OFFICE OF
INSPECTOR GENERAL
U.S. DEPARTMENT OF THE INTERIOR

Inspector General's Statement Summarizing the Major Management and Performance Challenges Facing the U.S. Department of the Interior

Report No.: 2015-ER-068 November 2015

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Memorandum

To: Secretary Jewell

From: Mary L. Kendall
Deputy Inspector General

Subject: Inspector General's Statement Summarizing the Major Management and Performance Challenges Facing the U.S. Department of the Interior
Report No. 2015-ER-068

In accordance with the Reports Consolidation Act of 2000, the Office of Inspector General (OIG) is submitting what it determined to be the most significant management and performance challenges facing the U.S. Department of the Interior (DOI).

We met with DOI officials, including Deputy Secretary Connor and Chief of Staff Beaudreau, to gain their perspective and together agreed on the challenge areas. These areas are important to DOI's mission, involve large expenditures, require continuous management improvements, or involve significant fiduciary relationships. We look forward to working with you to address these management challenges and mitigate any emerging issues.

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Introduction and Approach

In accordance with the Reports Consolidation Act of 2000, the Office of Inspector General (OIG) is submitting what it has determined to be the most significant management and performance challenges facing the U.S. Department of the Interior (DOI). These challenges reflect those that OIG considers significant to departmental efforts to promote economy, efficiency, and effectiveness in its bureaus' management and operations.

OIG identified the top management and performance challenges as—

- energy management;
- climate change;
- information technology (IT);
- water programs;
- responsibility to American Indians and Insular Areas;
- acquisition and financial assistance;
- disaster response;
- operational efficiencies; and
- public safety.

These nine challenges are not presented in order of priority. Each is critical to the management or performance of DOI operations.

This report is based on specific OIG and U.S. Government Accountability Office (GAO) reviews and other reports, as well as our general knowledge of DOI's programs and operations. Our analysis generally considers the accomplishments that DOI reported as of September 30, 2015.

The challenge areas are each presented with representative samples of OIG's work in that area and a "Looking Ahead" section that offers a more forward-thinking context for critical topics. In previous years' reports, we highlighted acquisition management under our discussion of operational efficiencies, but because OIG audits and internal reviews have historically and consistently found it to be an area of significant concern, this year we have added acquisition and financial assistance as a new challenge area, to allow for greater emphasis and fuller discussion.

The identified challenge areas reflect continuing vulnerabilities and emerging issues faced by DOI. Each area is connected to DOI's mission, includes large expenditures, requires continuous management improvements, and involves significant fiduciary relationships. Given the import of this content, we must note that recent fiscal scenarios affecting the U.S. budget process—involving budget sequestration, continuing resolutions, and another potential Federal Government shutdown—have obvious effects that permeate each of the challenge areas. This

report would be incomplete without drawing attention to what is a serious impact on effective operations and management of this Department and consequently each of its challenge areas.

Every 2 years, GAO releases a list of Federal programs and operations at high risk for waste, fraud, abuse, and mismanagement or in need of broad-based transformation (see http://www.gao.gov/highrisk/overview). GAO's High-Risk List for 2015 identifies issues in three of our challenge areas—energy management, climate change, and information technology—as well as in strategic human capital management, which has impacts in two additional challenge areas, disaster response and operational efficiency. GAO's findings inform and guide our actions to resolve management and operational challenges.

Energy Management

DOI plays a central role in powering America's future through the development of domestic energy resources. The Department has jurisdiction over 1.7 billion acres of the Outer Continental Shelf (OCS), manages 500 million acres of public lands, and 700 million acres of subsurface minerals throughout the Nation. DOI manages resources that supply 23 percent of the Nation's energy. DOI programs help advance responsible stewardship of resources and energy independence, and DOI's strategic plan for fiscal years (FYs) 2014 – 2018 emphasizes safe and responsible energy development.

DOI manages Federal oil and gas activities (onshore and offshore), promotes clean energy development, and collects and disburses royalties and revenues related to energy production (oil, gas, coal, minerals, geothermal, and renewables such as wind, wave, and solar) on Federal and tribal lands and from the OCS. In FY 2014, DOI disbursed more than $13.4 billion in revenues.[1] These revenues were collected from more than 56,000 leases on approximately 83,000 acres of Federal land and the OCS.

Due to the complexity of exploration and production activities, the sensitive nature of these operations, and the revenues generated, many of DOI's energy programs are vulnerable to waste, fraud, and mismanagement, which can jeopardize public safety and environmental integrity and increase the financial burden on the American public. As a result, OIG formed an Energy Audits Unit and an Energy Investigations Unit for focused oversight of this complex and far-reaching area.

Summary of OIG Work

During FY 2015, OIG conducted a series of reviews on oil and gas permitting and the management of oil and gas activities.

Management of Oil and Gas Activities on Wildlife Refuges

The National Wildlife Refuge System is an extensive system of Federal lands and waters acquired and managed specifically for conserving wildlife, plants, and their habitats. Currently the U.S. Fish and Wildlife Service's (FWS) refuge sites have more than 5,000 oil and gas wells, of which approximately 1,665 are actively producing. The remaining wells are either inactive or their status is unknown. FWS often manages refuge site lands without having acquired subsurface mineral rights, which allows for the development of these private minerals by their non-Federal owners.

[1] DOI Press Release, "Interior Disperses $13.4 Billion in FY14 Energy Revenues to Benefit Federal, State, Local and Tribal Governments," December 2, 2014, https://www.doi.gov/news/pressreleases/interior-disburses-13-4-billion-in-fy14-energy-revenues-to-benefit-federal-state-local-and-tribal-governments.

We completed an evaluation to determine the nature and extent of the threat that orphaned (where active owners or operators cannot be identified) and non-operational oil and gas wells and their associated infrastructures pose to FWS refuges and refuge visitors.[2] We found that FWS' management of oil and gas development activities on refuges is inconsistent. Minimal and vague national guidance has left FWS' refuges littered with orphaned or abandoned oil and gas infrastructure that pose a threat to the health and safety of wildlife, refuge visitors, and the environment. FWS has not completed a comprehensive database system for tracking wells as recommended by GAO in 2003. We made five recommendations designed to enhance the management of oil and gas activities on refuge sites by addressing inconsistent oversight and enforcement, safety and environmental problems associated with orphaned and abandoned wells, and poor data management.

BSEE Incident Investigation Program

While conducting an evaluation of the Bureau of Safety and Environmental Enforcement's (BSEE) Incident Investigation Program, we learned that BSEE is realigning the organization and developing new policies and procedures related to its new National Program Manager initiative. We suspended the evaluation to allow BSEE's management more time to finish its realignment; however, we issued a report with findings and recommendations developed during the survey phase of our evaluation.[3] Specifically, OIG determined that recommendations made in our December 2010 report "A New Horizon: Looking to the Future of the Bureau of Ocean Energy Management, Regulation and Enforcement" and considered implemented and closed were in fact not implemented. Additionally, contradictions between BSEE's policies and Secretarial Order No. 3304, which established BSEE's Investigations and Review Unit, caused the unit to be left out of regional incident investigations. Consequently, we recommended that BSEE reopen and implement previously closed recommendations, as well as evaluate whether the realignment affects any of the 2010 recommendations, and revise or rescind any contradictory policies. We also asked BSEE to provide quarterly progress reports regarding its organizational realignment. We will complete the evaluation after BSEE has implemented the realignment.

USGS Energy Resources Program

We evaluated the quality control processes of the science center laboratories in the U.S. Geological Survey's (USGS) Energy Resources Program (ERP).[4] Government and private organizations rely on ERP's products to make resource-

[2] DOI OIG Report No. CR-EV-FWS-0002-2014, "U.S. Fish and Wildlife Services Management of Oil and Gas Activities on Refuges," March 2015.
[3] DOI OIG Report No. CR-EV-BSEE-0014-2014, "The Bureau of Safety and Environmental Enforcement, Incident Investigation Program," August 2015.
[4] DOI OIG Report No. CR-EV-GSV-0003-2014, "Energy Resources Program, U.S. Geological Survey," May 2015.

based decisions. The information provided by these laboratories, therefore, must be reliable.

We found that many years after ERP's creation in 1995, USGS is still developing a quality management system. Further, ERP's system of quality controls has not always detected significant quality-related issues in its science center laboratories. We found two instances when workers had violated established laboratory practices without detection for many years. In addition, quality-related deficiencies discovered in 2013 at a major laboratory resulted in the postponement of an external quality audit. We concluded that ERP should replace its current system of controls with an effective and comprehensive quality management system that incorporates an independent review process conducted by a recognized scientific organization. Although ERP has taken corrective actions to improve its existing quality control system, our findings indicate that ERP needs to be more proactive in preventing violations of quality standards.

