

Required Supplementary Stewardship Information

(Unaudited,
See Auditors' Report)

Stewardship Investments

Investment in Research and Development provides reliable, credible, objective, and unbiased scientific results to improve the basic understanding of natural resources and to inform land and resource management decisions across the Nation. These research and development activities encompass examinations of geological structures, mineral resources, and products within and outside the national domain. Earth science research and information are used to save lives and property, safeguard human health, enhance the economic vitality of the Nation and its people, assess resources, characterize environments, and predict the impact of contamination. This information aids in solving critical societal problems through research, investigation, and the application of state-of-the-art geographic and cartographic methods.

Interior's research and development activities are presented in Figure 3-6 in the following three major categories.

Basic research. A study to gain knowledge or understanding of the fundamental aspects of specific phenomena or observable facts without specific applications and products in mind.

Applied research. A systemic study to gain knowledge or understanding necessary for determining the means by which a recognized and specific need may be met.

Developmental Research. The systematic use of knowledge and understanding gained from research for the production of useful materials, devices, systems, or methods, including the design and development of prototypes and processes.

Highlights of Research and Development at Interior Bureaus

U.S. Geological Survey. The USGS is the earth and natural science research Bureau of the Department and the only integrated natural science Bureau in the Federal Government. By combining biology, geology, hydrology, and geography in one agency, the USGS is uniquely positioned to provide science information and conduct scientific research that ensures an integrated approach to

FIGURE 3-6
Investment in Research and Development
(in millions)

Category	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	TOTAL
Basic Research	\$ 77	\$ 71	\$ 79	\$ 72	\$ 63	\$ 362
Applied Research	768	842	763	696	728	3,797
Developmental	107	78	76	89	75	425
TOTAL	\$ 952	\$ 991	\$ 918	\$ 857	\$ 866	\$ 4,584

advance scientific knowledge. USGS research and data products support the Department’s resource and land management needs and provide the science needed by other Federal, State, tribal, and local governmental agencies to guide planning, management, and regulatory programs.

The 2001 National Land Cover Database was completed for the lower 48 States in FY 2007. The massive database describes the land surface condition of each 30-meter cell of land in the conterminous United States. Based on satellite imagery taken in 2001, the database was constructed in a 6-year collaborative effort by the 11 Multi-Resolution Land Characteristics Consortium agencies <www.mrlc.gov>. Interagency cooperation in this complex endeavor minimizes duplication of effort and facilitates optimal leveraging of government resources. The range and accuracy of information in the database enables managers of public and private lands, urban planners, agricultural experts, and scientists with many different interests (for instance, climate change or invasive species) to identify critical characteristics of the land for a wide variety of investigations.

The USGS has launched the USGS Land Cover visualization and Analysis Tool, which allows users to analyze, in specific detail, how land cover has changed over time. Designed for both novice and expert users, the Web-based system provides an intuitive interface ability to selectively view and analyze land cover data from any Web browser.

Arsenic Research in Northern New England Contributes to Recommendations for Monitoring of Domestic Well Water. The USGS developed a geologic model for use in an ongoing study of bladder cancer in Northern New England by the National Cancer Institute, Colorado State University, and the Dartmouth School of Medicine. A leading hypothesis for the increased bladder cancer in the region is exposure to inorganic arsenic through

drinking water. Epidemiological researchers are testing this hypothesis owing to the elevated levels of arsenic in much of New England’s ground-water supply. To effectively test this hypothesis, the study design required life-time exposure to arsenic through drinking water. The USGS was asked to develop a geologic model to estimate past exposure because many study participants used multiple private wells throughout their lifetime and it is not feasible to sample every well. The model, which estimates the probability of elevated arsenic in bedrock wells, is based upon geochemical, hydrologic, and geologic factors. This geologic model served as the basis for development of an arsenic-exposure model for the collaborative epidemiology study. The geologic model has served to heighten awareness of the risks posed by elevated levels of arsenic in drinking water. It also has contributed to recommendations for increased monitoring of drinking water derived from domestic wells by Federal, State, and local health officials throughout the region.

