

R30B34
University of Maryland Center for Environmental Science
University System of Maryland

Operating Budget Data

(\$ in Thousands)

	<u>FY 13</u> <u>Actual</u>	<u>FY 14</u> <u>Working</u>	<u>FY 15</u> <u>Allowance</u>	<u>FY 14-15</u> <u>Change</u>	<u>% Change</u> <u>Prior Year</u>
General Funds	\$18,315	\$19,848	\$21,586	\$1,738	8.8%
Contingent & Back of Bill Reductions	0	-253	-71	183	
Adjusted General Fund	\$18,315	\$19,595	\$21,516	\$1,920	9.8%
Special Funds	1,346	1,368	911	-457	-33.4%
Adjusted Special Fund	\$1,346	\$1,368	\$911	-\$457	-33.4%
Other Unrestricted Funds	7,428	6,422	6,393	-29	-0.5%
Adjusted Other Unrestricted Fund	\$7,428	\$6,422	\$6,393	-\$29	-0.5%
Total Unrestricted Funds	27,089	27,639	28,891	1,252	4.5%
Contingent & Back of Bill Reductions	0	-253	-71	183	
Adjusted Total Unrestricted Funds	\$27,089	\$27,386	\$28,820	\$1,434	5.2%
Restricted Funds	19,105	18,115	18,115	0	
Adjusted Restricted Fund	\$19,105	\$18,115	\$18,115	\$0	0.0%
Adjusted Grand Total	\$46,194	\$45,501	\$46,935	\$1,434	3.2%

- General funds increase \$1.9 million, or 9.8%, in the fiscal 2015 allowance after adjusting for contingent and back of the bill reductions. The Higher Education Investment Fund (HEIF) declines \$0.5 million, or 33.4%, due to realigning HEIF allocations with forecasts.
- Other unrestricted funds decline \$29,000, or 0.5%, over fiscal 2014, and restricted funds are unchanged. Overall, the budget increases \$1.4 million, or 3.2%.

Note: Numbers may not sum to total due to rounding.

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Personnel Data

	<u>FY 13 Actual</u>	<u>FY 14 Working</u>	<u>FY 15 Allowance</u>	<u>FY 14-15 Change</u>
Regular Positions	267.15	273.86	273.86	0.00
Contractual FTEs	<u>37.00</u>	<u>37.00</u>	<u>37.00</u>	<u>0.00</u>
Total Personnel	304.15	310.86	310.86	0.00

Vacancy Data: Regular Positions

Turnover and Necessary Vacancies, Excluding New Positions	7.61	2.78%
Positions and Percentage Vacant as of 12/31/13	15.35	5.6%

- The fiscal 2015 allowance provides no changes in regular or contractual positions.

Analysis in Brief

Major Trends

Chesapeake Bay Restoration Projects Increase: The number of projects increased by 26 to 183 in fiscal 2013.

Research Expenditures Grow: Research expenditures increased from \$45 million in fiscal 2011 to \$50 million in fiscal 2013.

Participation Declines in Environmental Education Programs: The number of K-12 teachers participating in the University of Maryland Center for Environmental Science's (UMCES) education program increased to 442 in fiscal 2013, but this is still below the record of 524 teachers in fiscal 2007.

Issues

Intent to Grant Degrees: In January 2012, the Maryland Higher Education Commission approved UMCES' mission, which includes a provision for UMCES to assume an expanded role in graduate and professional education. Chapter 95 of 2013 granted UMCES the ability to award certain joint degrees. This issue will explore the changes occurring at UMCES.

Recommended Actions

1. See the University System of Maryland overview for systemwide recommendations.

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University of Maryland Center for Environmental Science
University System of Maryland

Operating Budget Analysis

Program Description

The University of Maryland Center for Environmental Science (UMCES) is a research institution for environmental and natural sciences studies. Its mission is to develop a comprehensive program of environmental research, education, and service. Research focuses on the watersheds, estuaries, and coastal areas of the State of Maryland and the greater Chesapeake Bay region, applying knowledge to help predict conditions in Maryland's ecology. Additionally, UMCES administers the Maryland Sea Grant College program. Funded by the National Oceanic and Atmospheric Administration, the Sea Grant program is a network of 30 university-based programs located in the coastal and Great Lakes regions.