Information Sharing Between USGS and BOEM

During our evaluation of the quality control processes at USGS' ERP, we learned of a problem affecting the program's ability to conduct a resource assessment for the States bordering the Gulf of Mexico: ERP had been unable to obtain certain information from the Bureau of Ocean Energy Management (BOEM) that it needed to conduct analytical work. To develop a complete geologic understanding of the potential oil and gas reserves, ERP needed access to OCS data that falls under BOEM's jurisdiction.

While overseeing energy development on the OCS, BOEM acquires geologic and geophysical data from oil and gas operators. The operators consider the data proprietary, not for public release. BOEM is restricted by law from disclosing proprietary information to the public or to States, and expressed concern that proprietary OCS data could be released to the public through ERP's publications on separate State waters and land. ERP has stated that it will protect the BOEM-acquired data from improper public release, as required by law, and has assured BOEM that it has extensive experience in using and safeguarding proprietary data. We recommended that USGS work with BOEM and the Office of the Solicitor to enable the timely exchange of proprietary OCS data.[5]

ONRR's Financial Management Division

The Office of Natural Resources Revenue (ONRR) collects, verifies, and distributes all revenues associated with Federal offshore and onshore mineral leases. In prior years these revenues have averaged more than $13 billion annually. In addition to the Federal Government, many State and tribal governments and individuals rely on the revenues collected by ONRR.

[5] DOI OIG Report No. CR-IS-GSV-0008-2014, "Information Sharing Between the U.S. Geological Survey and the Bureau of Ocean Energy Management," October 2014.

We audited ONRR's Financial Management Division, to assess the efficiency of the processes to collect and distribute energy- and mineral-related revenue.[6] We identified inefficient practices and procedures that prevented the division from functioning at the highest level. We also found issues regarding ONRR's information system and how requests to modify the system are managed and processed, as well as potential problems with ONRR's oil price edits, policies, and procedures. We made 17 recommendations to improve ONRR's operations and increase efficiency.

Deepwater Horizon Task Force

The *Deepwater Horizon* disaster of April 2010 resulted in the deaths of 11 oil rig workers, serious injury to others, and the largest oil spill in U.S. history. OIG continued to provide resources to the Deepwater Horizon Task Force that was formed to investigate the worst environmental catastrophe in U.S. history. As a result of the task force's investigation, three companies (BP, Halliburton, and Transocean) have pleaded guilty to various civil or criminal charges.

The work of the task force has also resulted in criminal charges for five individuals. On December 18, 2013, a jury in New Orleans, LA, convicted a former engineer of intentionally destroying evidence related to the oil spill. The conviction was vacated by the trial judge due to juror misconduct, the case was appealed to the Fifth Circuit Court of Appeals, and the court upheld the dismissal. Retrial is set for November 16, 2015.

In January 2014, a former corporate manager was sentenced to 1 year of probation after pleading guilty to destroying evidence related to the case. A former corporate executive was charged with obstruction and making false statements, but in a June 2015 trial the obstruction charge was dismissed by the judge and the former executive was acquitted on the false statement charge. Manslaughter and other charges are pending against two former well site leaders.

Common Themes That Connect Our Findings

We continue to see issues similar to those identified in previous years—specifically, issues with oversight and management of the collection, verification, and distribution of revenues for oil and gas as well as minerals management. DOI continues to struggle with organizational issues, particularly within BSEE, that affect oversight and management of oil and gas production.

Looking Ahead

Oil and Gas Revenues and Oversight

In a series of reviews, GAO has observed that DOI does not have reasonable assurance that it is collecting its share of royalties for oil and natural gas extracted

[6] DOI OIG Report No. CR-IN-ONRR-0007-2014, "ONRR Financial Management Division," report in progress.

from leased Federal lands and waters.[7] The Federal Government has charged royalty rates inconsistently in the past. In addition, the Energy Policy Act of 2005 (Pub. L. No. 109-58) mandated royalty relief for some offshore leases over a 5-year period. At the same time, because DOI has not always conducted production inspections, it is uncertain whether oil and natural gas operators accurately reported oil and natural gas production from Federal leases and remitted the appropriate royalties.[8]

GAO has indicated that DOI has made progress in improving both the verification of oil and gas produced from Federal leases and the reasonableness and completeness of royalty data; however, DOI has not updated its regulations for onshore oil and gas measurement, and as a result these regulations have not kept pace with industry standards and practices. While we are encouraged that BLM has issued proposed regulations to update requirements for onshore oil and gas measurement, we continue to emphasize the importance of finalizing this regulatory effort to ensure that DOI has reasonable assurance that oil and gas are measured correctly.[9]

Overall, DOI will also need to increase effectiveness and efficiency of BLM's processing of Federal permits to drill. Extended review times associated with the process continue to create uncertainties for both industry and DOI. These delays can result in lost royalties to the Federal Government and American Indian mineral owners; if not corrected, delays will likely cause some wells not to be drilled, resulting in additional losses in production and revenues. While DOI has been developing and executing plans to address these and other concerns identified in reports issued by OIG and GAO, missed opportunities continue for increased revenues through collection of additional royalties.

BLM manages more Federal land than any other agency—about 245 million surface acres as well as 700 million subsurface acres of mineral estate. Offshore, BOEM manages about 6,100 active OCS leases, covering more than 33 million acres, with the vast majority in the Gulf of Mexico. In 2013, OCS oil and gas leases accounted for about 18 percent of domestic oil production and 5 percent of domestic natural gas production.

The Outer Continental Shelf Lands Act (43 U.S.C. §§ 1331 et seq.), or OCSLA, defines the OCS and makes the Secretary of the Interior responsible for implementing an OCS oil and gas exploration and development program. The OCSLA requires the Secretary, through BOEM, to prepare and maintain a

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[7] Specifically, these four GAO reports: Report No. GAO 12-423 (August 29, 2012); Report No. GAO 14-50 (December 17, 2013); Report No. GAO 14-205 (February 19, 2014); and Report No. GAO-15-39 (May 6, 2015).

[8] GAO Key Issues, "Oil and Natural Gas," http://www.gao.gov/key_issues/oil_and_natural_gas/issue_summary.

[9] GAO Report No. GAO-15-39, "Interior's Production Verification Efforts and Royalty Data Have Improved, But Further Actions Needed," May 6, 2015.

schedule of proposed oil and gas lease sales in Federal waters, indicating the size, timing, and location of auctions that would best meet national energy needs for the 5-year period following its approval. In developing the schedule ("Five Year Program"), the Secretary is required to achieve an appropriate balance among the potential for environmental impacts, discovery of oil and gas, and adverse effects on the coastal zone.

The current Five Year Program (for 2012 – 2017) expires in August 2017. In January 2015 Secretary Jewell announced the Draft Proposed Program (DPP) for the 2017 – 2022 schedule. The DPP identifies 14 potential lease sales in eight planning areas—three in the Gulf of Mexico, two in the Atlantic Ocean, and three off the coast of Alaska. These sales represent nearly 80 percent of the estimated undiscovered, technically available oil and gas resources on the OCS.[10]

Effective oversight will be a challenge as the new Five Year Program is developed. BOEM will need to seek a wide array of input, including information on the economic, social, and environmental values of all OCS resources, as well as the potential environmental and human impact of oil and gas exploration and development on other OCS resources.

Hiring and Retention

DOI faces challenges in hiring and retaining staff with key skills for oil and gas operations. These challenges have made it more difficult to carry out Federal management and oversight activities, including collection of royalties and conducting inspections of oil and gas facilities, potentially placing human health and safety and the environment at risk.

GAO's 2015 update to its High-Risk List noted that DOI has demonstrated leadership commitment to addressing human capital challenges at the bureaus responsible for oversight and management of Federal oil and gas (BLM, BOEM, and BSEE), but has not fully used existing authorities to supplement salaries and provide other recruitment, relocation, and retention incentives.[11]

Two factors contribute to these hiring and retention challenges: lower salaries and a slow hiring process compared with private industry. The average time required to hire petroleum engineers and inspectors is 120 calendar days—exceeding the U.S. Office of Personnel Management's (OPM) target by as many as 40 days. The FY 2012 attrition rate for petroleum engineers at BLM was more than 20 percent, or more than double the average Federal attrition rate of 9.1 percent. Since some BLM field offices have only a few employees in any given position, a single separation could significantly affect operations.

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[10] BOEM, "2017–2022 Lease Sale Schedule," http://www.boem.gov/2017-2022-Lease-Sale-Schedule/, and BOEM, "2017–2022 OCS Oil and Gas Leasing Program," http://www.boem.gov/Five-Year-Program-2017-2022/.

[11] GAO Report No. GAO-15-290, "High-Risk Series: An Update," February 11, 2015.