Pharmaceuticals Found in Soil Irrigated with Reclaimed Water. Many areas of the Nation are faced with water shortages owing to an appreciable demand for water. As a result, supplies are being augmented with treated wastewater for uses such as irrigation. In a study recently published in the journal *Environmental Toxicology and Chemistry*, a team of USGS scientists reported that pharmaceuticals in wastewater used for irrigation persisted in the soil for several months after the irrigation had stopped for the season. Previous studies have documented that wastewater from sewage-treatment plants contains a variety of pharmaceuticals and other organic-wastewater contaminants. As a result, increased attention is being given to the use of reclaimed water as a potential source for such contaminants in the environment.

Mercury Research in South Florida plays major role in utilities ruling. The USGS has been conducting research over the last decade in South

Florida to determine the relationship of sulfates and the methylation of mercury. Methylmercury, the most harmful and biologically available form of mercury, has impacted fish and wildlife in the ecosystem of the Everglades and forced health warnings against eating many species of fish. Recently, State of Florida regulators were faced with the decision to issue a permit to Florida Power and Light for a new coal-fired electric generating plant in South Florida. Coal-fired generating facilities are a substantial source of both mercury and sulfate emissions. The State's regulators unanimously ruled against the request of FPL stating that it would not provide a cost effective energy source. Among the written testimony provided for the ruling was a letter to the Public Service Commission from Daniel Kimball, superintendent of Everglades National Park, citing the agency's concerns about air quality impacts and sulfate and mercury loading to the Everglades ecosystem. This testimony was an important factor in the State's ruling. Superintendent Kimball attributed credit to USGS research as having "... played a major role in defining a key environmental concern associated with the project."

National Park Service. Through appropriations for natural resource stewardship, the NPS performs a wide range of mission-oriented research in support of its natural and cultural resource stewardship responsibilities. This work constitutes applied research focusing on park-based needs for scientific and scholarly information related to park management.

The Natural Resource Preservation Program answers specific questions with immediate application for natural resource management within the NPS, and at present, primarily involves the conduct and acquisition of research related to physical science investigations. These funds are relied on by parks for the highest priority individual projects. The Cultural Resource Preservation Program provides funding for comparable cultural resource research and resource management projects in the fields of archeology, ethnography, historical architecture, history, and museum collections. The outlays and expenditure levels for research vary each year in response to the needs and priorities identified by the parks.

At Santa Monica Mountains National Recreation Area, researchers are evaluating the effects of

urbanization and habitat fragmentation on the park's wildlife using recent advances in genetic techniques. These techniques provide the means to non-invasively and more cost-effectively acquire detailed information about wildlife populations using hair and scat (droppings) samples versus traditional methods. The goal is to delineate population genetic structures for three common lizard species and six bird species, including three sedentary, and likely more sensitive bird species, and three more mobile birds that will permit direct measurement of population fragmentation, which may or may not coincide with habitat fragmentation.

A Cultural Landscape Inventory is being completed for the Spalding site of Nez Perce National Historical Park. The Spalding site is the most widely visited park site. It contains evidence of human occupation and use for more than 10,000 years. The information obtained will enable the NPS to shape and mold vegetation treatment projects from an informed perspective and will benefit the long-term preservation of the cultural and natural resources for this site.

Minerals Management Service. The MMS manages the mineral resources on 1.76 billion acres of the Outer Continental Shelf to ensure that exploration, development, and production activities are conducted in a manner that conserves natural resources, provides for the safety of offshore workers, provides a fair return to the public for the mineral rights conveyed, and assures protection of the environment. Numerous laws, particularly the National Environmental Policy Act, provide the basis for environmental assessment and study of impacts associated with OCS related activities. The OCS Lands Act mandates the conduct of environmental studies needed for the assessment and management of potential environmental impacts on the human, marine, and coastal environments affected by oil, natural gas, or other mineral development. The Oil Pollution Act of 1990 sets down specific areas of research to improve not only the technologies for preventing oil pollution, but also the response to accidental spills. Inherent in this effort is improvement of our understanding of the fate, transport, and effects of oil when spilled. MMS research supports the prediction of potential environmental impacts and aids in the development of mitigating measures to ensure safe, pollution-free operations. The Environmental Studies Program

provides environmental and socioeconomic information to support decisionmaking for all phases of the OCS minerals management program. The Technology Assessment and Research program pursues engineering studies focusing on operational safety, pollution prevention, and effective spill response.

