Project #: G-32-801  Cost share #: :  
Center #: 10/31-6-T5421-0A0  Center shr #: :  
Contract#: RH229-073/5199763  Mod #: ADMIN.  
Prime #: S164820010  
Subprojects #: N  
Main project #: :  
Project unit: BIOLOGY  Unit code: 02.010.134  
Project director(s): DUNN E L  

Sponsor/division names: UNIVERSITY OF GEORGIA / ATHENS, GA  
Sponsor/division codes: 400 / 009  
Award period: 930303 to 940930 (performance) 940930 (reports)  
Sponsor amount  New this change  Total to date  
Contract value  0.00  22,611.00  
Funded  0.00  22,611.00  
Cost sharing amount  0.00  
Does subcontracting plan apply #: N  
Title: EISENHOWER PROGRAM: ENVIRONMENTAL EDUCATION-ECOLOGY OF THE CHATTAHOOCHEE-...  

PROJECT ADMINISTRATION DATA  
OCA contact: Ina R. Lashley 894-4820  
Sponsor technical contact  
MS. PHYLLIS BRANNON  
(404)241-4043  
UNIVERSITY OF GEORGIA  
SCHOOL OF TEACHER EDUCATION  
315 ADERHOLD HALL  
ATHENS, GA 30602-7121  
Security class (U,C,S,TS) : U  
Defense priority rating : N/A  
Equipment title vests with: Sponsor GIT  
Administrative comments -  
ADMIN MOD TO UPDATE BUDGET TO REFLECT THE LAST "RESTRUCTURED" BUDGET SUBMITTED TO UGA ON 10/11/94.
GEORGIA INSTITUTE OF TECHNOLOGY
OFFICE OF CONTRACT ADMINISTRATION

NOTICE OF PROJECT CLOSEOUT

Classout Notice Date 01/05/95

Project No. 0-32-801
Project Director DUNN E L
Center No. 10/31-6-T5421-0A0
School/Lab BIOLOGY
Sponsor UNIVERSITY OF GEORGIA/ATHENS, GA
Contract/Grant No. RH229-073/5199763
Contract Entity GTRC
Prime Contract No. S164B20010
Title EISENHOWER PROGRAM: ENVIRONMENTAL EDUCATION-ECOLOGY OF THE CHATTAHOOCHEE-
Effective Completion Date 940930 (Performance) 940930 (Reports)

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<tr>
<td>Final Invoice or Copy of Final Invoice</td>
<td>Y ___</td>
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<tr>
<td>Final Report of Inventions and/or Subcontracts</td>
<td>Y ___</td>
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<td>Government Property Inventory &amp; Related Certificate</td>
<td>Y ___</td>
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<tr>
<td>Classified Material Certificate</td>
<td>N ___</td>
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<td>Release and Assignment</td>
<td>N ___</td>
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<tr>
<td>Other</td>
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<tr>
<td>Comments</td>
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Subproject Under Main Project No. ______________
Continues Project No. ______________

Distribution Required:

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<tbody>
<tr>
<td>Project Director</td>
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<tr>
<td>Administrative Network Representative</td>
<td>Y</td>
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<tr>
<td>GTRI Accounting/Grants and Contracts</td>
<td>Y</td>
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<tr>
<td>Procurement/Supply Services</td>
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<td>Research Property Management</td>
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<tr>
<td>Research Security Services</td>
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</tr>
<tr>
<td>Reports Coordinator (OCA)</td>
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<tr>
<td>GTRC</td>
<td>Y</td>
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<tr>
<td>Project File</td>
<td>Y</td>
</tr>
<tr>
<td>Other</td>
<td>N</td>
</tr>
</tbody>
</table>

NOTE: Final Patent Questionnaire sent to PDPI.
1. Name of Project Director: Dr. E. Lloyd Dunn
   Department: School of Biology
   Georgia Institute of Technology

2. Institution: Environmental Education: Ecology of the Chattahoochee River System

3. Name of Project: Environmental Education: Ecology of the Chattahoochee River System

4. Type of Project: C (Please circle one)


6. Summary Description - attach only if substantially different from Abstract in proposal

   SAME AS ABSTRACT

7. Names of School Systems Involved (if applicable)

   Marietta City
   DeKalb County
   Fulton County
   Atlanta City
   Inner Harbour Hospital
   Devereux Foundation (GA)