BLM faces ongoing challenges with recruiting, training, and retaining petroleum engineers (PEs) and petroleum engineering technicians (PETs), as current staff retire and BLM competes with higher salaries offered by private industry and other agencies. In our management challenges report for FY 2014, we noted that BLM had begun using pay differential authority for PEs and PETs to increase its workforce, and in FY 2015, BLM continued to assess a range of options for addressing recruitment and retention challenges. As a short-term solution, existing PEs, PETs, and environmental compliance inspectors are being cross-trained to conduct production inspections. In May 2015, BLM posted a continuous open vacancy announcement on USAJobs to hire PETs across the Bureau, and it continues to work with OPM on a longer term administrative solution for filling priority positions.

For its part, BSEE has implemented a number of strategies to address human capital challenges, including the following:

- **Special pay rate.** To pursue a more permanent solution, DOI is working with OPM and the U.S. Office of Management and Budget (OMB) to identify special salary enhancements that will narrow the gap between Federal Government and private industry salaries.
- **Use of existing authorities.** BSEE is using existing authorities to offer recruitment, retention, and relocation incentives, as well as student loan repayments, to eligible employees.
- **Recruitment teams.** Throughout BSEE regions, recruitment teams visit and build professional contacts with universities and engineering departments, and at professional events and conferences, to target engineers and scientists at entry-level and mid-level grades.
- **Partnerships.** BSEE continues to use DOI's cooperative agreement with the Partnership for Public Service to fund student ambassadors, who provide peer-to-peer outreach on college campuses to increase knowledge about Federal career opportunities. BSEE currently has two ambassadors and will continue this partnership in the next fiscal year.
- **Data tools and systems.** BSEE currently uses open position trackers for collecting data related to its overall hiring process, and is revising processes and developing other tools to help track hiring timeframes more easily, realize a reduction in applicant processing time, and decrease long-term system operating costs.

Although steps have been taken to address some of the hiring and retention issues, more needs to be done.[12] Both DOI and its bureaus have insufficient data to identify the causes of the delays in the hiring process. Indeed, GAO noted that

[12] According to GAO (Report No. GAO-15-290), as of November 2014 BOEM, BSEE, and BLM are developing a tracking system to support the capture of hiring data and address delays in the hiring process. Additionally, BSEE and BOEM are apparently developing plans to transition to a hiring software that is expected to reduce applicant processing times and decrease costs.

DOI needs to collect and maintain complete and accurate data on hiring times—such as the time required to prepare a job description, announce the vacancy, create a list of qualified candidates, conduct interviews, and perform background and security checks—to effectively implement changes to expedite its hiring process.[13] DOI also needs to consider how it will address staffing shortfalls over time. DOI must focus on these issues to improve hiring and retention of qualified employees and its ability to collect its share of oil and gas revenue and provide oversight and management of oil and gas operations on Federal lands and waters.

Renewable Energy Production and Oversight

The President's Climate Action Plan, announced in June 2013, outlines actions the Administration is taking under existing authorities to reduce carbon pollution, increase energy efficiency, expand renewable and other low-carbon energy sources, and strengthen resilience to extreme weather and other climate impacts. Although the Administration's energy strategy encourages increased conventional energy production, it has also opened opportunities for renewable energy production on public lands and waters. The President has directed DOI to approve at least 20,000 megawatts of renewable energy capacity on the public lands by 2020.

Most renewable energy resources—such as wind, solar, geothermal, and sustainable hydropower—are still in the early stages of development in the United States. These resources are typically much cleaner to produce and to use than conventional energy resources. The potential environmental impacts of renewable energy development, however, must be seriously considered, with efforts made to limit or prevent negative consequences through responsible development practices and careful oversight by the responsible bureaus (BLM and BOEM). Solar energy projects on public lands and wind energy projects on the OCS are now underway.

Since 2009, DOI has announced 57 renewable energy projects: 34 solar, 11 wind, and 12 geothermal utility-scale renewable energy facilities and associated transmission infrastructures. DOI reports that together these projects could support more than 26,000 construction and operation jobs and generate nearly 15,000 megawatts of electricity or enough to power 5 million homes. Thirteen of these projects are already operational, representing nearly $40 billion in potential capital investments by industry in clean energy development.[14]

BLM reports that public lands located in the solar-rich States in the Southwest play a key role in the President's Climate Action Plan. It cites one example as the Desert Sunlight Solar Farm, a solar power plant in the Southern California desert that is now operating at full capacity. The solar farm provides 550 megawatts of

[13] GAO Report No. GAO-15-290, "High-Risk Series: An Update," February 11, 2015.
[14] DOI Press Release, "Interior Department Approves 485-Megawatt Blythe Mesa Solar Project in California," August 24, 2015, https://www.doi.gov/pressreleases/pressreleases/interior-department-approves-485-megawatt-blythe-mesa-solar-project.

electricity, enough to power 160,000 homes.[15] Desert Sunlight is the sixth solar project approved on public lands that is now operational. In addition, in August 2015, BLM announced the Blythe Mesa Solar project in California. The 485-megawatt photovoltaic facility is scheduled to be constructed in Riverside County and will produce enough renewable energy to power 145,000 homes in California.[16]

Offshore wind development also plays a critical role in achieving the President's renewable energy goal as it could produce more than 4,000 gigawatts of energy. The Nation's first commercial-scale offshore wind farm is scheduled to be online in 2016. Located off the Rhode Island coast, the Block Island Wind Farm is expected to power about 17,000 homes. The wind farm will produce more than 100 million kilowatt hours of clean energy annually, which will be sold through a power purchase agreement to National Grid, a Rhode Island utility company.[17]

BOEM has awarded nine commercial wind energy leases off the Atlantic coast: two noncompetitively issued leases (one offshore Massachusetts and one offshore Delaware) and seven competitively issued leases (two offshore Rhode Island-Massachusetts, two offshore Massachusetts, two offshore Maryland, and one offshore Virginia). The competitive lease sales generated about $14.5 million in winning bids for more than 700,000 acres in Federal waters. BOEM is expected to hold an additional competitive auction for wind energy areas offshore New Jersey in late 2015.[18]

Barriers to Renewable Energy

Although renewable energy sources provide a number of benefits, some barriers do exist. Price competitiveness is perhaps the most significant barrier to renewable energy installations. In many cases, barriers are regulatory, and many are within State control. Barriers to renewable energy development include—

- unfavorable utility rate structures;
- the absence of interconnection standards for renewable energy use;
- environmental permitting obstacles; and
- insufficient or no access to transmission systems.

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[15] DOI Press Release, "Secretary Jewell, Director Kornze 'Flip the Switch' on Desert Sunlight Solar Farm," February 9, 2015, https://www.doi.gov/news/pressreleases/secretary-jewell-director-kornze-flip-the-switch-on-desert-sunlight-solar-farm.

[16] DOI Press Release, "Interior Department Approves 485-Megawatt Blythe Mesa Solar Project in California," August 24, 2015, https://www.doi.gov/pressreleases/pressreleases/interior-department-approves-485-megawatt-blythe-mesa-solar-project.

[17] DOI Press Release, "Secretary Jewell, Director Hopper Laud Construction of Nation's First Offshore Wind Farm," July 27, 2015, http://interior.gov/news/pressreleases/secretary-jewell-and-director-hopper-laud-construction-of-nations-first-offshore-wind-farm.cfm.

[18] Ibid.

Government can play a supportive role in renewable energy investment through a wide variety of tax incentives, including credits, grant funds, and accelerated depreciation (allowing larger deductions in the earlier years of an energy asset's life).

In addition, as with oil and gas, any issues resulting from delays in permitting, as well as the human capital challenges described previously, will have an adverse effect on both private industry and Government efforts. These issues, combined with infrastructure and environmental impact issues, may slow the development of renewable resources. DOI is actively engaging with other Federal agencies and domestic and international parties to ensure effective coordination during the planning and permitting processes, incorporate best practices, and exchange scientific and environmental information.

Regulating Hydraulic Fracturing on Federal and Tribal Lands

Of the more than 100,000 oil and gas wells on federally managed lands, 90 percent use hydraulic fracturing ("fracking"). Coupled with horizontal drilling technology and other advanced technologies, hydraulic fracturing has provided greatly increased access to shale oil and gas resources across the country and production of oil and gas from rock formations that previously could not be developed.

In March 2015, DOI issued a final rule to support safe and responsible hydraulic fracturing on public and American Indian lands.[19] The rule was designed to improve safety and help protect groundwater by updating requirements for well-bore integrity, wastewater disposal, and public disclosure of chemicals. The new rule contains provisions that are similar to or based on existing State or tribal rules and industry best practices. The intended result of this rule is to enhance environmental protection in a thoughtful and cost-effective way. BLM, which has oil and gas oversight responsibilities, estimated that the new rule will cost less than one-fourth of 1 percent of the cost of drilling a well, based on the Energy Information Administration's average per-well cost of $5.4 million.[20]

As pressure continues to increase use of Federal and Indian lands for drilling, however, DOI must remain vigilant and take appropriate steps to ensure that environmental concerns are adequately addressed, appropriately monitored, and remedied when violations are identified.

