



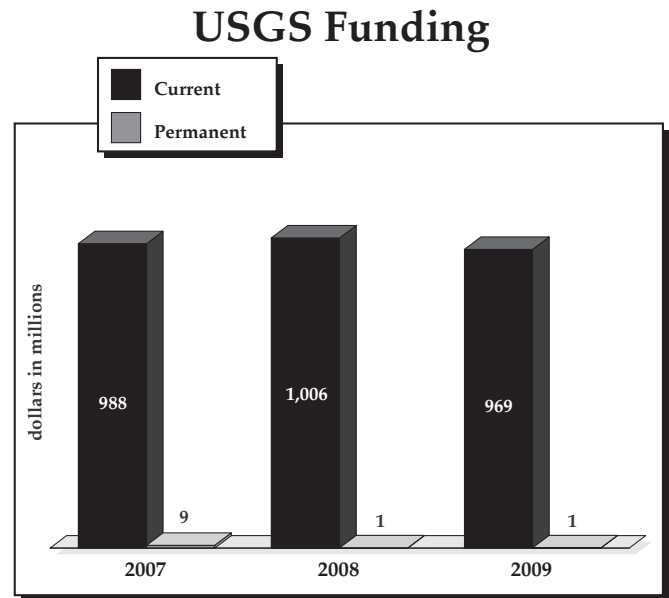
U.S. GEOLOGICAL SURVEY

Mission – The mission of the U.S. Geological Survey is to provide reliable scientific information to describe and understand the Earth; minimize loss of life and property from natural disasters; assist others in managing water, biological, and other natural resources; and enhance and protect the quality of life.

Program Overview — The USGS provides a broad range of expertise in geography, geology, hydrology, and biology. The USGS places a special emphasis on providing scientific information and geospatial information to the Department's land and resource management bureaus. The USGS geologic hazards programs produce information and enhance understanding of natural hazards, such as earthquakes, volcanoes, and landslides, which are used to reduce the impacts of these events on human life and the economy. The USGS is a primary Federal source of objective resource assessments and unbiased research on oil, gas, and alternative energy potential, production, consumption, and environmental effects. These investigations enable the Nation to make sound decisions regarding domestic energy production with an understanding of potential impacts on the environment.

The USGS analyses of water quality and quantity help water and land resource managers develop, regulate, and monitor management practices to ensure the continued availability of water resources for human consumption, agriculture, business, recreation, and fish and wildlife and habitat. Biological studies help managers maintain healthy ecosystems and natural resources so that these habitats can continue to provide food, energy, medicine, transportation, and recreation. The USGS geography program is expanding its partnerships with Federal agencies and State and local governments to develop and promote use of the geographic data and products that are important tools for economic and community development, land and natural resource management, and health and safety services.

To deliver the most accurate, timely, and impartial scientific information and geospatial data possible, USGS integrates its diverse programs, capabilities, and talents to address those issues that require a multi-disciplinary



solution. The USGS places great value on partnerships and is increasing customer involvement to work collaboratively on issue identification, resource needs, and science solutions. Natural science supports informed decisionmaking by land and resource managers at Federal, State, and local levels; government program managers; industrial and agricultural corporations; scientists and academia; and the public.

Management Excellence — The USGS continues to advance the President's management agenda for improving performance of the Federal government and implementing the Secretary's vision for citizen-centered government. The 2009 budget supports the Department's 2007-2012 strategic plan by improving understanding of ecosystems, resources, and natural hazards.

The USGS continuously pursues excellence in management and administration of its programs, routinely identifying opportunities to streamline and automate functions and improve internal controls. The Bureau encourages managers and employees to review business practices regularly and develop alternative methods and processes to save time and resources. The USGS has realigned the

bureau's regional management from a science discipline focus to geographic areas of responsibility focus. Under this structure, each Regional Executive will be responsible for leadership and management of a multidisciplinary portfolio within a geographic area, an effective way to promote integrated science and a more efficient use of management resources.

Beginning in 2009, USGS is streamlining functions with the addition of the Global Change budget activity and the consolidation of the bureau global change program within it. The USGS has long conducted scientific research on climate change activities within each of its disciplines. Creating an integrated budget activity for Global Change allows closer collaboration among the bureau's disciplines, provides a centralized focus for this activity both within the bureau and externally, and coordinates partnerships in scientific research from a single program activity.