UMCES includes four geographically distinct laboratories under a single administration:

- Appalachian Laboratory in Frostburg, founded in 1962 at the headwaters of the Chesapeake Bay watershed with research focusing on landscape and watershed ecology;
- Chesapeake Biological Laboratory on Solomon's Island, founded in 1925, conducts marine research and is home to UMCES' research fleet;
- Horn Point Laboratory in Cambridge, founded in 1973, conducts research on biology, chemistry, physics, and ecology of the organisms and ecosystems from wetlands and estuarine water of the Chesapeake Bay; and
- Institute of Marine and Environmental Technology (IMET) in Baltimore is a joint research institute between UMCES, University of Maryland Baltimore County, and the University of Maryland Baltimore. UMCES at IMET researchers focus on developing biotechnology solutions to protecting coastal and marine environments.

Each of the laboratories serves as a regional center, offering natural science education programs to K-12 teachers and students. Environmental education programs also serve environmental interest groups and institutions within and beyond the University System of Maryland (USM) that are concerned with environmental research, education, and service.

UMCES faculty members contribute to graduate education by advising, teaching, and supervising the research of undergraduate and graduate students within USM degree-granting institutions. These activities further the institution's goals of providing quality research and graduate education and helping to build an educated workforce. UMCES provides advisory services to local Chesapeake Bay industries and is the principal source of independent scientific information on

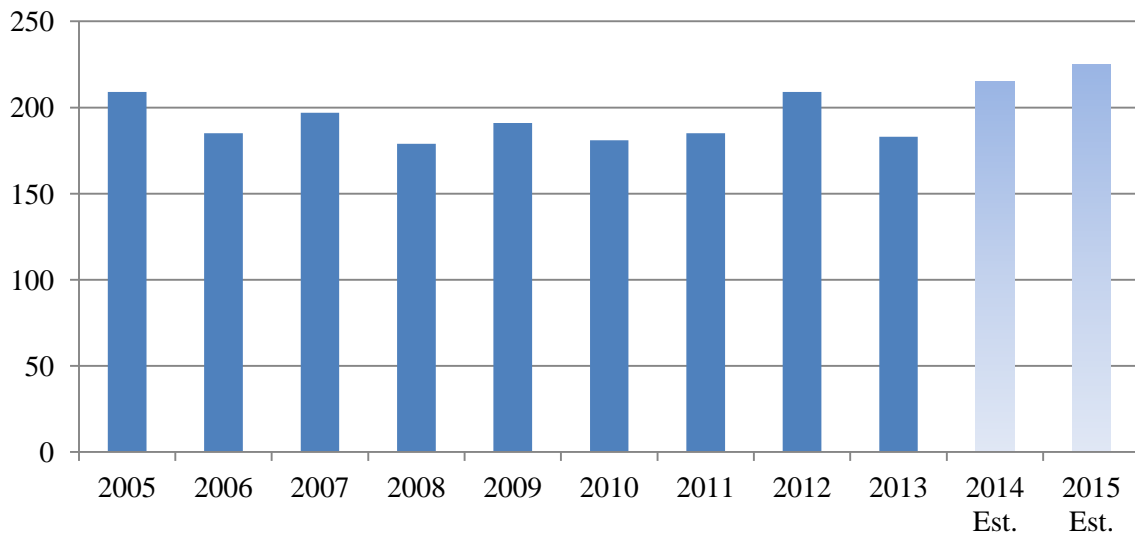
environmental matters for Maryland’s lawmakers, State agencies, and regional and national coastal management programs. UMCES seeks financial support for its services through contract and grant agreements and contributions from private sources.

Performance Analysis: Managing for Results

1. Chesapeake Bay Restoration Projects Increase

UMCES tracks the number of Chesapeake Bay restoration projects it participates in as a measure of strengthening the predictive ecology for Maryland through relevant research programs. Projects are those that focus on the Bay and aspects of restoration ranging from research concerning the overall health of the Bay to a specific organism. The total number of projects is driven by grant funding, and project size and scope varies greatly. Since participating in 209 projects in fiscal 2005, the number of projects has fluctuated over the years reaching a low of 179 in fiscal 2008, as shown in **Exhibit 1**. In fiscal 2013, UMCES participated in 183 projects, but estimates that projects will increase to well over 200 in fiscal 2014 and beyond.