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[19] Federal Register, Vol. 80 No. 58 (March 26, 2015): DOI BLM, "Oil and Gas; Hydraulic Fracturing on Federal and Indian Lands; Final Rule," http://www.gpo.gov/fdsys/pkg/FR-2015-03-26/pdf/2015-06658.pdf.

[20] DOI Press Release, "Interior Department Releases Final Rule to Support Safe, Responsible Hydraulic Fracturing Activities on Public and Tribal Lands," March 20, 2015, https://www.doi.gov/news/pressreleases/interior-department-releases-final-rule-to-support-safe-responsible-hydraulic-fracturing-activities-on-public-and-tribal-lands.

Climate Change

Given the significant financial risk it poses to the Federal Government, climate change has been on GAO's High-Risk List since 2013.[21]

Environmental management is part of DOI's mission to conserve and protect the Nation's resources. Related activities include managing environmental compliance operations, improving sustainable practices, and reducing DOI's environmental footprint. The U.S. Global Change Research Program has reported that the impacts and costs of weather disasters—resulting from floods, droughts, and other events—will increase in significance, as what are considered "rare" events become more common and intense due to climate change.[22] Less acute changes, such as sea level rise, will also have significant long-term impacts. According to the National Research Council, there is a clear scientific understanding that climate change poses serious risks to a broad range of human and natural systems, with variable impacts across different locations and populations.[23]

The lands and resources managed by DOI face increasingly complex and widespread environmental challenges associated with climate change. Addressing climate change is one of the high-priority performance goals reflected in the President's Climate Action Plan[24] and embedded in DOI's strategic plan for FYs 2011 – 2016. To further its overarching response strategy (established in 2009 by Secretarial Order No. 3289), DOI has issued a climate change adaptation plan (2014) that formalizes and guides departmentwide efforts.

Summary of OIG Work

Climate Science Centers

In FY 2015, OIG completed its audit of USGS' climate science centers (CSCs).[25] These centers rely on grants and cooperative agreements to complete climate-centered scientific research in eight geographically distinct regions in the United States. Each regional CSC sets science priorities and provides data and tools that natural and cultural resource managers can use to anticipate and address the impacts of climate change.

CSCs fund climate-focused scientific research through financial assistance awards, specifically discretionary grants and cooperative agreements. We audited

[21] GAO Report No. GAO-15-290, "High-Risk Series: An Update," February 11, 2015.
[22] U.S. Global Change Research Program, "Climate Change Impacts in the United States: The Third National Climate Assessment," October 2014, http://nca2014.globalchange.gov/.
[23] National Research Council, "America's Climate Choices," National Academies Press, 2011.
[24] "The President's Climate Action Plan," June 2013, https://www.whitehouse.gov/sites/default/files/image/president27sclimateactionplan.pdf.
[25] DOI OIG Report No. ER-IN-GSV-0003-2014, "U.S. Department of the Interior's Climate Science Centers," August 2015.

the financial assistance awards made by four of the eight CSCs to determine whether they are being properly awarded and effectively managed. For the selected CSCs, we reviewed 48 agreements totaling more than $13.7 million in financial assistance awards from FYs 2010 through 2013.

In the audit, we found areas of concern that, if uncorrected, could place public funds at risk and raise questions about the appropriateness and transparency of expenditures. Specifically, we identified issues related to the selection and awarding of financial assistance agreements, internal controls and documentation, risk assessments, and oversight and management of financial award processes.

OIG offered nine recommendations to USGS to strengthen the management of CSC financial awards. We also described three operational efficiencies that USGS could use to improve its management and oversight of CSCs. The issues we identified leave DOI vulnerable to questions about unfair or inadequate public notice, as well as preferential treatment, which affect DOI's credibility.

Common Themes That Connect Our Findings

Our FY 2015 work showed that maintaining adequate internal controls for grants management remains a challenge in the implementation of climate change programs at DOI. In addition, issues surrounding transparency, competition, and proper training on the financial assistance process will impair climate change programs if not corrected. We have found these issues to be common across all grants management within DOI; see "Acquisition and Financial Assistance" in this management challenges report for further discussion.

Looking Ahead

Wildland Fire Costs and Strategy

In the past 35 years, the length of the fire season around the globe has increased by 18.7 percent as a result of climate change.[26] DOI expects the trend of above-average fire activity to continue in this and future years, and forecasted a 90 percent chance that its fire suppression efforts in FY 2015 would cost between $281 million and $475 million. DOI's current firefighting budget is about $384 million.

Since 2001, DOI funds spent on fire suppression have exceeded the budgeted amount in all but 8 years. These budget shortfalls are covered through transferring, or "borrowing" funds from other critical programs, including those that can help keep forests and rangelands healthy and make them less vulnerable to future catastrophic wildfires. One to two percent of fires make up 30 percent or more of total annual fire suppression dollars, pulling funding from other DOI responsibilities. The escalating costs of fire suppression will cause DOI to

[26] W.M. Jolly, M.A. Cochrane, P.H. Freeborn, et al., "Climate-induced variations in global wildfire danger from 1979 to 2013," Nature Communications, July 14, 2015, http://www.nature.com/ncomms/2015/150714/ncomms8537/full/ncomms8537.html.

continue to face budget shortfalls that will affect its other operations. Current legislative proposals seek to address this issue by classifying major fires as natural disasters (which would release Federal disaster relief funds), but to date these bills have not been passed. Prompted by record firefighting costs this season, on September 15, 2015, Secretary Jewell, the Secretary of Agriculture, and the Director of OMB issued a joint letter to multiple members of Congress, emphasizing the need for Congress to take action to solve this pressing budgeting problem by treating firefighting spending like other Federal disaster response activities, with adjustments to discretionary funding caps in severe fire seasons.[27] The letter also stressed that the growing proportion of funds spent on firefighting activities means a reduction in funds available for fuels management and forest and rangeland restoration to make lands less vulnerable and more resistant to wildfire.

Moreover, increased frequency and severity of wildfire has damaging effects on numerous habitats that span large distances, requiring an inclusive strategic response. At particular risk are the sagebrush rangelands across the West that span 11 States and two Canadian provinces. The accelerated invasion of nonnative annual grasses, increased drought, and other effects of climate change have greatly increased the threat of rangeland fires to the sagebrush landscape and the more than 350 species of plants and animals that rely on the habitat for survival.[28] As one example, scientists and fish and wildlife experts have identified rangeland fire as the greatest threat to the survival of the greater sage grouse in the Great Basin region. Secretarial Order No. 3336 (signed on January 5, 2015) establishes policies and strategies for preventing and suppressing rangeland fire and for restoring sagebrush landscapes affected by fire across the West. According to BLM, these actions are essential for conserving habitat and promoting economic activity and are designed to build upon the success of rangeland and broader wildfire prevention, suppression, and restoration efforts to date, including the National Cohesive Wildland Fire Management Strategy.[29]

Implementing this initiative will prove challenging, as it requires coordination across multiple layers of government as well as the vast landscape it aims to protect and restore. Aspects that call for diligence include coordinating between resource managers and fire fighters, executing appropriate scientific strategies, and designing and implementing integrated fire response plans for all DOI

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[27] DOI Press Release, "USDA, DOI, and OMB Urge Congress to Fix the Fire Budget," September 15, 2015, https://www.doi.gov/pressreleases/usda-doi-and-omb-urge-congress-fix-fire-budget.

[28] BLM Press Release, "Secretary Jewell Announces Comprehensive Rangeland Fire Strategy to Restore and Protect Sagebrush Lands," May 20, 2015, http://www.blm.gov/wo/st/en/info/newsroom/2015/May/secretary_jewell_announces.html.

[29] Ibid. For more information on the mentioned national strategy, see "The National Strategy: The Final Phase in the Development of the National Cohesive Wildland Fire Management Strategy," April 2014, https://www.doi.gov/sites/doi.gov/files/migrated/news/upload/20140328_CSPhaseIIINationalStrategy_SurnameCopy_execSec_FINAL_v3.pdf.

wildland firefighting agencies that prioritize protection of rural communities and landscapes at greatest risk for the detrimental impacts of rangeland fire and invasive species.

Tribal Impact

Climate change also threatens the culture and way of life of American Indian and Alaska Native tribes, potentially affecting tribal lands, housing, and infrastructure, as well as access to traditional foods and adequate water.