The recently completed Characterization of Northern Gulf of Mexico deepwater hard bottom communities with emphasis on *Lophelia* coral is the first comprehensive study of the distribution of *Lophelia pertusa*, its biology, and community ecology in the Gulf of Mexico. This MMS research was accomplished with an international team of scientists which included collaborative research from USGS and NOAA. Another highly successful deepwater biological project, the Northern Gulf of Mexico continental slope habitats and benthic ecology study, characterized the soft bottom habitat of the entire continental slope to the deepest waters of the Gulf, about 12,450 feet. Studying this deepest zone of the Gulf was accomplished through the cooperation of 10 different institutions in 3 countries including joint efforts with Mexico and the participation of Mexican scientists at sea with the MMS study team. These studies provided fundamental biological information to be used for further refinement of Notice to Lessees regarding the protections necessary during oil and gas exploration and development in the deepwater areas of the Gulf of Mexico.

The MMS archaeological and biological research of World War II shipwrecks in the Gulf of Mexico received the DOI Cooperative Conservation Award in 2006 and in May 2007 was recognized with the prestigious National Oceanographic Partnership Program's Interagency Excellence in Partnering Award. In addition to the critical archaeological information produced by this study, it also provided important data on the deepwater artificial reef effect of shipwrecks as evidenced by the unexpected large growths of the coral *Lophelia* observed on the steel-hulled, Gulf Penn at a depth of 1,765 feet only 60 years after its sinking. The deep wrecks have significant ramifications on deepwater oil and gas exploration in the Gulf of Mexico and around the world. The results of the biological research have provided information on the viability of deepwater shipwrecks and platforms in the Gulf of Mexico as artificial reefs.

Using state-of-the-art analytical and sampling techniques, including the deep-diving submersible Alvin, MMS has made ground breaking exploration and science discoveries on chemosynthetic communities and coral habitats in the Gulf in water depths ranging from 4,000 to 9,000 feet. The deep Gulf habitats project is an ongoing partnership among MMS, the USGS, and the National Oceanic and Atmospheric Administration's Office of Ocean Exploration. In May 2007, the Secretary of the Interior recognized this 6 million dollar project with the DOI Cooperative Conservation Award for outstanding interagency cooperation.

As part of its mandate to ensure that the best and safest technologies are used in offshore oil and gas operations, MMS operates a 2.6-million gallon test tank for two essential functions related to oil spill response planning: responder training and full-scale equipment and chemical testing. Providing training at Oil and Hazardous Materials Simulated Environmental Test Tank ensures responders can be trained under realistic conditions with releasing oil into the sea. Most of the quantitative performance data on mechanical equipment used by industry, the U.S. Coast Guard, and the U.S. Navy to contain and clean up spilled oil was obtained through OHMSETT testing and evaluation. To increase testing value, MMS is upgrading the OHMSETT facility to provide greater reproducibility for testing and training. Additionally, OHMSETT is able to simulate realistic broken ice conditions. Recent activities include cold water dispersant effectiveness tests with Alaska crude oils, evaluations of oil booms, oil herding surfactants and ocean imaging sensors, basic research on the weathering of oil in ice and snow conditions, and annual Texas A&M University and Coast Guard oil spill response training.

Bureau of Reclamation. Reclamation invests in applied research programs to aid in the water and energy management challenges facing the arid Western States. Programs focus on the improvement of water management. The information obtained through these programs provides water management solutions and techniques that yield future benefits to the Nation. Research and Development activities support Reclamation's outcome goal to deliver water consistent with applicable State and Federal law, in an environmentally responsible and cost-efficient manner.