Exhibit 1
Chesapeake Bay Restoration Projects
Fiscal 2005-2015 Est.

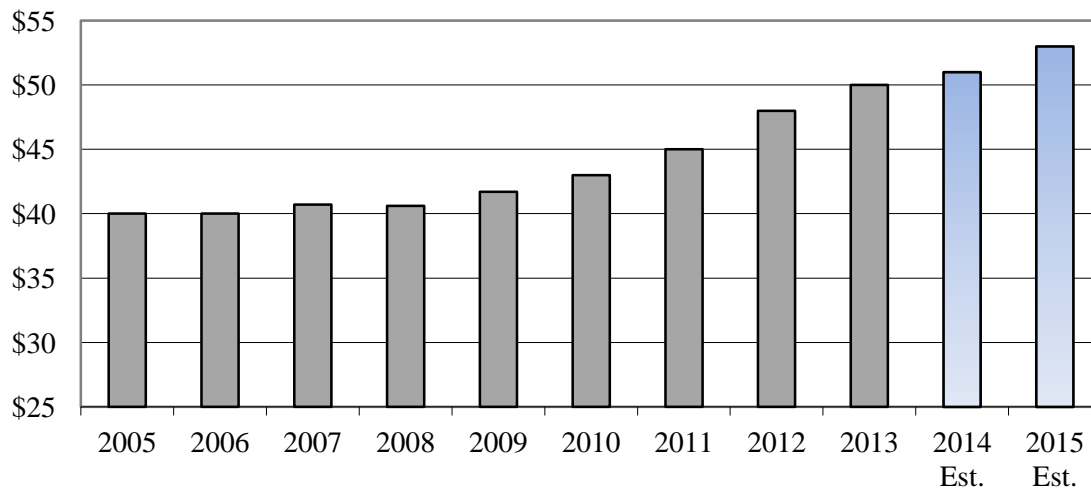


Source: Governor’s Budget Books, Fiscal 2007-2015

2. Research Expenditures Grow

Increasing extramural support from government and private sources is a goal of UMCES. Additionally, USM established a goal of doubling research funding to \$2.4 billion by fiscal 2020 as part of its strategic plan to maintain Maryland as an innovation economy leader by attracting more federal funding to the State. This aligns with the new 2013 State Plan to increase innovation and research. As shown in **Exhibit 2**, since fiscal 2008, research expenditures have grown 23.2%, or \$9.4 million, reaching a high of \$50.0 million in fiscal 2013. Exhibit 2 shows expenditures as categorized by and reported to the National Science Foundation (NSF), which includes UMCES' entire budget, as well as some matching funds and facility or personnel funds that may be budgeted elsewhere. All else equal, if State support increases for any purpose at UMCES, the NSF will report that UMCES' research expenditures are growing. UMCES has stated that the total impact of federal sequestration, the federal shutdown, and other reductions in federal spending is difficult to quantify but that UMCES still believes it can increase research expenditures in future years. However, since grants are usually multi-year, the year-to-year expenditures do not necessarily reflect the underlying total funding in grants that UMCES has been awarded.

Exhibit 2
UMCES Research Expenditures
Fiscal 2005-2015 Est.
(\$ in Millions)