The USGS, through workforce analysis and workforce planning over the past few years, has restructured its workforce to focus on priority areas and undertake new avenues of scientific research. These efforts will help USGS address science and data needs for years to come. For example, USGS has refocused its geospatial line of business to respond to technological and other changes in the way the Nation produces and uses maps and acquires geospatial data.

Close proximity of USGS managers and scientists to Interior land and resource managers in the field allows USGS to be more responsive to regional and local issues and provide the scientific expertise and leadership necessary to assist managers in solving current problems and addressing future science needs. The USGS works in close cooperation with more than 2,000 Federal, State, tribal, and local governmental agencies, private sector companies, and non-profit organizations across the country. Partnerships provide highly effective means to leverage resources among many contributors, bringing a greater wealth of knowledge, expertise, capability, and data for important land and resource management issues.

Ten USGS programs have been reviewed using the Program Assessment Rating Tool. All programs have been found to be moderately effective or better.

The budget includes a reduction of \$3.3 million for travel. This reduction enables the direction of resources to higher priority programs and activities.

Budget Overview — The 2009 budget for USGS totals \$968.5 million, \$38.0 million below the 2008 enacted budget and \$6.4 million below the 2008 President's Budget. The 2009 budget continues to focus on the highest

priorities for research, while ensuring that USGS builds the expertise it needs to continue answering the complex scientific questions that may arise tomorrow. The budget emphasizes increases for science that will ensure the long term viability of wildlife and habitat as energy resources are being developed; contribute to implementation of the water census portion of the Water for America initiative to provide a baseline for ensuring long term water security; enhance multi-disciplinary work related to climate change; and begin to determine the limits of the extended continental shelf in the Arctic Ocean.

Water for America Initiative — As part of a \$21.3 million comprehensive Water for America initiative with the Bureau of Reclamation, the USGS budget includes an increase of \$8.2 million over the 2008 enacted budget for a range of actions that will significantly improve our understanding and knowledge about the Nation's water resources. These funds will be used to initiate a nationwide water census – the first in 30 years – of water availability, water quality, and water use. The census will integrate surface-water and ground-water information, provide improved measurement and analysis of water resources, and modernize the Nation's 7,000 streamgages with real-time telemetry. This information will come at a time when it is critical for communities and water managers to better understand the sustainability of their water resources and options for improved management.

Birds Forever Initiative — The USGS Breeding Bird Survey provides the most geographically extensive and scientifically based estimation of bird population status and trends in North America. As part of the \$9.0 million increase for the Birds Forever initiative, the USGS budget includes \$1.0 million to increase monitoring and surveillance of migratory birds. The USGS will expand both the number of migration routes surveyed annually and the geographic scope of the BBS into Mexico. The USGS will also increase migration route coverage and the number of Fish and Wildlife Service target species for which scientifically credible population trend information exists. The USGS will also evaluate and enhance methodologies, data management, and reporting and work with State coordinators to expand partnerships and the number of volunteers.

Ocean and Coastal Frontiers Initiative — The USGS budget includes an additional \$7.0 million over the 2008 enacted budget as part of the \$7.9 million Ocean and Coastal Frontiers initiative, which integrates the actions of Interior bureaus to support the President's Ocean Action Plan. The initiative includes \$4.0 million to conduct the geologic assessment activities that are needed for the United States to establish the boundaries for the Nation's Extended Continental Shelf. Other countries are racing to stake seabed claims to secure valuable rights to mineral

and energy resources. The 2009 program will focus on the Arctic Ocean.

This initiative also includes \$2.0 million for important science research to be conducted by USGS, which will support strong regional partnerships for oceans and coastal resource conservation, and will be associated with the President's near-term Ocean Research Priorities Plan. Selection of ORPP-related projects will be made through a merit-based process and submitted to OMB for approval. Specific regional studies concerning the highest priority regional oceans and coastal science issues, such as the Gulf Coast, Long Island, Great Lakes, San Francisco Bay/Delta, and Puget Sound areas, are candidate projects for selection.

Healthy Lands Initiative — As part of the \$14.0 million increase for the Interior Healthy Lands initiative, the USGS budget includes \$3.5 million to conduct ecological assessments in new areas and to develop a baseline of scientific information related to wildlife habitat and development activities occurring or planned for these areas. The USGS has a critical role in ensuring that sound science and quality information is available to support the Healthy Lands initiative. Scientific tools developed during 2008 in the Green River basin, Wyoming, will be applied to the new study areas as initial steps in assisting land management agencies to determine best management practices that will meet the needs of multiple stakeholders.

