insured's sole risk; and
- (b) Pay the United States the full value for all damages to the lands or other property of the United States caused by such person or organization, its representatives, or employees; and
- (c) Indemnify, save and hold harmless, and defend the United States against all fines, claims, damages, losses, judgments, and expenses arising out of, or from, any omission or activity of such person organization, its representatives, or employees.

Non-governmental Partner Institutions shall provide the Federal Agencies confirmation of such insurance coverage, prior to beginning specific work authorized herein and specified in subsequent modifications.

B. SPECIAL PROVISIONS:

1. Joint publication of results is encouraged; however, no party will publish any results of joint effort without consulting the other. This is not to be construed as applying to popular publication of previously published technical matter. Publication may be joint or independent as may be agreed upon, always giving due credit to the cooperation of participating Federal Agencies, the Host University, and Partner Institutions, and recognizing within proper limits the rights of individuals doing the work. In the case of failure to agree as to the manner of publication or interpretation of results, either party may publish data after due notice (not to exceed 60 days) and submission of the proposed manuscripts to the other. In such instances, the party publishing the data will give due credit to the cooperation but assume full responsibility of any statements on which there is a difference of opinion. Federal agencies reserve the right to issue a disclaimer if such a disclaimer is determined to be appropriate.

2. The results of any cooperative studies may be used in developing theses in partial fulfillment of requirements for advanced degrees and nothing herein shall delay publication of theses.
3. Individual modifications shall include specific plans for data management, sharing, and archiving, as appropriate.

ARTICLE XI – DOCUMENTS INCORPORATED BY REFERENCE

- A. The following are to be incorporated into this agreement:
 1. Budget for funds awarded in this agreement
 2. Chesapeake Watershed CESU Proposal
 3. DI-2010, Certifications for the Host University and Partner Institutions regarding debarment, suspension and other responsibility matter, drug-free workplace requirements and lobbying.

ARTICLE XII - ATTACHMENTS

- A. The following are attached:
 1. ATTACHMENT 1 – Financial Status Report, SF 269A
 2. ATTACHMENT 2 – Request for Advance or Reimbursement, SF 270
 3. ATTACHMENT 3 – ACH Payment, SF3881
 4. ATTACHMENT 4 – Example Modification Template

ARTICLE XIII - AUTHORIZING SIGNATURES

The following authorizing signatures are attached:

U.S. DEPARTMENT OF THE INTERIOR

- A. Bureau of Land Management
- B. U.S. Geological Survey – Biological Resources Division
- C. National Park Service

U.S. DEPARTMENT OF DEFENSE

- D. Office of the Deputy Under Secretary of Defense (Installations and Environment)
U.S. Army Engineer and Support Center, Huntsville (Representing ODUSD)

E. THE UNIVERSITY SYSTEM OF MARYLAND

1. University of Maryland Center for Environmental Science
2. University of Maryland, College Park
3. Frostburg State University

F. George Mason University

G. Pennsylvania State University

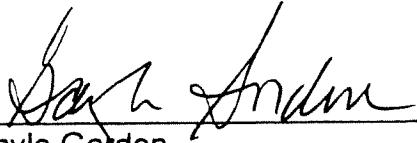
H. University of the District of Columbia

I. University of Virginia

- J. Institute of Ecosystem Studies representing the Baltimore Long-Term Ecological Research Project

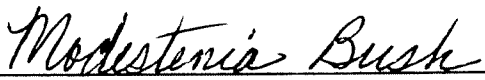
ARTICLE XIII - AUTHORIZING SIGNATURES (cont.)

A. Bureau of Land Management



Gayle Gordon
State Director

8/1/01
Date

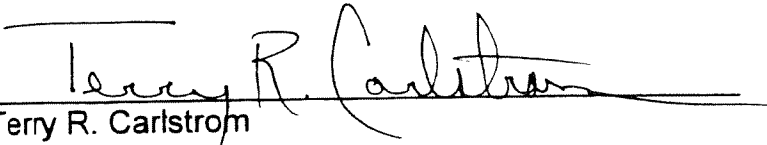


Modestenia Bush
Assistance Officer

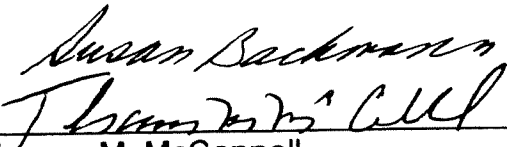
8/3/01
Date

ARTICLE XIII - AUTHORIZING SIGNATURES (cont.)

C. National Park Service


Terry R. Carlstrom
Regional Director
National Capital Region


7/31/01
Date


Thomas M. McConnell
Contracting Officer
National Capital Region

7/31/01
7/31/01
Date

ARTICLE XIII - AUTHORIZING SIGNATURES (cont.)