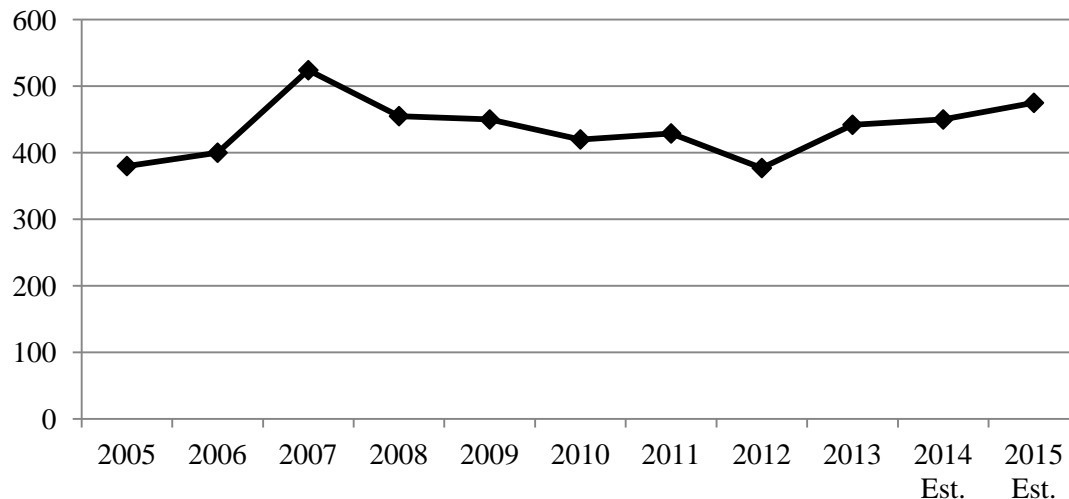
UMCES: University of Maryland Center for Environmental Science

Source: Governor's Budget Books, Fiscal 2007-2015

3. Participation Declines in Environmental Education Programs

In addition to research, UMCES strives to strengthen K-12 teacher training in environmental education programs. Starting with only 35 teachers in fiscal 2000, UMCES trained a record 524 K-12 teachers in fiscal 2007 due to grant funding. As shown in **Exhibit 3**, the number participating in UMCES' education program mostly declined from fiscal 2007 to 2012, but fiscal 2013 saw the first large year-over-year increase, growing to 442 participants. This remains 82 teachers, or 15.6%, below fiscal 2007. UMCES plans to increase teacher education efforts in fiscal 2014 and 2015 due to additional grant support but does not anticipate reaching the record set in fiscal 2007.

Exhibit 3
K-12 Teachers Participating in Environmental Education Programs
Fiscal 2005-2015 Est.



Source: Governor's Budget Books, Fiscal 2005-2015

Fiscal 2014

There are three across-the-board withdrawn appropriations. This includes reductions to employee and retiree health insurance, funding for a new Statewide Personnel information technology system, and retirement reinvestment. These actions are fully explained in the analyses of the Department of Budget and Management (DBM) – Personnel, the Department of Information Technology, and the State Retirement Agency (SRA), respectively. For UMCES, these three actions reduce the fiscal 2014 appropriation by \$253,155.

Fiscal 2015

There is one across-the-board reduction and one contingent reduction reflected in the Governor's spending plan for the fiscal 2015 allowance. This affects funding for employee and retiree health insurance and retirement reinvestment. These actions are fully explained in the analyses of DBM – Personnel and SRA. For UMCES, these two actions reduce the fiscal 2015 allowance by \$70,576.

Proposed Budget

As shown in **Exhibit 4**, total funding for UMCES in the fiscal 2015 allowance is 3.2%, or \$1.4 million, higher than in fiscal 2014, after all reductions. The overall growth in State funds is \$1.5 million, or 7.0%, above fiscal 2014. Other unrestricted funds decline \$30,000 due to a reduction in overhead revenues from contracts and grants. Restricted funds declined in fiscal 2014 and are flat in fiscal 2015 to reflect the diminishing pool of federal research grants.

Exhibit 4
Governor's Proposed Budget
University System of Maryland Center for Environmental Science
(\$ in Thousands)

	2013	2014	2015	2014-15	% Change
	<u>Actual</u>	<u>Working</u>	<u>Adjusted</u>	<u>Change</u>	<u>Prior Year</u>
General Funds	\$18,315	\$19,595	\$21,516	\$1,920	9.8%
HEIF	814	1,368	911	-457	-33.4%
Total State Funds	19,130	20,964	22,427	1,464	7.0%
Other Unrestricted Funds	7,960	6,422	6,393	-29	-0.5%
Total Unrestricted Funds	27,089	27,386	28,820	1,434	5.2%
Restricted Funds	19,105	18,115	18,115		0.0%
Total Funds	\$46,194	\$45,501	\$46,935	\$1,434	3.2%

HEIF: Higher Education Investment Fund

Note: The fiscal 2014 working appropriation reflects negative deficiencies and contingent reductions. The fiscal 2015 allowance reflects back of the bill and contingent reductions. Numbers may not sum to total due to rounding.