Geography — The 2009 budget includes \$73.1 million in Geography that supports a strong role for USGS in land remote sensing and geographic research. The request level represents a net decrease of \$4.6 million below the 2008 enacted budget. The USGS continues through research to improve the understanding of the rates, causes, and consequences of natural and human-induced processes that shape and change the landscape over time and to provide comprehensive information needed to understand the environmental, resource, and economic consequences of landscape change.

The 2009 budget includes an increase of \$2.0 million to begin implementation of the Administration's August 14, 2007, plan for the National Land Imaging Program. The USGS will lead this initiative, with shared responsibility among the other land imaging users, and will establish a coordination office to assess and integrate ongoing and future needs for land remote sensing data. In 2009, Interior will develop partnerships for an operational program of moderate-resolution satellite imagery data collection of the Earth's land surfaces.

In 2009, USGS will continue operations and maintenance for Landsats 5 and 7, and will work with NASA and the Landsat Science Team to continue development of the

Landsat Data Continuity Mission within the National Land Imaging Program. This will improve the USGS' ability to monitor and analyze changes on the Earth's surface and will maintain the constant record used by scientists and decisionmakers.

The Geography program budget includes decreases of \$1.0 million for the AmericaView project, \$1.0 million for lower priority geography research, and \$1.9 million for priority ecosystems studies.

Geology — The 2009 budget includes \$208.0 million for geologic activities, \$35.5 million below the 2008 enacted budget. This funding level includes an increase of \$1.5 million in the National Cooperative Geologic Mapping Program to undertake mapping activities that will increase the understanding of surface and groundwater interactions that support the water census component of the Water for America initiative. It also includes an increase of \$6.5 million for activities in the Oceans initiative, including mapping efforts in the extended continental shelf with the National Oceanic and Atmospheric Administration and for competitively-awarded projects that support the President's Ocean Research Priorities Plan.

The 2009 budget continues to refocus the Mineral Resources program on activities that are inherently governmental. In 2009, the budget includes \$26.3 million for the Minerals Program, a decrease of \$25.4 million below the 2008 enacted budget. In 2009, USGS will continue selected minerals surveys and studies that are relevant to ongoing Departmental land management requirements.

The Earth Surface Dynamics program's \$3.0 million of non-climate change-related work is eliminated. The majority of the program is realigned into the Global Change activity. The Earthquake Hazards Program is reduced by \$5.0 million, including a \$3.0 million reduction for lower priority Earthquake Hazards research grants and the elimination of \$2.0 million in unrequested increases in funding enacted in 2008.

Water Resources — The Water Resources Investigations activity is funded at \$203.0 million which is \$17.5 million below the 2008 enacted budget. The budget includes an increase of \$3.0 million in Ground-Water Resources for the water census portion of the Water for America initiative; and a net increase of \$3.7 million in the National Streamflow Information program to expand watershed analysis, increase the number of critical streamgages in the nationwide network, and to modernize and stabilize older gages as part of the water security initiative.

The net change to the National Water Quality Assessment program is a reduction of \$10.9 million including a program reduction of \$10.6 million and a travel re-

duction \$298,000. Focus is concentrated on the highest priority national synthesis research and data collection points. The Toxic Substances Hydrology program has a net reduction of \$2.8 million to reduce lower priority efforts associated with NAWQA. A reduction of another \$2.7 million eliminates unrequested increases in funding enacted in 2008. These savings will be directed toward other high priority USGS projects, including the National Water Census. Consistent with prior years, the budget eliminates funding for the Water Resources Research Act program.

Biological Research — The 2009 budget requests \$180.3 million in biological research, which is \$458,000 above the 2008 enacted budget. The budget includes an additional \$4.5 million that will be used in the Healthy Lands and Birds initiatives, discussed above. Biological Management and Delivery is reduced by a net \$2.8 million for programs associated with the National Biological Information Infrastructure. The Biological Research and Monitoring budget is reduced by another \$2.0 million from unrequested increases in funding enacted in 2008.