Departmental Offices - Central Utah Project Completion Act. In order to provide for the completion of the Central Utah Project, Public Law 102-575 was enacted on October 30, 1992. Funds authorized pursuant to this Act are appropriated annually to the Secretary of the Interior, and such appropriations are made immediately available in their entirety to the Central Utah Water Conservancy District. Two examples of Research and Development are a feasibility study by the District to reduce the salinity of Utah Lake; and a feasibility study and development by the Utah Division of Water Resources in coordination with the Jordan Valley Water Conservancy District to allow ground water recharge, management, and the conjunctive use of surface water resources with ground water resources in Salt Lake, Utah, Davis, Wasatch, and Weber Counties in the State of Utah.

Departmental Offices - Utah Reclamation Mitigation and Conservation Commission. The Commission invests in research calculated to determine the means by which mitigation measures or programs could be achieved (applied) or to determine the best method or design for an identified mitigation measure (developmental). In FY 2007, the Commission's research continued to be focused primarily on the Sage Grouse (a Northern American bird threatened by loss and deterioration of sage-steppe grassland habitat and predation) and the June Sucker (a fish occurring naturally only in Utah Lake and the Provo River and that is federally listed as endangered).

Bureau of Land Management. The primary objective of the BLM's research and development program is to make better use of new data, information, and knowledge to improve the

management of the Nation's lands and resources. The BLM's research and development program focuses on working with partners to identify scientific information needs and then communicating those needs to research agencies, universities, and other non-Governmental organizations. In FY 2007, the BLM began new research initiatives and continued past research and developmental efforts in several areas. Two examples of these research projects include studies to support the Northwest Forest Plan, as well as forest resources management in general, by improving forest productivity, protecting riparian habitats, and monitoring and understanding changes in key wildlife species; and inventory and monitoring studies to assist in protecting both animal and plant species on the public lands that are of concern because they are declining or threatened in some way. Species such as the Pacific fisher, peregrine falcon, sage grouse, snowy plover, pygmy rabbit, desert tortoise, bull trout, and many others are of concern to the BLM.

Investment in Human Capital

Investment in human capital refers to education and training programs financed by the Federal Government for the benefit of the public; investment in human capital does not include education and training expenses for Federal employees. The Department plays a vital role in providing quality educational opportunities from early childhood throughout life, with consideration given to the mental, physical, emotional, spiritual, and cultural aspects of the people served.

The Department's investments in human capital are shown in Figure 3-7.

FIGURE 3-7
Investment in Human Capital
(in millions)

Category	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	TOTAL
Educational Programs 1/	\$ 560	\$ 570	\$ 549	\$ 542	\$ 565	\$ 2,786
Job Corps Program	60	57	53	52	-	222
Other	12	12	12	11	-	47
TOTAL	\$ 632	\$ 639	\$ 614	\$ 605	\$ 565	\$ 3,055

1/ Educational Programs of Indian Affairs' School Operations, Adult Education Post-Secondary Education, and Other Educational Programs

FIGURE 3-8

IA School Operations

School Ops.	School Year 2006-2007		School Year 2007-2008	
	Schools	Students	Schools	Students
Contract/Grant Schools	123	28,770	125	27,852
Bureau-Operated Schools	61	17,235	59	16,479
Totals	184	46,005	184	44,331

Job Corps programs are no longer reported by the Department of the Interior due to the 2007 revisions contained in OMB Circular A-136, Financial Reporting Requirements, Revised July 2007. Monies received from the Department of Labor for this program are Parent/Child allocation transfers (Interior is the child) and only the parent reports on the funds. The Job Corp funding received for the 477 program (previously reported in the “Other” category) was also a Parent/Child allocation transfer (Interior is the child) and will no longer be reported.