Source: Governor's Budget Book, Fiscal 2015

UMCES' State-supported budget by program is shown in **Exhibit 5**. In fiscal 2014, expenditures for plant increase 3.7%, or approximately \$0.2 million for facility renewal. Expenditures on research, which account for approximately two-thirds of the budget, grow 4.6%, or \$0.6 million, primarily due to personnel costs for grant researchers. Institutional support grows \$0.9 million in fiscal 2014 due to contract services and USM program enhancements.

Exhibit 5
State-supported Budget Changes by Program
Fiscal 2013-2015
(\$ in Thousands)

	<u>2013</u>	<u>Working 2014</u>	<u>% Change 2013-14</u>	<u>Adjusted 2015</u>	<u>Change 2014-15</u>	<u>% Change 2014-15</u>
Expenditures						
Research	\$13,049	\$13,645	4.6%	\$13,989	\$345	2.5%
Plant	5,273	5,467	3.7%	5,504	37	0.7%
Institutional support	4,502	5,239	16.4%	6,271	1,032	19.7%
Public service	35	35	0.0%	35		0.0%
Total	\$22,859	\$24,385	6.7%	\$25,799	\$1,414	5.8%
Revenues						
General Funds	\$18,315	\$19,595	7.0%	\$21,516	\$1,920	9.8%
HEIF	814	1,368	68.0%	911	-457	-33.4%
Other Unrestricted Funds ¹	5,563	3,055	-45.1%	3,035	-20	-0.7%
Transfer(to)/from Fund Balance	-1,833	366		337	-29	
Total	\$22,859	\$24,385	6.7%	\$25,799	\$1,414	5.8%

HEIF: Higher Education Investment Fund

¹ Other State support is a component of unrestricted revenue. Other unrestricted revenue considered non-State support includes designated research initiative fund and self-supporting activities.

Source: University of Maryland Center for Environmental Science

In fiscal 2015, research expenditures further increase by \$0.3 million, or 2.5%, due to increases in fringe benefit costs and the statewide cost-of-living adjustment (COLA). Expenditures for institutional support increase 19.7%, or \$1.0 million due to further expansion of contract services and program enhancements from the prior year. Public service is unchanged due the same services provided at the UMCES visitor center. HEIF declines due to realignment with expected fiscal 2015 HEIF revenue, and other unrestricted funds decline due to lower federal and State grants.

Issues

1. Intent to Grant Degrees

After many years of discussion, UMCES will now offer a joint degree program with the University of Maryland, College Park (UMCP) toward a Master's in Science and a Doctor of Philosophy in Marine-Estuarine-Environmental Sciences (MEES). The first MEES cohort under the new degree designation will enroll in the 2014-2015 academic year, although it is possible for students in the current MEES program to request to transfer into the new MEES program in the 2013-2014 academic year. Currently, there are 81 total graduate students at UMCES and about 90% are enrolled in MEES. About 60% of MEES students at UMCES pursue a master's degree and the other 40% pursue doctorate degrees. All students complete a research thesis. In fiscal 2013, UMCES graduated eight master's and five doctorate degreed students.

The Road to Degree-granting Status

The MEES program was established in 1978 as an interdisciplinary and inter-institutional graduate program. The program offers Master's and doctoral degrees in six areas: oceanography, fisheries science, ecology, environmental molecular biology, environmental chemistry, and environmental science. Courses offered through the MEES program are available to any USM graduate student. The program is administratively housed at UMCP which provides administrative services including those related to admissions, registration, and billing. Additionally, students have access to services provided by the Graduate School including assistantships and academic mentoring. The director is considered a UMCP employee who has a half-time teaching appointment supported by UMCP and half-time research appointment funded by UMCES.