Enterprise Information — The 2009 budget includes \$112.1 million for Enterprise Information, an increase of \$1.8 million above the 2008 enacted budget. With a net increase of \$580,000, the National Geospatial program will be able to enter into partnerships with Federal, State, and local agencies to better maintain currentness for many of its base layers of geospatial information. The remainder of the increase incorporates fixed costs and realigns information technology costs in the Department's Working Capital Fund.

Global Change — The 2009 budget request for the first year recognizes Global Change at the budget activity

level, combining most of the climate change activities from the USGS disciplines into one integrated program. The request for Global Change is \$26.6 million. A strong science component is essential to provide the basis for the development of adaptive management approaches that can be used by land managers to respond to changes on the landscape. These funds will be used to establish a national climate change observation and research network, and will establish a pilot research node in Alaska. The State of Alaska is relatively free of external influences, thereby providing a basis to better understand the causes and effects of climate change on the Arctic and sub-Arctic regions. The initiative will leverage an existing intensive watershed-scale study plan to provide for the first time, crosscutting information on the status and trends of ecological, biogeochemical, physical, and socio-economic processes. Other activities related to global change are the satellite data in Geography (\$3.7 million) and research activities in Biology (\$1.1 million) for total Global Change funding of \$31.4 million.

Science Support and Facilities — The 2009 budget includes \$67.2 million for Science Support, \$33,000 above the 2008 enacted budget. The 2009 budget also includes \$98.1 million for Facilities, \$1.8 million below the 2008 enacted budget. This funding level includes a decrease of \$4.6 million for one-time construction costs at the Patuxent Wildlife Research Refuge. The work at the refuge will be completed with the 2008 funding.

Fixed Costs — Fixed costs total \$18.2 million, of which \$15.0 million are budgeted and \$3.2 million will be absorbed through cost saving methods. The request funds most pay and health care costs and fully funds costs paid to other agencies and Interior's Working Capital Fund.

SUMMARY OF BUREAU APPROPRIATIONS

(all dollar amounts in thousands)

Comparison of 2009 Request with 2008 Enacted:

	2008 Enacted		2009 Request		Change from 2008	
	FTE	Amount	FTE	Amount	FTE	Amount
Appropriations						
Surveys, Investigations, and Research.....	5,462	1,006,480	5,176	968,516	-286	-37,964
Permanents and Other						
Operations and Maintenance of Quarters.....	0	82	0	84	0	+2
Contributed Funds.....	0	1,095	0	615	0	-480
Working Capital Fund.....	152	0	152	0	0	0
Subtotal, Permanents and Other.....	152	1,177	152	699	0	-478
Transfers and Reimbursables	2,694	0	2,694	0	0	0
TOTAL, U. S. GEOLOGICAL SURVEY.....	8,308	1,007,657	8,022	969,215	-286	-38,442

HIGHLIGHTS OF BUDGET CHANGES

By Appropriation Activity/Subactivity

APPROPRIATION: Surveys, Investigations, and Research

	2007 Actual	2008 Enacted	2009 Request	Change from 2008
Geographic Research, Investigations, and Remote Sensing				
Land Remote Sensing	63,264	61,457	62,562	+1,105
Geographic Analysis and Monitoring..	16,926	16,266	10,556	-5,710
Subtotal, Geography	80,190	77,723	73,118	-4,605
Geologic Hazards, Resource, and Processes				
Geologic Hazards Assessments	81,890	85,651	80,257	-5,394
Geologic Landscape/ Coastal Assess....	78,327	80,614	74,838	-5,776
Geologic Resource Assessments	76,786	77,211	52,920	-24,291
Subtotal, Geology	237,003	243,476	208,015	-35,461
Water Resources Investigations				
Hydrologic Monitoring, Assess, Rsch..	145,147	151,367	140,742	-10,625
Cooperative Water Program	64,345	62,849	62,285	-564
Water Resources Rsch Act Program	5,404	6,304	0	-6,304
Subtotal, Water Resources.....	214,896	220,520	203,027	-17,493
Biological Research				
Biological Research and Monitoring	143,342	141,275	145,340	+4,065
Biological Information Mgmt/Delivery	22,856	22,422	19,579	-2,843
Cooperative Research Units	14,764	16,174	15,410	-764
Subtotal, Biological Research.....	180,962	179,871	180,329	+458
Enterprise Information				
Enterprise Info Security and Tech.....	26,061	24,514	25,031	+517
Enterprise Information Resources	17,030	16,775	17,428	+653
National Geospatial Program.....	68,691	69,082	69,662	+580
Subtotal, Enterprise Information	111,782	110,371	112,121	+1,750
Global Change	0	7,383	26,583	+19,200
Science Support	67,782	67,167	67,200	+33
Facilities	95,435	99,969	98,123	-1,846
TOTAL APPROPRIATION	988,050	1,006,480	968,516	-37,964

Highlights of Budget Changes

Fixed Costs

Fixed costs total \$18,155, of which \$14,957 are budgeted and \$3,198 are absorbed.