Indian Affairs Education Programs

Within Indian Affairs, the Bureau of Indian Education takes the lead in the area of education. The BIE vision and long-range goal is to unite and promote healthy Indian communities through lifelong learning. This goal is implemented through the commitment to provide quality educational opportunities from early childhood throughout life, with consideration given to the mental, physical, emotional, spiritual and cultural aspects of the individual being served.

School Operations

The School Operations Program consists of the Indian School Equalization Program, transportation, Family and Child Education, and administrative cost funds. The ISEP funds are distributed using a formula which considers Weighted Student Units in order to provide basic educational programs for Indian children in grades K through 12. This funding is for the operation of Bureau-funded schools (i.e., funding for school staff, school programs, textbooks, and general supplies that are used by the school to educate Indian children).

The statistics for IA school operations are shown in Figure 3-8.

Adult Education Programs

The adult education program provides opportunities for adult Indians and Alaska Natives to obtain the General Equivalency Degree and provides basic skills for transition to community college or job placement. This program specifically provides educational opportunities for American Indians and Alaska Natives to improve employment skills and abilities while enhancing the local economy and economic competitiveness on reservations; it also assists in reducing the economic dependence on welfare programs.

Postsecondary Education Programs

The Post-Secondary Education Programs are an important component in the economic development of tribal communities. The programs support the Department’s goal on “Improving Communities” by promoting growth within Indian communities. Post secondary programs primarily consist of operating grants and supplemental funds for Tribal Colleges and Universities. In addition, the funds support the Undergraduate and Graduate Scholarship Programs, Haskell Indian Nations University and Southwestern Indian Polytechnic Institute.

The Haskell Indian Nations University in Lawrence, Kansas, and the Southwestern Indian Polytechnic Institute in Albuquerque, New Mexico, offer students skill certificates, and associate and bachelor degrees in a variety of studies, sciences, and technology. Two other post-secondary institutions that also provide certificates are Crownpoint Institute of Technology and United Tribes Technical College.

Other Education Programs

The Johnson O’Malley Program provides supplemental financial assistance to meet the unique and specialized education needs of eligible Indian students (beginning at age 3 through completion of grade 12) attending public schools.

JOM is the only IA program that provides for the culturally-related and supplementary academic needs of Indian children attending public schools.

Investment in Non-Federal Physical Property

The Department of the Interior provides a long-term benefit to the public by maintaining its commitment to investing in non-Federal physical property. Non-Federal physical property refers to expenses incurred by the Federal Government for the purchase, construction, or major renovation of physical property owned by State and local governments and Insular Areas, including major additions, alterations, and replacements; the purchase of major equipment; and the purchase or improvement of other physical assets. Property may include major additions, alterations, and replacements to fixed assets; the purchase of major equipment; and/or, the purchase or improvement of other physical assets.

Several programs are no longer reported by the Department of the Interior due to 2007 revisions contained in OMB Circular A-136, Form and Content of PAR, Revised July 2007. Monies received from the Department of Education and Department of Transportation for this program are Parent/Child (Interior is the child) and only the parent reports the funds.

Interior's investment in non-Federal physical property is shown in Figure 3-9.

Indian Affairs. IA's investment in non-Federal physical property includes schools, dormitories, and other infrastructures.

The Office of Facility Management and Construction, in conjunction with the IA, owns or provides funds for a considerable number and variety of buildings and other associated facilities across the Nation, including buildings with historic and architectural significance. The IA's construction program is a multifaceted, intricate operation that encompasses the areas of Education, Public Safety and Justice, Resource Management, and General Administration.

Education facilities serve a number of schools that provide educational opportunities for approximately 48,000 students. The IA also provides funding for administrative buildings at a number of tribal locations. Facilities benefitting from this program include dormitories, roads, forestry, detention centers, numerous irrigation facilities, and dams requiring repair to alleviate hazardous conditions. Additionally, program subactivities include minor improvements, repair and replacement, portable classrooms, emergency repairs, demolition and reduction of excess space, environmental projects, telecommunication improvements and repair, seismic safety, and emergency management systems. Finally, the IA is continually striving to correct building code and standard deficiencies when identified.