In December 2010, the USM Board of Regent's (BOR) requested UMCES to revise its mission statement to further elaborate on its role in graduate education. The statement was modified to include a provision that "The USM and UMCES are developing a path for the Center to assume an expanded role in graduate and professional education, including possible accreditation as a graduate degree-granting institution." The mission statement was submitted to the Maryland Higher Education Commission (MHEC) in February 2011 for approval. MHEC approved UMCES' revised mission statement in January 2012, and the statement received approval from BOR in late 2012.

The final step was gaining approval from the General Assembly of Maryland which was granted in Chapter 95 of the 2013 session. While the authorization from the USM BOR was broad, the General Assembly's legislation only gave UMCES authority to award "joint graduate degrees and post baccalaureate certificate programs." Partners are limited to public senior higher education institutions. Current State regulations stipulate that joint degrees show both institutions' names appearing side-by-side on the diploma.

Degree Program Changes

The day-to-day operations of UMCES will be largely unchanged for students, faculty, and staff. UMCES faculty have faculty status at UMCP. MEES students receive a slight reduction in the UMCES and UMCP cost of attendance as students do not pay campus transportation fees or recreational fees. To simplify administration, UMCES will not manage any Title IV financial aid programs (like Stafford loans). Tuition and fees are exclusively handled by UMCP through an internal agreement that will be reexamined every five years. Most MEES students receive graduate student stipends from either UMCES or UMCP to support their studies.

The Middle States Commission on Higher Education (Middle States) is the regional accrediting body that reviews higher education institutions in Maryland. UMCES went through the exploration phase and application phase in 2013 with Middle States and prepared an Accreditation Readiness Report in November 2013. UMCES was then admitted to candidacy status, which technically allows it to award degrees immediately. For 18 months beginning in 2014, UMCES will undergo a self-study phase with the expectation that it will be fully certified by Middle States in summer 2015. Prior to these actions, UMCES had no relationship with Middle States. As is the case for all institutions, the accreditation readiness process is one-time only and full accreditation is reviewed every five years. Although the punishment for loss of accreditation is getting cut off from federal Title IV financial aid, UMCES would lose no such aid but believes that maintaining accreditation will bolster its reputation, enrollment, and funding opportunities. UMCES has not yet received a Carnegie classification.

The joint degree authority places UMCES in a unique position as the only joint degree within USM. Also, UMCES is not operating as a Regional Higher Education Center or branch campus of UMCP. As a new senior public education institution, UMCES will have increased reporting requirements, such as complying with the federal Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act.

The President should comment on what types of post-baccalaureate certificates may be offered and when. The President should also comment on how UMCES will fit into the performance-based funding model currently recommended by MHEC.

Recommended Actions

1. See the University System of Maryland overview for systemwide recommendations.

Current and Prior Years Budgets

Current and Prior Years Budgets **Univeristy System of Maryland Center for Environmental Science** **(\$ in Thousands)**

Fiscal 2012	General Fund	Special Fund	Federal Fund	Other Unrestricted Fund	Total Unrestricted Fund	Restricted Fund	Total
Legislative Appropriation	\$18,063	\$965	\$0	\$6,230	\$25,258	\$18,664	\$43,922
Deficiency Appropriation	150	0	0	0	150	0	150
Budget Amendments	121	0	0	0	121	1,164	1,285
Reversions and Cancellations	0	0	0	-853	-853	-2,535	-3,389
Actual Expenditures	\$18,334	\$965	\$0	\$5,376	\$24,676	\$17,292	\$41,968
Fiscal 2013							
Legislative Appropriation	\$18,300	\$1,210	\$0	\$5,742	\$25,252	\$21,333	\$46,585
Deficiency Appropriation	0	0	0	0	0	0	0
Budget Amendments	0	4	0	2,147	2,151	0	2,151
Reversions and Cancellations	0	0	0	-314	-314	-2,228	-2,542
Actual Expenditures	\$18,300	\$1,214	\$0	\$7,575	\$27,089	\$19,105	\$46,194
Fiscal 2014							
Legislative Appropriation	\$19,647	\$1,388	\$0	\$6,422	\$27,458	\$18,115	\$45,573
Budget Amendments	201	-20	0	0	181	0	181
Working Appropriation	\$19,848	\$1,368	\$0	\$6,422	\$27,639	\$18,115	\$45,754

Note: The fiscal 2014 working appropriation does not include deficiencies or contingent reductions. Numbers may not sum to total due to rounding.