Management Excellence

The 2009 budget includes a decrease of \$3,310 to reduce travel and relocation expenses.

Geographic Research, Investigations, and Remote Sensing

Land Remote Sensing

The budget proposes a net increase of \$1,105, including an increase of \$2,000 for establishing the National Land Imaging program, a decrease of \$984 in funding for AmericaView projects, and a reduction in travel of \$156. Fixed costs total \$311, of which \$245 are budgeted and \$66 are absorbed.

Geographic Analysis and Monitoring

The budget proposes a net decrease of \$5,710 that includes a technical adjustment to move \$2,886 from global change studies to a new Global Change budget activity, decreases of \$1,940 in priority ecosystems funding, \$1,013 in lower priority geographic research, and a reduction in travel of \$42. Fixed costs total \$216, of which \$171 are budgeted and \$45 are absorbed.

Geologic Hazards, Resources, and Processes

Geologic Hazard Assessments

The budget proposes a net decrease of \$5,394, including decreases of \$1,969 in the Earthquake Hazards program to eliminate a 2008 unrequested increase in funding for multi-hazard work, \$3,000 in Earthquake Hazards for earthquake grants, \$492 in Volcano Hazards to eliminate a 2008 unrequested increase in funding for volcano studies, \$492 in Global Seismographic Network to eliminate a 2008 unrequested increase in funding, and a reduction in travel of \$328. Fixed costs total \$1,122, of which \$887 are budgeted and \$235 are absorbed.

Geologic Landscape and Coastal Assessments

The budget proposes a net decrease of \$5,776 that includes a technical adjustment to move \$10,336 from global change studies in Earth Surface Dynamics to a new Global Change budget activity, increases of \$1,500 in National Cooperative Geologic Mapping to support the Water for America initiative, \$6,000 in Coastal and Marine Geology to support the Ocean and Coastal Frontiers initiative for extended continental shelf studies and collaborative regional studies, and \$500 in Coastal and Marine Geology to support the President's Oceans Research Priorities Plan that is an integral part of the Ocean Action Plan, decreases of \$3,006 to eliminate the remaining non-climate change program components of the Earth Surface Dynamics program, \$984 in National Cooperative Geologic Mapping to eliminate a 2008 unrequested increase in funding, and a reduction in travel of \$277. Fixed costs total \$1,045, of which \$827 are budgeted and \$218 are absorbed.

Geologic Resource Assessments

The budget proposes a net decrease of \$24,291, composed of a decrease of \$25,410 in Minerals Resources that refocuses the program on activities that are inherently governmental, and a reduction in travel of \$196. Fixed costs total \$1,663, of which \$1,315 are budgeted and \$348 are absorbed.

Water Resources Investigations

Hydrologic Monitoring, Assessments, and Research

The budget proposes a net decrease of \$10,625 that includes a technical adjustment to move \$3,062 from global change studies to a new Global Change budget activity, increases of \$3,000 in the Ground-Water Resources program to support the Water for America initiative, \$3,686 in the National Streamflow Information Program to support the Water for America initiative, and \$500 in Hydrologic Networks and Analysis to expand the interagency National Water Quality Monitoring Network that supports the goals of the Ocean Action Plan. Decreases are proposed of \$345 in the Ground-Water Resources program to eliminate a 2008 unrequested increase in funding for a Memphis aquifer study, \$10,645 in the National Water-Quality Assessment program, \$3,000 in Toxics Substances Hydrology for lower-priority research efforts, \$1,476 in Hydrologic Research and Development to eliminate 2008 unrequested increases in funding for studies at Hood Canal, WA, USGS participation in the San Pedro Partnership, the Long-Term Estuary Group, and US-Mexico trans-boundary aquifer study, \$1,477 in the National Streamflow Information Program to eliminate a 2008 unrequested general increase in funding, \$830 in Hydrologic Networks and Analysis to eliminate 2008 unrequested increases in funding for monitoring and studies at Lake Champlain and in Hawaii, and a reduction in travel of \$691. Fixed costs total \$3,034, of which \$2,401 are budgeted and \$633 are absorbed.