Bureau of Reclamation. Reclamation's investments in non-Federal physical property provide assistance through a variety of measures, all related to water and other water structures. Reclamation incurs expenses for specific programs to provide for the construction or improvement of structures and facilities used in State and local irrigation projects and water quality improvement projects.

Fish and Wildlife Service. FWS's investments in non-Federal physical property include major additions, alterations, or replacements; the purchase of major equipment; and the purchase or improvements of other physical assets for purposes of enhancing fish and wildlife management in States. The investments may also be used for land restoration, species protection, recreational hunting and boating improvements, and habitat loss prevention.

National Park Service. Congress may appropriate funds annually to the NPS for work on non-NPS facilities that is done by individuals who are not NPS employees. These funds are referred to as "Pass Through" appropriations because the role of the NPS is limited primarily to preparing an agreement that allows the funds to be obligated and certifying and processing subsequent payments for the work. More than 90 percent of the funds are obligated within the year they are appropriated. Once obligated, fund expenditure is entirely dependent on the party receiving the funds. Only cash assets

FIGURE 3-9

Investment in Non-Federal Physical Property
(in millions)

Category	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	TOTAL
Dams & Other Water Structures	\$ 244.7	\$ 213.2	\$ 244.8	\$ 340.2	\$ 225.9	\$ 1,268.8
Land	65.0	120.0	90.4	79.9	145.7	501.0
Roads and Bridges	240.8	217.0	112.5	121.9	18.1	710.3
Schools and Public Buildings	89.1	99.7	93.8	100.1	131.4	514.1
Ranges	-	-	-	-	27.8	27.8
Not Classified	1.0	1.0	15.0	22.4	10.8	50.2
Total	\$ 640.6	\$ 650.9	\$ 556.5	\$ 664.5	\$ 559.7	\$ 3,072.2

are associated with these projects. During FY 2007, \$4.2 million was expended for these pass-through projects. Examples of projects that are supported by these funds include: Utah Land Artifact Preservation Project, Virginia City Restoration Project, and the Mill City Museum Exhibits Project.

The NPS also awards a variety of grants to State and local governments to facilitate public recreation opportunities and to promote the preservation of the nation's cultural, historic, prehistoric, and archeological resources. Several of the major grant programs are the Historic Preservation grants, Historically Black Colleges and Universities Preservation grants, Land and Water Conservation Fund State grants, and the Urban Park and Recreation Recovery grants.

Departmental Offices - The Office of Insular Affairs. The Office of Insular Affairs carries out the Secretary of the Interior's responsibilities for U.S. affiliated insular areas. These include the territories of American Samoa, Guam, the U.S. Virgin Islands, and the Commonwealth of the Northern Mariana Islands, as well as the three freely associated States of the Federated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau. The OIA achieves its mission by improving the financial management practices of insular governments, increasing economic development,

and increasing Federal responsiveness to the unique needs of island communities. The OIA hopes to increase the resources available to the insular area governments while promoting economic self-sufficiency.

The OIA provides capital improvement grants to the insular areas. The capital investment in non-Federal physical property in the territories was approximately \$34.2 million in FY 2007. Capital Investment funds provided to the freely associated states (Micronesia, Palau, and Marshall Islands) are not included in this report. The monies were distributed with 31 percent to American Samoa, 5 percent to the Virgin Islands, 14 percent to Guam, and 50 percent to the Commonwealth of the Northern Mariana Islands.

Departmental Offices - Central Utah Project Completion Act. The Central Utah Project Completion Act expressly authorized the Utah Reclamation Mitigation and Conservation Commission to invest in fish and wildlife habitat improvements on non-Federal properties due to the impact of the Federal reclamation projects on fish and wildlife resources beyond the boundaries of the Reclamation projects. FY 2007 activities include the continuation of activities on the Duchesne Strawberry Diversion Structures, Wetlands around Great Salt Lake, and Fish Hatchery Production.