8. Support for Project - Resources, Inkind, and Financial - from sources other than Eisenhower Higher Education

   Source
   Type of Amount of Support
   GA Tech, School of Biology
   $500, Supplies & Travel
   ____________________________
   ____________________________
9. Results of Project (e.g., impact on teachers, curriculum, products). This has been requested by the Board of Regents. We will accept your judgement and relay it to the Regents in a report available to the public. Report on separate sheet if necessary (200-300 words would seem sufficient)

The teachers in the class were middle and high school teachers in the Atlanta metro area. They improved their understanding of basic ecological concepts and environmental issues, especially in the critically important areas relating to the water resources, ecology and human impacts on the entire Chattahoochee-Flint-Apalachicola Rivers and their watershed ecosystems including the Apalachicola Bay Estuary. They were exposed to enhanced methods with "hands-on" experience for training students in grades 7-12 in basic ecology and the application of these concepts to environmental issues, especially in local aquatic ecosystems. They met representatives from several local, state, and federal agencies, conservation groups, and universities and visited many field sites: all resources that are available for class field trips and class enrichment. They also developed or improved skills for collection of field samples and data and computer aided data processing and data presentation, and they improved skills for analytical problem solving in science and mathematics. They reviewed energy and nutrient flow through ecosystems and the effects of various pollutants on aquatic ecosystems. They learned to use field methods for measuring various parameters within lake and stream ecosystems, and how to analyze, interpret and present the data collected. A significant amount of class time was spent defining real-world problems and developing the analytical math and science techniques to solve these problems. Various sites along the rivers were visited through the field trips, and the students kept extensive records of observations, data collected and the directions for locating and using the sites with their own students. The overall goal was for the participants to apply their knowledge of ecological principles to the interpretation of their collected data as they attempted to understand the importance of the streams, rivers and lakes to the states bordering them and to the Apalachicola Bay Estuary into which they empty. Considerable attention was given to the historical uses and conditions of the aquatic ecosystems and to prediction of the future conditions based on current data and trends.

Participants learned to view the entire system and began to understand some of the important interrelationships among its various parts. They began to see that environmental impacts on the rivers in one area may have significant short and/or long term effects in other areas, and they have begun to incorporate these ideas and techniques into their teaching.
PROJECT DIRECTOR'S REPORT - FEDERAL FORM

Project Number E4-SD1
(for office use only)

Attachment 1 - Project Directors

DWIGHT D. EISENHOWER MATHEMATICS AND SCIENCE EDUCATION IMPROVEMENT PROGRAM
HIGHER EDUCATION GRANT
Project Profile
(To be Completed by the Project Director and Submitted with the Final Report)

Project Title Environmental Education: Ecology of the Chattahoochee River System
Dr. E. Lloyd Dunn

Project Director
Georgia Institute of Technology

Institution(s)

Information About Your Project: (Check all that apply)

1. Subject Area: Math ___ Science ✓ Math/Science ___
   Other ___ (Specify) ___

2. Grade Level: Elementary ___ Middle ✓ Secondary ✓
   Postsecondary ___

3. Training was Provided by Faculty From:
   Schools/Colleges of Education 1
   Schools/Colleges of Art & Science 2
   K-12 Schools ___

4. Average Contact Hours Per Participant: 50 (e.g., 45 or 20 hours)

5. Type and Amount of Credit Awarded to Participants:
   Amount
   Graduate Credit 1 2 Quarter Hours
   Undergrad. Credit 4 3 "
   Recertification, Renewal, or Inservice Credit 6 5 SPD.
   Non-credit 4 0

6. Project Funding Amount (include in-kind Support) from:
   Eisenhower ___ Local Schools ___ Other 6,500
   GA Tech School of Biology Supplies; Travel
7. Public School Districts (LEAs) Represented By Participants: (list names of LEAs below or attach a list)

Marietta City
DeKalb County
Fulton County
Atlanta City

8. Private Schools Represented By Participants: (list names of schools below or attach a list)

Inner Harbour Hospital
Devereux Foundation (Ga.)

9. Institutions of Higher Education Involved in the Project:

Name of Institution | Type of Institution*
-------------------|---------------------
Georgia Tech       | Public - 4-year

* Use the following designation: Public 4-year, Private 4-year,
Public 2-year, Private 2-year

10. Number of Other Agencies Involved in the Project:

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private Industry</td>
<td>1</td>
</tr>
<tr>
<td>Museums</td>
<td>1</td>
</tr>
<tr>
<td>Libraries</td>
<td></td>
</tr>
<tr>
<td>Educational TV Channels</td>
<td></td>
</tr>
<tr>
<td>Professional Societies</td>
<td></td>
</tr>
<tr>
<td>State Agencies</td>
<td></td>
</tr>
<tr>
<td>Other (describe) Fed. Agencies</td>
<td>2</td>
</tr>
<tr>
<td>Conservation Groups</td>
<td>3</td>
</tr>
</tbody>
</table>