Cooperative Water Program

The budget proposes net decrease of \$564, composed of a decrease of \$1,441 to eliminate a 2008 unrequested increase in funding and a reduction in travel of \$293. Fixed costs total \$1,480, of which \$1,170 are budgeted and \$310 are absorbed.

Water Resources Research Act Program

The budget proposes a net decrease of \$6,304 to eliminate a 2008 unrequested increase in funding for the State Water Resources Institutes.

Biological Research

Biological Research and Monitoring

The budget proposes a net increase of \$4,065 that includes a technical adjustment to move \$5,007 from global change studies to a new Global Change budget activity, and increases of \$6,620 for priority ecosystems science, \$3,500 to support the Healthy Lands initiative, \$1,000 to support the Birds Forever initiative, and \$300 for research and monitoring studies. Decreases are proposed of \$295 for mammalian ecology, \$246 for endocrine studies, \$886 for studies related to the Pacific Northwest Forest Plan, \$500 for studies related to wildlife, terrestrial and endangered resources, \$1,920

to eliminate 2008 unrequested increases in funding for studies in molecular biology at Leetown Science Center, equipment at the Anadromous Fish Laboratory, studies in San Francisco salt pond restoration, and for infrastructure related to Great Lakes vessels, and a reduction in travel of \$517. Fixed costs total \$2,551, of which \$2,016 are budgeted and \$535 are absorbed.

Biological Information Management and Delivery

The budget proposes a net decrease of \$2,843, composed of a decrease of \$2,932 for the National Biological Information Infrastructure and a reduction in travel of \$85. Fixed costs total \$220, of which \$174 are budgeted and \$46 are absorbed.

Cooperative Research Units

The budget proposes a net decrease of \$764 that includes a decrease of \$984 to eliminate a 2008 unrequested increase in funding, and a reduction in travel of \$55. Fixed costs total \$348, of which \$275 are budgeted and \$73 are absorbed.

Enterprise Information

Enterprise Information Security and Technology

The budget proposes a net increase of \$517, including a technical adjustment to move \$1,549 from Science Support to realign costs in the Department's Working Capital Fund Centralized Bill to the correct activity and sub-activity, and a reduction in travel of \$145. There is a fixed cost reduction of \$887 reflecting a lower Work Capital Fund billing for the Enterprise Services Network.

Enterprise Information Resources

The budget proposes a net increase of \$653 that includes a technical adjustment to move \$287 from Science Support to realign costs in the Department's Working Capital Fund Centralized Bill to the correct activity and sub-activity, and a reduction in travel of \$50. Fixed costs total \$466, of which \$416 are budgeted and \$50 are absorbed.

National Geospatial Program

The budget proposes a net increase of \$580 that includes a reduction in travel of \$154. Fixed costs total \$927, of which \$734 are budgeted and \$193 are absorbed.

Global Change

The budget proposes a net increase of \$19,200, composed of a technical adjustment to move \$21,291 from other programs to consolidate this work in a new Global Change budget activity, an increase of \$5,000 to support the Climate Change initiative, a decrease of \$7,383 to eliminate a 2008 unrequested increase in funding, and a reduction in travel of \$81. Fixed costs total \$473, of which \$373 are budgeted and \$100 are absorbed.

Science Support

The budget proposes a net increase of \$33, composed of a technical adjustment to move \$1,836 to Enterprise Information to realign costs in the Department's Working Capital Fund Centralized Bill to the correct activity and sub-activity, and a reduction in travel of \$230. Fixed costs total \$2,355, of which \$2,099 are budgeted and \$256 are absorbed.

Facilities

The budget proposes a net decrease of \$1,846 that includes a technical adjustment to move \$72,479 from Rental Payments and \$19,592 from Operations and Maintenance in the same activity into a new combined budget sub-activity of Rental Payments and Operations and Maintenance funded at \$92,071, a decrease of \$4,577 to remove one-time funding for replacing critical infrastructure at the Patuxent Wildlife Research Refuge, and a reduction in travel of \$10. Fixed costs total \$2,761, of which \$2,741 are budgeted and \$20 are absorbed.