D. Department of Defense - Office of the Deputy Under Secretary of Defense
(Installations and Environment)

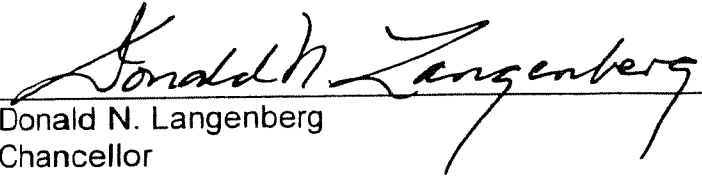


Emily D. Durham (Representing ODUSD (I&E))
Contracting Officer
U.S. Army Engineer and Support Center, Huntsville

6 Aug 01
Date

ARTICLE XIII - AUTHORIZING SIGNATURES (cont.)

E. The University System of Maryland



Donald N. Langenberg
Chancellor

7/11/01
Date

E.1. University of Maryland Center for Environmental Science

Dr. Donald F. Boesch
President

Date

E.2. University of Maryland, College Park

Erica Kropp
Director, Office of Research Administration and Advancement

Date

E.3. Frostburg State University

Dr. Catherine R. Gira
President

Date


ARTICLE XIII - AUTHORIZING SIGNATURES (cont.)

E. The University System of Maryland

Donald N. Langenberg
Chancellor

Date

E.1. University of Maryland Center for Environmental Science



Dr. Donald F. Boesch
President

7/12/01

Date

E.2. University of Maryland, College Park

Erica Kropp
Director, Office of Research Administration and Advancement

Date

E.3. Frostburg State University

Dr. Catherine R. Gira
President

Date

ARTICLE XIII - AUTHORIZING SIGNATURES (cont.)

E. The University System of Maryland

Donald N. Langenberg
Chancellor

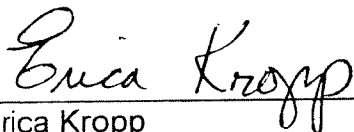
Date

E.1. University of Maryland Center for Environmental Science

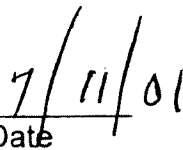
Dr. Donald F. Boesch
President

Date

E.2. University of Maryland, College Park



Erica Kropp
Director, Office of Research Administration and Advancement



Date

E.3. Frostburg State University

Dr. Catherine R. Gira
President

Date

ARTICLE XIII - AUTHORIZING SIGNATURES (cont.)

E. The University System of Maryland

Donald N. Langenberg
Chancellor

Date

E.1. University of Maryland Center for Environmental Science

Dr. Donald F. Boesch
President

Date

E.2. University of Maryland, College Park

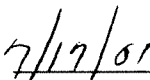
Erica Kropp
Director, Office of Research Administration and Advancement

Date

E.3. Frostburg State University



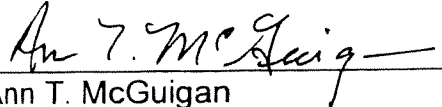
Dr. Catherine R. Gira
President



Date

ARTICLE XIII - AUTHORIZING SIGNATURES (cont.)

F. George Mason University



Ann T. McGuigan
Director, Office of Sponsored Programs

7/12/01
Date

ARTICLE XIII - AUTHORIZING SIGNATURES (cont.)

G. Pennsylvania State University

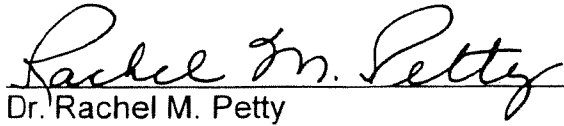


Robert Killoren
Assistant Vice President for Research

7/25/01
Date

ARTICLE XIII - AUTHORIZING SIGNATURES (cont.)

H. University of the District of Columbia



Dr. Rachel M. Petty
Vice President for Academic Affairs

7/20/01
Date

ARTICLE XIII - AUTHORIZING SIGNATURES (cont.)

I. University of Virginia

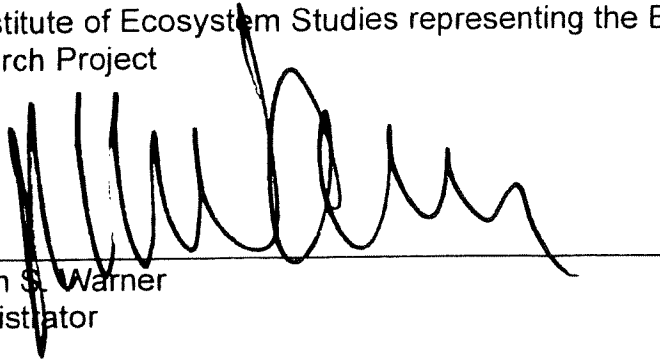


Michael G. Glasgow
Director, Office of Sponsored Programs

7/18/01
Date

ARTICLE XIII - AUTHORIZING SIGNATURES (cont.)

J. Institute of Ecosystem Studies representing the Baltimore Long-Term Ecological Research Project



Joseph S. Warner
Administrator

July 13, 2001
Date