Fiscal 2012

For fiscal 2012, general funds for UMCES increased \$0.3 million due to a deficiency appropriation of \$0.2 million for the cost associated with leasing a facility in Annapolis to house SESYNC and a budget amendment for \$0.1 million related to the \$750 employee bonus.

Cancellations of unrestricted funds totaled \$0.9 million of which \$0.4 million was related to maintaining the vacancy level resulting in salary, fringe benefits, and other operating expenditures being less than anticipated and \$0.5 million less was spent on facilities renewal.

Restricted funds increased \$1.2 million through a budget amendment related to federal contracts and grants activity.

Cancellations of restricted funds totaled \$2.5 million due to lower than anticipated expenditures of grants and contracts.

Fiscal 2013

Special funds increased about \$4,000 due to HEIF replacing certain general funds due to actions of the General Assembly. Other unrestricted funds increased \$2.1 million. About \$2.0 million was due to facility renewal spending on previously deferred projects. Of that amount, \$0.3 million was due to utility cost increases. The remainder of the increase came from the COLA which totaled about \$132,000 and health insurance cost adjustments.

A cancellation of about \$0.3 million in unrestricted funds was due to actual expense less than anticipated projection in the fuel, utilities, and vehicle operations. A cancellation of \$2.2 million in restricted funds occurred due to lower than anticipated expenditures of grants and contracts.

Fiscal 2014

Special funds decreased by about \$20,000 due to a transfer of HEIF to St. Mary's College of Maryland. General funds increased about \$0.2 million to allocate funds for the COLA.

Object/Fund Difference Report
USM – University of Maryland Center for Environmental Science

<u>Object/Fund</u>	<u>FY 13 Actual</u>	<u>FY 14 Working Appropriation</u>	<u>FY 15 Allowance</u>	<u>FY 14 - FY 15 Amount Change</u>	<u>Percent Change</u>
Positions					
01 Regular	267.15	273.86	273.86	0.00	0%
02 Contractual	37.00	37.00	37.00	0.00	0%
Total Positions	304.15	310.86	310.86	0.00	0%
Objects					
01 Salaries and Wages	\$ 26,706,025	\$ 27,899,820	\$ 29,160,492	\$ 1,260,672	4.5%
02 Technical and Spec. Fees	631,069	645,500	645,500	0	0%
03 Communication	274,780	289,944	289,945	1	0%
04 Travel	786,154	928,709	928,709	0	0%
06 Fuel and Utilities	2,042,528	2,327,939	2,351,287	23,348	1.0%
07 Motor Vehicles	1,174,949	1,428,398	1,425,851	-2,547	-0.2%
08 Contractual Services	7,907,854	7,496,570	7,210,613	-285,957	-3.8%
09 Supplies and Materials	1,938,508	1,792,641	1,792,641	0	0%
11 Equipment – Additional	2,795,185	906,759	906,759	0	0%
12 Grants, Subsidies, and Contributions	45,040	117,150	117,150	0	0%
13 Fixed Charges	1,135,164	992,046	1,023,209	31,163	3.1%
14 Land and Structures	757,179	928,900	1,153,900	225,000	24.2%
Total Objects	\$ 46,194,435	\$ 45,754,376	\$ 47,006,056	\$ 1,251,680	2.7%
Funds					
40 Unrestricted Fund	\$ 27,089,199	\$ 27,639,007	\$ 28,890,687	\$ 1,251,680	4.5%
43 Restricted Fund	19,105,236	18,115,369	18,115,369	0	0%
Total Funds	\$ 46,194,435	\$ 45,754,376	\$ 47,006,056	\$ 1,251,680	2.7%

Note: The fiscal 2014 appropriation does not include deficiencies. The fiscal 2015 allowance does not include contingent reductions.

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Appendix 2