11. Total Number of Teachers Participating in the Project: 6
(include all educational personnel such as supervisors, principals, etc.)
12. List the number of teacher participants by Gender, Ethnicity, Position, Certification Status, and Type of School:

<table>
<thead>
<tr>
<th>Gender</th>
<th>Male</th>
<th>Female</th>
<th>Not Reported</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>5</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Black</td>
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<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classroom teachers</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supervisors/Coordinators</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Principals</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preservice teachers</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public School Personnel</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private School Personnel</td>
<td>2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

13. Total Number of Students Indirectly Served Through This Project: 385
   (Include here all students of teachers who participated in the project)

14. List the number of Indirect Student Participants by the Following Categories:

<table>
<thead>
<tr>
<th>Gender</th>
<th>Male</th>
<th>Female</th>
<th>Not Reported</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>119</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Black</td>
<td>253</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Hispanic</td>
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</tr>
<tr>
<td>Asian</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gifted and Talented</td>
<td>73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Migrant</td>
<td>22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Economically Disadvantaged</td>
<td>112</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Handicapped</td>
<td>24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limited English Proficient</td>
<td>278</td>
<td></td>
<td></td>
</tr>
<tr>
<td>**Urban</td>
<td>49</td>
<td></td>
<td></td>
</tr>
<tr>
<td>***Suburban</td>
<td>335</td>
<td></td>
<td></td>
</tr>
<tr>
<td>****Sparsely Populated (and small city)</td>
<td>6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

15. Total Number of Students Directly Participating in the Project: 0

16. List the Number of Direct Student Participants by the Following Categories:

<table>
<thead>
<tr>
<th>Gender</th>
<th>Male</th>
<th>Female</th>
<th>Not Reported</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>119</td>
<td>2</td>
<td>1</td>
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<tr>
<td>Black</td>
<td>253</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Hispanic</td>
<td>5</td>
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</tr>
<tr>
<td>Asian</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gifted and Talented</td>
<td>73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Migrant</td>
<td>22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Economically Disadvantaged</td>
<td>112</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Handicapped</td>
<td>24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limited English Proficient</td>
<td>278</td>
<td></td>
<td></td>
</tr>
<tr>
<td>**Urban</td>
<td>49</td>
<td></td>
<td></td>
</tr>
<tr>
<td>***Suburban</td>
<td>335</td>
<td></td>
<td></td>
</tr>
<tr>
<td>****Sparsely Populated (and small city)</td>
<td>6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

N.A.
17. Did you collect data on student outcomes in this project?  
   Yes  No
   N.A.

18. Did you collect Data on teacher outcomes in this project?  
   Yes  No
   N.A.

20. Using data from 17, 18, and other sources, indicate project objectives and provide information and your assessment of the attainment of project objectives (use space provided below)

   N.A.

Use you state’s commonly used definitions of terms in the profile. If you need guidance, the following definitions are suggested:

*Students eligible for free or reduced-cost lunches.

**Students attending a school located in a community with a population of 50,000 or larger.

***Students attending a school located in a community with a population of 2,500 to 50,000.

****Students attending a school located in a community with a population less than 2,500.
TEACHER PARTICIPANT QUESTIONNAIRE - GEORGIA FORM
EISENHOWER HIGHER EDUCATION PROGRAM

1. Date: April, 1993 - Sept. 30, 1994

2. Name of Institution: Georgia Institute of Technology

3. Name of Project: Environmental Education: Ecology of the Chattahoochee River System

4. Number of Years of Teaching Experience: Range 1-25; Mean 10.5

5. With regard to your professional development this project was of:
   Considerable Value
   Some Value
   Little or No Value

6. Please complete the Federally required form: Attachment - 2 Participating Teacher - you can and should make estimates of the requested numerical data.

7. Comments:
Attachment 2 - Participating Teachers

DWIGHT D. EISENHOWER MATHEMATICS AND SCIENCE EDUCATION IMPROVEMENT PROGRAM

HIGHER EDUCATION GRANT PROGRAM

Participant Profile - Teachers and Other Educational Personnel

(To be Completed by Participating Teacher [or other educational personnel] and submitted to the Project Director)

Title of Project:   Environmental Education: Ecology of the Chattahoochee River System

Sponsoring Organization:   Georgia Institute of Technology

To the Participant: The following information is needed so that we can complete a federal report on our project and its participants. All information will be kept strictly confidential.