Because of the complexity of the climate-ecosystem relationship and limited climate-change research tailored to the needs and traditions of Native communities, tribal and trust land managers will need to stay abreast of climate adaptation research and best practices, and combine that with local knowledge and traditional ecological knowledge to create climate-resilient projects and landscapes. According to the Third National Climate Assessment:

> Some climate change adaptation opportunities exist on Native lands, and traditional knowledge can enhance adaptation and sustainability strategies. In many cases, however, adaptation options are limited by poverty, lack of resources, or—for some Native communities, such as those along the northern coast of Alaska constrained by public lands or on certain low-lying Pacific Islands—because there may be no land left to call their own.[30]

These effects are felt on American Indian lands today and put several populations at risk of becoming climate change refugees within a decade.[31]

Action is needed to develop climate adaptation and resilience strategies to help preserve American Indian and Alaska Native ways of life. In FY 2015, the Bureau of Indian Affairs' (BIA) funded $4 million a year for climate planning and $4 million for ocean and coastal management planning to support resilience actions within BIA programs. Initial investments in strategic planning and development of data and tools have helped managers make climate-related decisions with their project funding. DOI's FY 2016 budget is expected to invest in additional training opportunities for tribal and BIA managers, increased site-specific vulnerability assessments, and expanded technical support to access applied science.

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[30] U.S. Global Change Research Program, "Climate Change Impacts in the United States: The Third National Climate Assessment," October 2014, http://nca2014.globalchange.gov/.

[31] DOI Press Release, "Secretary Jewell Stresses Collaboration to Help Alaska Natives Meet Challenges of Climate Change," February 17, 2015, https://www.doi.gov/news/pressreleases/secretary-jewell-stresses-collaboration-to-help-alaska-natives-meet-challenges-of-climate-change.

Water Scarcity

Current research shows that climate change is affecting weather and stream flow patterns across the Western United States.[32] Intense rainstorms are up 22 percent in frequency since the 19th century, while increased temperatures are causing a simultaneous increase in drought conditions. Warming is affecting water supplies by changing the overall annual volume of precipitation and altering the balance of rain versus snowfall. Overall, climate change impacts are affecting the quality and availability of surface water and groundwater. Communities face increasing problems with water scarcity, drought, and flooding. As a result, the Bureau of Reclamation's (USBR) basic mission and objectives are at risk, as the Bureau is challenged to deliver needed quantities of water and power, ensure the resiliency of infrastructure, and continue to maintain ecosystems affected by USBR projects in a manner that supports ongoing operations.

In November 2014, USBR's Climate Change Adaptation Strategy was released to extend climate change adaptation efforts across the Bureau's mission responsibilities. The goals identified in the strategy follow from key elements of the President's 2013 Climate Action Plan, which identifies the continued development of sound science, water management planning and conservation, and increasing the resiliency of infrastructure as critical actions to prepare the United States for the impacts of climate change.

Coordinated Response and Impact of LCCs

At the core of DOI's climate change strategy is a nationwide network of 22 landscape conservation cooperatives (LCCs) that collaborate across national and international jurisdictions on landscape-level planning. LCCs were created to leverage resources and encourage science-based inquiries to respond to landscape-level stressors, including climate change.

According to the DOI strategy, LCCs promote connections among conservation efforts and are actively engaged in many of the challenge areas, including climate change, water programs, American Indians and Insular Areas, and disaster response. Further, LCCs are designed to provide operational efficiencies by sharing information, coordinating activities, and leveraging resources among conservation partners.

Within the LCC enterprise, reduced budgets will make it difficult to maintain comprehensive coverage and sustain the interest of partner organizations. Another challenge LCCs face is the potential for duplication of scientific effort. Given the numerous nongovernmental organizations, universities, and Federal, State, and local government agencies doing climate-related work, guarding against unnecessary duplication of scientific effort can save on costs and improve science

[32] E.M. Fischer and R. Knutti, "Anthropogenic contribution to global occurrence of heavy-precipitation and high-temperature extremes," Nature Climate Change, April 27, 2015, http://www.nature.com/nclimate/journal/v5/n6/pdf/nclimate2617.pdf.

capacity while increasing the overall effectiveness and impact of the work being done.

FWS has contracted with the National Academy of Sciences to evaluate the purpose, goals, and scientific merits of the LCC program within the context of similar programs, and to examine whether LCC activities have resulted in measurable improvements in the health of fish, wildlife, and their habitats.

In addition, several of DOI's bureaus have developed or are developing bureau-level climate change policies and strategies. Examples include USBR's Climate Change Adaptation Strategy (2014), the BIA Tribal Climate Change Adaptation Grant Program (2013), the National Park Service (NPS) Climate Change Response Strategy (2010), and FWS' Climate Change Strategic Plan (2010). As these and other bureaus plan their responses to climate change, DOI will need to ensure a coordinated effort and develop cross-cutting priorities to guide efforts at the bureau or program level.

Sea Level Rise and Special Risks to Insular Areas

Sea levels are rising at roughly double the average rate observed in the last century.[33] Specific projections of sea level rise vary by site and time, but research by scientists at NPS and Western Carolina University predicts a 1-meter rise in sea level over the next 100 – 150 years.[34] A 1-meter rise would trigger cascading effects, including increased storm surge, coastal erosion, wetland and coastal plain flooding, salinization of aquifers and soils, and a loss of habitats for fish, birds, and other wildlife and plants. The same research indicates that national park infrastructure and historic and cultural resources totaling more than $40 billion are at high risk of damage from sea-level rise caused by climate change. More than one-third of assets in the Northeast are in the high-exposure category, from the Statue of Liberty in New York to the landmark structures at Boston National Historic Park and Fort McHenry in Baltimore, as well as 10 national seashores along the East Coast. Because the report only examined 40 of the 118 national parks considered vulnerable to sea level rise, the $40 billion figure may only represent a fraction of assets that could potentially be lost. Managing and prioritizing planning within these coastal parks to account for sea level rise poses a challenge to NPS park officials. Climate change adaptation assessment pilot projects are underway at three parks.

Sea level rise also disproportionately affects many of our Insular Areas, often located in low-lying coral atolls, many of which have maximum elevations of less than 4 meters above present sea level. The area available for human habitation,

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[33] Joby Warrick, "Sea levels are rising at faster clip as polar melt accelerates, new study shows," The Washington Post, May 11, 2015, http://www.washingtonpost.com/news/energy-environment/wp/2015/05/11/sea-levels-are-rising-at-faster-clip-as-polar-melt-accelerates-new-data-shows/.

[34] NPS and Western Carolina University, "Adapting to Climate Change in Coastal Parks: Estimating the Exposure of Park Assets to 1 m of Sea-Level Rise," June 23, 2015.

water and food sources, and ecosystems are limited and extremely vulnerable to sea-level rise. For example, infrastructure and freshwater supplies on Kwajalein Atoll in the Republic of the Marshall Islands have been affected by unusually high sea level and wave-driven inundation in the past.[35] DOI's Office of Insular Affairs (OIA) recognizes the effects on human, physical, and natural resources due to climate change in the Insular Areas. Climate risks include rising sea levels, strong storm surges and high winds, coastal erosion and salinization, and acidification of coral reefs, which threaten marine life, food resources, and customary fishing livelihoods.

To help address these risks, OIA has sponsored meetings and workshops bringing together Federal expertise with Insular Area government and community members to better plan for and adapt to the impacts of climate change. OIA has convened meetings to discuss climate change with ambassadors from the Freely Associated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau, and the plenary session of the Interagency Group on Insular Areas. Moreover, in May 2015, OIA hired a climate change coordinator and in June 2015, OIA hosted the first U.S. Insular Areas Climate Change Stakeholders Meeting between Federal officials and Insular Area leaders to discuss efforts to help strengthen the capacity of island communities to adapt to climate change. With funds currently available through FY 2017, OIA plans to continue its efforts and provide support for the development of adaptation plans, vulnerability assessments, and resiliency strategies for the Insular Areas. To combat the negative effects of climate change and sea level rise, OIA will endeavor to coordinate the sharing of knowledge and policies, plans, assessments, data, tools, and other essential resources.

[35] USGS Study Description, "Impact of Sea-Level Rise and Climate Change on the Freshwater Resources of Roi-Namur Island, Kwajalein Atoll," http://hi.water.usgs.gov/studies/kwaj-serdp/.

Information Technology

The President and Congress have indicated that cyber threats are one of the most serious economic and national security challenges facing our Nation and that America's economic prosperity in the 21st century will depend on cyber security.[36] Federal information security has been on GAO's High-Risk List since 1997. In 2003, GAO expanded the listing to include cyber critical infrastructure protection, and in 2015 protecting the privacy of personally identifiable information was added.[37]

Threats to cyber assets include insider threats from disaffected or careless employees and business partners, escalating and emerging threats from around the globe, the ease of obtaining and using hacking tools, the steady advance in sophistication of attack technology, and the emergence of new and more destructive attacks. Ineffective protection of cyber assets can result in the loss, unauthorized disclosure, or alteration of information. This could have serious consequences—such as disruption to operations, unauthorized use of IT resources, and damage to networks and equipment—and result in substantial harm to individuals and the Federal Government. Because no single technology or tool can protect against all cyber threats, GAO recommends a multi-layered, "defense in depth" approach to information security.[38]

DOI relies on complex information systems and electronic data to carry out its daily operations. Specifically, DOI spends about $1 billion annually on its portfolio of IT assets, which support DOI programs and activities. Because of the critical role IT plays at DOI, in FY 2014 OIG established an IT Audits Unit to conduct audits, inspections, and evaluations of IT programs, initiatives, and related investments across DOI.

Summary of OIG Work

Our IT-related projects in FY 2015 examined DOI's Cloud-computing governance, Cloud-computing security, security practices over publicly accessible IT systems, and the Federal Information Security Management Act.

Cloud-Computing Governance

OIG conducted an evaluation of DOI's Cloud-computing initiatives to determine whether selected contracts for Cloud-computing services incorporated best practices to mitigate risks associated with moving DOI's systems and data into a

[36] The White House, Office of the Press Secretary, "Remarks by the President on Securing Our Nation's Cyber Infrastructure," May 29, 2009, https://www.whitehouse.gov/the-press-office/remarks-president-securing-our-nations-cyber-infrastructure.
[37] GAO Report No. GAO-15-290, "High-Risk Series: An Update," February 11, 2015.
[38] GAO Report No. GAO-15-725T, "Recent Data Breaches Illustrate Need for Strong Controls Across Federal Agencies," June 24, 2015.

public Cloud-computing environment.[39] At the time of our evaluation, eight bureaus had implemented Cloud services, while others were exploring how to leverage Cloud technologies to increase operational efficiencies. DOI has projected significant increases in Cloud usage in future years.

We reviewed four contracts that DOI entered into with Cloud-computing providers and found that none of these contracts had sufficient controls needed to monitor and manage the providers and DOI's data stored in their Cloud systems. We also evaluated whether DOI's contracts met best practices for acquiring Cloud services—specifically, whether they identified the roles and responsibilities on the contracts, as well as how contractor performance is measured, reported, and enforced. We assessed whether the contracts addressed Federal privacy, discovery, and data retention and destruction requirements, in addition to key IT security measures. None of the contracts we reviewed addressed these concerns.

We further determined that with no accurate inventory of its Cloud-computing services, DOI was unaware that on 16 instances USGS staff acquired Cloud services with integrated purchase cards and then moved data into public Clouds without approval from responsible officials and without ensuring that IT security requirements were met.

We offered six recommendations to help DOI mitigate business and IT security risks and strengthen Cloud-computing governance practices.

Cloud-Computing Security Documentation

OIG conducted an inspection to evaluate the completeness and adequacy of required IT security documentation for 16 systems that USBR, BSEE, and USGS had moved to a public Cloud.[40] Cloud-based IT systems have the same Federal and DOI security requirements as systems managed by bureau personnel and operated by a departmental data center.

We found that USBR and USGS did not meet DOI's policy for maintaining required IT security documentation. Specifically, USBR had not completed any security documentation for its three operational Cloud systems. As such, these systems were operating without authorization, placing USBR data in the Cloud potentially at risk of unauthorized access, disclosure, modification, or destruction. We found that USGS had moved its data to the Cloud in early 2013, but did not complete the necessary security documentation until late 2014.

[39] DOI OIG Report No. ISD-EV-OCI0-0002-2014, "U.S. Department of the Interior's Adoption of Cloud-Computing Technologies," May 2015.
[40] DOI OIG Report No. 2015-ITA-017, "Cloud Computing Security Documentation in the Cyber Security Assessment Management Solution," September 2015.

We made seven recommendations to DOI's Office of the Chief Information Officer and affected bureaus to strengthen the IT security program and close identified security gaps.

Security of DOI's Publicly Accessible IT Systems

"Defense in depth" is a widely recognized best practice for protecting critical IT assets from loss or disruption by implementing overlapping security controls. If one control fails, another is in place to either prevent or limit the adverse effect of an inevitable cyber attack.

We conducted an evaluation to assess DOI's cyber security defense measures.[41] During technical testing, we identified potential security weaknesses with the configuration of publicly available websites at three bureaus. Our findings fell under two main categories: (1) inadequate understanding or testing of publicly available systems, and (2) missing controls that would protect internal systems in the event that those publicly available systems are compromised. The combination of these two findings can have wide-reaching impacts on the security of DOI's information systems. The conditions can hide significant gaps in DOI's security posture. This leads to questions about the processes used to make risk-based decisions, such as those to authorize the operation of information systems. Current processes may be deficient due to insufficient risk awareness across DOI.

We found that the bureaus had not implemented effective defense in depth measures to protect key IT assets from Internet-based cyber attacks. Specifically, we found nearly 3,000 critical and high-risk vulnerabilities in hundreds of publicly accessible computers operated by these three bureaus. Exploited, vulnerabilities allow a remote attacker to take control of publicly accessible computers or render them unavailable. A successful cyber attack against internal computer networks could severely degrade or even cripple DOI's operations and could result in the loss of sensitive data. These deficiencies occurred because DOI did not effectively monitor its publicly accessible systems or isolate these systems from its internal computer networks to limit the potential adverse effects of a successful cyber attack.

We made six recommendations to mitigate identified vulnerabilities, strengthen IT security practices, and minimize the opportunity for or impacts of a malicious attack.

Federal Information Security Management Act

The Federal Information Security Management Act (FISMA) (Pub. L. No. 107-347) requires each Federal agency to evaluate its information security program annually to determine program effectiveness and compliance with standards set by the National Institute of Standards and Technology (NIST). KPMG LLP, an

[41] DOI OIG Report No. ISD-IN-MOA-0004-2014, "Security of the U.S. Department of the Interior's Publicly Accessible Information Technology Systems," July 2015.

independent public accounting firm, performed DOI's FISMA evaluation for FY 2014 under a contract issued by DOI and monitored by OIG.[42] KPMG reviewed information security practices, policies, and procedures at the Office of the Chief Information Officer and seven DOI bureaus and offices.

KPMG concluded that, consistent with applicable requirements and guidelines, DOI has established and maintained security programs for continuous monitoring management, incident and response reporting, configuration management, remote access management, contractor systems, and security capital planning. KPMG, however, identified needed improvements in configuration management, identity and access management, risk management, contingency planning, and security training program areas.

KPMG made seven recommendations to strengthen DOI's information security program. DOI concurred with each recommendation and is in the process of taking or planning corrective actions.

Common Themes That Connect Our Findings

Our work underscores the need for constant surveillance by DOI IT personnel in the effort against data breaches. Key areas of concern include implementing and enforcing standard controls, better contract management and contractor oversight, standards for IT testing and monitoring, and adherence to Government policy.

Looking Ahead

Threats From Cyber Attack

External threats to Federal information systems are persistent and increasing, and the risk for real damage is high. Because of the large size of its networks, and because those networks contain sensitive information, DOI is a regular target of cyber attacks. In addition, DOI's substantial connectivity with outside organizations—such as other Federal agencies, private sector companies, and universities—makes it essential that DOI protect its network to prevent sophisticated attackers from using a security flaw in a DOI system to gain unauthorized access to the outside networks DOI is connected to.

Over the past few years, hackers and foreign intelligence services have compromised DOI's computer networks by exploiting vulnerabilities in publicly accessible systems on at least 19 occasions. These security incidents resulted in the loss of sensitive data and disruption of bureau operations. Notable recent examples include:

[42] DOI OIG Report No. ISD-IN-MOA-0005-2014, "Independent Auditors' Performance Audit Report on the U.S. Department of the Interior Federal Information Security Management Act for Fiscal Year 2014," January 2015.

- An October 2014 attack originating from European-based IP addresses[43] resulted in the loss of an unknown amount of data when the attackers gained control of two of DOI's public Web servers.
- In October and December 2014, hackers exploited vulnerable publicly accessible systems to steal user credentials with privileged (administrative) access to DOI systems. Although the extent of these system breaches was never fully determined, with administrative access to a computer system, an attacker can (1) copy, modify, or delete sensitive files; (2) add, modify, or delete user accounts; (3) upload hacking tools or malware to steal user credentials and compromise other departmental systems; and (4) modify system logs to conceal their actions and maintain a presence inside the affected networks for future exploits. In other words, in these two attacks, the intruders could have gained full functional control over DOI systems.
- A May 2013 attack originating from Chinese-based IP addresses gave the attackers a sustained presence inside DOI's network. In the 4 weeks before DOI fully contained the security breach, the attackers had stolen an unknown amount of data and had uploaded malware with the intent to compromise other DOI systems.