Please provide the following information about yourself:

Gender       Male       Female

Ethnicity:    American Indian       Asian       Black
              Hispanic       White       Other       Specify

Are you Certified or Endorsed in the Subject Area of this Project?

Certified:    Yes       No
              Endorsed: Yes       No

Current Position: Classroom Teacher       Supervisor/Coordinator

Principal       Preservice Teacher       Other

School Where you Currently Teach:

School District (LEA):

Location of Your School:

Urban**       Suburban***       Sparsely Populated ****
Please provide the following information about the students you currently teach (or will be teaching in the coming year) in the subject area covered in the project:

Total Number of Students You Teach in this Subject Area: 385

Number of Students of Each Gender: Male 202 Female 183

Number of Students of Each Ethnicity: Amer. Indian 2 Asian 6
Black 253 Hispanic 5 White 119 Other

Number of Students Who Are From the Following Groups/Area:
- Gifted and Talented: 73
- Migrants: 72
- Economically Disadvantaged*: 112
- Limited English Proficient: 24
- Handicapped: 34
- Urban**: 335
- Suburban***: 14
- Sparsely Populated****: 

Use your state’s commonly used definitions of the above terms. If you need guidance, the following definitions are suggested:

* Students eligible for free or reduced-cost lunch.

** Student attending a school located in a community with a population of 50,000 or larger.

*** Student attending a school located in a community with a population of 2,500 to 50,000.

**** Student attending a school located in a community with a population of less than 2,500.00.
### FINANCIAL STATUS REPORT (Short Form)

**1. Federal Agency and Organizational Element to Which Report is Submitted**

THE UNIVERSITY OF GEORGIA

**2. Federal Grant or Other Identifying Number Assigned by Federal Agency**

RH229-073/5199763

**3. Recipient Organization (Name and complete address, including ZIP code)**

GEORGIA TECH RESEARCH CORPORATION

400 10TH STREET, N.W., ROOM 270

ATLANTA, GA 30332-0415

**4. Employer Identification Number**

58-0603146

**5. Recipient Account Number or Identifying Number**

G-32-801/T5421-0A0

**6. Final Report**

☑ Yes ☐ No

**7. Basis**

☑ Cash ☐ Accrual

**8. Period Covered by the Report**

From: (Month, Day, Year) 03/03/93  To: (Month, Day, Year) 09/30/94

**9. Transactions:**

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<th>III Cumulative</th>
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<td>-0-</td>
<td>19,634.83</td>
<td>19,634.83</td>
</tr>
<tr>
<td>b. Recipient share of outlays</td>
<td>-0-</td>
<td>-0-</td>
<td>-0-</td>
</tr>
<tr>
<td>c. Federal share of outlays</td>
<td>-0-</td>
<td>19,634.83</td>
<td>19,634.83</td>
</tr>
<tr>
<td>d. Total unliquidated obligations</td>
<td>-0-</td>
<td>-0-</td>
<td>-0-</td>
</tr>
<tr>
<td>e. Recipient share of unliquidated obligations</td>
<td>-0-</td>
<td>-0-</td>
<td>-0-</td>
</tr>
<tr>
<td>f. Federal share of unliquidated obligations</td>
<td>-0-</td>
<td>19,634.83</td>
<td>22,611.00</td>
</tr>
<tr>
<td>g. Total Federal share (Sum of lines c and f)</td>
<td>-0-</td>
<td>19,634.83</td>
<td>19,634.83</td>
</tr>
<tr>
<td>h. Total Federal funds authorized for this funding period</td>
<td>-0-</td>
<td>19,634.83</td>
<td>22,611.00</td>
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<tr>
<td>i. Unobligated balance of Federal funds (Line k minus line g)</td>
<td>-0-</td>
<td>2,976.17</td>
<td>2,976.17</td>
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**10. Indirect Expense**

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<th>a. Type of Rate (Place &quot;X&quot; in appropriate box)</th>
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</tr>
<tr>
<td></td>
<td>☐ N/A ☐ Base ☐ Total Amount ☐ Federal Share</td>
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</table>

**11. Remarks:**

Questions concerning this report should be directed to:

Ms. Dale C. Turner (404) 894-5521

**12. Certification:**

I certify to the best of my knowledge and belief that this report is correct and complete and that all outlays and unliquidated obligations are for the purposes set forth in the award documents.

David V. Welch, Director, Grants and Contracts Accounting

(404) 894-2629

11/03/94