With the ever-increasing threat of cyber attacks, protection of IT systems and the data needed to operate and maintain critical infrastructure is essential. Further, detection and response to cyber attacks are just as critical as prevention controls. DOI's response to any cybersecurity incident must be swift and effective to minimize any damage that might be caused, mitigate the system weaknesses that were exploited, and restore IT services.

In addition to the threat to IT systems and data, physical structures are also at risk from cyber attack. DOI has asked USBR to implement a program to analyze and improve the security of industrial control systems (ICSs), which are control networks and systems designed to support industrial processes. ICS security is a top priority to protect USBR dam sites from attack. Establishing rigorous cyber security and privacy policies and controls are crucial to maintaining DOI operations. Security issues will continue to expand unless funding, strategic planning, and policy are improved.

Staffing and Procurement Difficulties

Hiring and retaining talented IT and cybersecurity professionals is a growing challenge and likely to affect operations in the short and long terms. The demand for skilled IT professionals in the private sector is extremely high, and attracting

[43] An Internet Protocol address, or IP address, is a unique online identifier—a numerical label assigned to each device (e.g., computer, printer) connected to a computer network that uses the Internet Protocol for communication. Internet Protocol is a method or standard for transmitting data over the Internet. The most widely used protocol on the Internet today is IP Version 4, which provides about 4.3 billion IP addresses for use worldwide.

those individuals to Government service with the current Federal pay structure can be difficult. This is especially true for the IT security sector. These factors, coupled with the time-consuming process to hire IT professionals within DOI, produce longer vacancies. Accurate classification of IT positions has been an issue,[44] and development of an automated classification tool to standardize and speed up the classification process would help with hiring IT professionals. Age disparity within the IT workforce is another issue that may impact operations, as retirements produce gaps in leadership and institutional knowledge. For example, 53 percent of USBR IT workers are 50 years of age or older, 12 percent above the age of 60, and approximately 3 percent are under 30 years of age.

Implementation of the Federal Information Technology Acquisition Reform Act (FITARA) (Pub. L. No. 113-291)[45] should have great impact on Government IT operations, by establishing Governmentwide IT management controls, tracking and risk management for IT investments, expanded authority and accountability for agency Chief Information Officers (CIOs), and more strategic IT acquisition policies. While these efforts help improve transparency and can help DOI get a better grasp on how IT funds are expended, streamlining related processes and automating reporting would help reduce any additional operational burden. In addition, to improve IT acquisitions, contracting staff with specialized understanding of IT purchasing and regulations are needed. Demand for IT services is growing at a faster rate than available funding, further complicating how DOI handles staffing and procurement challenges. To strengthen compliance with FITARA requirements, DOI's CIO and bureaus are examining possible changes within the IT management structure to move toward a more centralized approach—but DOI's largely decentralized IT environment can create management challenges in coordinating IT budgets and activities.

Data center consolidation efforts are underway, but require careful planning to ensure that operational improvements and efficiency are achieved. As a complicating factor, these consolidation efforts require initial investments but may not realize cost savings for several years. Further, the initial push toward consolidation is resulting in mostly colocation, rather than actual consolidation, of services. Also, migrating data to a core data center can be costly, and the

[44] According to GAO, the classification system cannot easily keep pace with the Government's evolving IT requirements. Agency personnel who classify occupations and develop position descriptions may not understand the technical nuances between similar occupations, and thus may classify positions inconsistently, which may result in unequal treatment of comparable employees. For more information, see GAO-14-677, "OPM Needs to Improve the Design, Management, and Oversight of the Federal Classification System," July 31, 2014.

[45] FITARA augments the 1996 Clinger-Cohen Act (Pub. L. No. 104-106) by addressing concerns about waste and ineffectiveness in Federal IT investments. An overhaul to Government IT, the act gives department-level CIOs more authority and requires them to modernize IT operations and services, as well as requiring contracting officers to provide a justification when they do not choose a government-wide contract vehicle for IT acquisitions.

difficulties of coordinating between multiple bureaus at individual locations may increase physical security concerns.

Continuous Monitoring

Implementing new FISMA guidance on continuous monitoring controls for IT security is a challenge. FISMA requires agencies to develop information security protections commensurate with the risk resulting from the malicious or unintentional impairment of agency IT assets. Agencies expend large amounts of money and resources to document compliance with the 11 FISMA reporting areas—but an agency's FISMA score (its compliance rate) has been found to be unrelated to whether its IT assets are adequately protected from attack.[46]

More recent FISMA guidance has shifted the focus of agency oversight from point-in-time assessments and compliance reporting to using tools and techniques to conduct ongoing monitoring of IT security controls. A well-designed and well-managed continuous monitoring program can transform an otherwise static security control assessment and risk determination into a dynamic process that provides essential information about a system's security status on a real-time basis. This, in turn, enables officials to take timely risk mitigation actions and make risk-based decisions regarding the operation of their IT systems.

Due to recent high-profile cyber security breaches in the Federal Government, the importance of continuous monitoring is gaining greater public awareness, although it has been underappreciated in the Federal space for many years and is behind on implementation. DOI will have to expend additional effort to realize a mature continuous monitoring program and provide overall improvements in operations, security, and risk posture.

Cloud Computing

Cloud computing is a model for enabling convenient, on-demand, network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, software applications, and Web services). To accelerate the Government's use of Cloud-computing strategies, OMB requires agencies to adopt a "Cloud First" policy when contemplating IT purchases and to evaluate secure, reliable, and cost-effective Cloud-computing alternatives when making IT investments.

Cloud computing offers DOI the potential to significantly improve IT service delivery while reducing costs through faster deployment of computing resources, a decreased need to buy hardware or build data centers, and enhanced collaboration capabilities. According to the National Institute of Standards and Technology (NIST), assessing and managing risk when putting a Federal

[46] NASA OIG, "NASA Cybersecurity: An Examination of the Agency's Information Security," February 29, 2012, https://oig.nasa.gov/congressional/FINAL_written_statement_for_%20IT_%20hearing_February_26_edit_v2.pdf.

agency's systems and data into a public Cloud poses a challenge because the computing environment is under the control of the Cloud provider rather than the agency. Effectively managing the delivery of Cloud-computing services will require DOI to adequately identify security risks and properly define and provide mechanisms to monitor agency and Cloud provider responsibilities.

DOI's move to Cloud computing represents a paradigm shift from buying IT as a capital expenditure to buying IT as a service. Moving to this more service-oriented approach will require strong IT governance practices and organizational changes to currently centralized IT management and service delivery structures.

As of September 2014, DOI reported that it had contracted for 26 operational Cloud computer information systems. In addition, DOI has projected significant increases in Cloud usage in future years, with up to 100 percent of new IT programs potentially beginning in the Cloud, and nearly all of DOI's current or legacy systems, as well as public data, likely to be moved to the Cloud. For example, implementation of DOI's email records management system to meet the records requirements of OMB Memorandum 12-18 requires that DOI maintain all permanent electronic records in electronic format by 2020. DOI will use a Cloud solution that should enable full content management across the Department.

As DOI transitions to the Cloud, improvements to its IT governance practices are needed to ensure that all Federal and Department IT security requirements are met.

Water Programs

The quality and availability of water are increasing concerns across the country. Further, maintaining the Nation's water infrastructure is becoming more costly over time due to cost increases and the perpetual need for facility maintenance, rehabilitation, and replacement.

In many areas of the country, especially the arid West, dwindling water supplies, lengthening droughts, and rising demand for water are forcing communities, stakeholders, and governments to explore new ideas and find new solutions that will help ensure stable, secure water supplies for future generations.

USBR and USGS play key roles in helping the Nation manage and sustain the current supply of fresh water in rivers, lakes, aquifers, and other sources and preserve a healthy ecosystem to ensure the future supply. Since its inception in 1902, USBR has constructed dams, power plants, and canals in 17 Western States. USBR is the largest wholesaler of water in the country, delivering water to more than 31 million people and providing one out of five, or 140,000, Western farmers with irrigation water for 10 million acres of farmland. USBR is also the second largest hydroelectric power producer in the Western United States, generating nearly a billion dollars in power revenues and serving 3.5 million homes.

USBR operations are informed and supported by research and analysis provided by USGS. For example, the National Water Census is a USGS research program that develops new water accounting tools and assesses water availability at regional and national scales. Through the Water Census, USGS integrates diverse research on water availability and use to increase understanding of the connection between water quality and water availability.

Summary of OIG Work

FY 2015 projects related to water management examined the costs reported under an interagency water agreement and the interim cost allocation for a multipurpose water project.

Interagency Water Quality Agreement

We evaluated an interagency agreement between USGS and USBR to determine whether claimed costs were allowable and supported.[47] Under the agreement, signed in 2013, USGS provides water quality monitoring in the Upper Klamath River and Lost River Basins in Oregon and California. USGS also stores water quality data in its National Water Information System Database and records

[47] DOI OIG Report No. WR-EV-BOR-0024-2013, "Interagency Agreement for Water Quality Monitoring and Other Services With the U.S. Geological Service, Agreement No. R13PG20058," report in progress.

Klamath Lake elevation data. The agreement obligated $773,064 in 2013 with four 1-year extensions totaling $2.6 million in all.

While evaluating the interagency agreement, we found that USGS has been using an administratively determined bureau-level overhead rate of 12 percent to recover overhead costs on its reimbursable contracts and agreements for at least 9 years. At our request, USGS provided us with an analysis that showed that its actual overhead rates ranged from a low of 11.45 percent to a high of 12.06 percent; the bureau concluded that its administratively determined rate of 12 percent is accurate.

We noted that the 12 percent billing rate exceeded USGS' actual overhead rate in 4 out of the 5 years analyzed, and we further found that the variance between USGS' actual overhead rates and its administrative billing rate may have resulted in USGS overbilling entities by approximately $6 million for the period from FY 2009 to FY 2013. Such overbillings would represent a potential augmentation of USGS' appropriations, which GAO has specifically cautioned against.[48]

We issued a management advisory, recommending that USGS implement a policy of recalculating and revising the overhead rate annually based on actual direct and indirect costs of all appropriated and reimbursable activities, taking into account prior year over or under collections, and charge the overhead rate on all interagency agreements and reimbursable activities.[49]

Garrison Diversion Unit Water Project

USBR's Garrison Diversion Unit (GDU) is a multipurpose water project in North Dakota that was authorized for development in 1965. The GDU was primarily authorized for irrigation, municipal and industrial water supply, fish and wildlife enhancement, recreation, and flood control.

When a multipurpose water project is planned, USBR creates an initial cost allocation by estimating the total cost of the project and then allocating the estimated costs to each project purpose. For a project constructed over a longer period of time, an interim cost allocation is often created to capture the major changes to the project that affect the allocation of costs. A final cost allocation is created when the project is determined to be substantially complete and is the basis for assignment of costs to beneficiaries for repayment.

[48] GAO Report No. GAO-08-978SP, "Principles of Federal Appropriations Law: Third Edition, Volume III," September 1, 2008.
[49] DOI OIG Report No. WR-EV-BOR-0024-2013A, "Issues Identified During Our Evaluation of Interagency Agreement No. R13PG20058 Between the Bureau of Reclamation and the U.S. Geological Survey," September 2015.

We evaluated the GDU's May 2012 interim cost allocation to determine whether it was up-to-date and consistent with current use.[50] The GDU project had not materialized as initially planned. At project outset, 250,000 acres were authorized for irrigation development, with the anticipation that water users would repay associated construction costs. By 2000, that acreage had been reduced to 75,480 acres as irrigation land was reduced and project features were deauthorized. These changes resulted in a water supply that is not fully operational, and 61,780 acres currently authorized for irrigation will not be developed.

We found that the interim cost allocation was recently updated and generally reflects current use and operations, but it does not represent the Government's share of costs to construct the project. Instead, the interim cost allocation indicates that the Government will eventually recover more construction costs from project beneficiaries than is likely, thus understating the cost to the Government. We recommended that USBR reevaluate the project and take the steps necessary to complete the project as it currently exists—primarily, to seek congressional deauthorization of the 61,780 acres of undeveloped irrigation land. Deauthorization of the land would allow for a final cost allocation and an accurate representation of the Government's share of project costs.

Common Themes That Connect Our Findings

OIG findings in water programs have centered on inaccurate accounting practices, specifically the calculation of cost allocations and overhead rates. These miscues can cause overages in costs and charges.

Looking Ahead

Aging Infrastructure

Most of the federally owned facilities maintained by USBR and its water and power partners are rapidly aging. Although USBR and its partners have lengthened the service lives of many of these facilities through preventive maintenance, a number of facilities are showing increased extraordinary maintenance needs.

USBR issued an Infrastructure Investment Strategy in May 2015 to describe the steps the Bureau will take over the next few years to improve the characterization and reporting of anticipated major rehabilitation and replacement activities at USBR-owned facilities. The action items presented in the strategy build on existing processes for gathering and managing data, characterizing the importance and urgency of future infrastructure investments, communicating with stakeholders through annual reporting, and working collaboratively with partners to address critical funding requirements.

[50] DOI OIG Report No. WR-EV-BOR-0006-2014, "Garrison Diversion Unit's Interim Cost Allocation," September 2015.

Rural Water Systems

As observed in our management challenges report for FY 2014, the Nation faces costly upgrades to aging and deteriorating drinking water and wastewater infrastructure. Many rural communities face significant challenges in financing the costs of replacing or upgrading aging and obsolete facilities and systems. Federal agencies estimate that the costs of replacing infrastructure in these communities will total more than $140 billion in the coming decades.[51]

The FY 2015 USBR budget includes $34.1 million for rural water projects, including $16.3 million for continued construction of authorized projects.[52] USBR is one of seven Federal agencies that provide funding or technical assistance to rural communities to develop drinking water and wastewater systems. The presence of this many Federal entities, plus State and local governments, can raise concerns about duplication of effort, inefficient processing of applications for aid, and increased fees to local communities as a consequence of paying for multiple environmental and engineering studies. USBR must make a concerted effort to coordinate policies and procedures and to prioritize funding for projects that reduce waste and accomplish meaningful goals.

USBR's dams, water conveyances, and power generating facilities are critical components of the Nation's infrastructure. Extending the lives of these structures and making efficiency improvements are among the many significant challenges facing USBR and DOI over the next several years, and will become more costly over time. At the same time, some organizations have voiced concerns about the environmental costs of dams and levees, such as hampered fish migration, downstream erosion, and degraded water quality—calling for development of and improvements to our large-scale water infrastructure in ways that do not harm aquatic species and ecosystems. New approaches are needed to ensure resiliency in the face of climate change and increasing numbers of natural hazard events.

Extreme Drought

Drought can have significant impact on water supplies, agriculture, and ecosystems, posing a particular concern in the American West as drought there grows more severe. To help define the role of Federal agencies in preparing for, managing, and responding to droughts, President Obama formed the National Drought Resilience Partnership (NDRP) in 2013. The NDRP's purpose is to ensure that the Administration is ready to help the country's farmers, ranchers, small businesses, tribes, and communities affected by drought. A partnership between seven Federal agencies, including DOI, the NDRP is intended to coordinate long-term drought resilience efforts and information-sharing at all levels of government.

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[51] GAO Report No. GAO-15-450T, "Rural Water Infrastructure: Federal Agencies Provide Funding But Could Increase Coordination to Help Communities," February 27, 2015.
[52] FY 2015 DOI Budget in Brief: USBR Highlights, http://www.doi.gov/budget/appropriations/2015/highlights/upload/BH035.pdf.

According to a paper presented at a 2015 NDRP symposium, the severe and prolonged drought facing the West affects major river basins in virtually every Western State.[53] The Colorado River Basin—crucial for seven States and several Tribes, in addition to two countries—is in the midst of a drought that has lasted approximately 15 years. USBR projections released in May 2015 indicate that Lake Mead (the largest reservoir in the United States) is expected to shrink low enough by January 2017 to trigger a first-ever Federal shortage declaration on the Colorado River. Meanwhile, the effects of current drought in California have been widely reported: the driest calendar year on record, the warmest year on record, and the lowest snowpack levels ever recorded. Texas has just officially emerged from a drought that began in 2010. The U.S. Drought Monitor reported on August 18, 2015, that 45 percent of the contiguous United States (by area) was experiencing abnormally dry conditions, while 29 percent of the country was in some stage of drought.[54] Specific to the West, about 73 percent of the region was experiencing abnormally dry conditions, and about 59 percent was in drought.

DOI is challenged to provide reliable water supplies for community water systems, agriculture, energy production, and manufacturing, while at the same time preserving rivers, streams, and other aquatic ecosystems for future generations. DOI needs to be prepared to mitigate the negative consequences associated with the expansion of water needs, particularly in the Western States.

Current drought conditions have put unprecedented pressure on DOI's ability to address water imbalances in the West. USBR's chief program for watershed-scale planning to meet current and future water supply gaps is the WaterSMART (Sustain and Manage America's Resources for Tomorrow) Basin Studies Program, which shares the cost for collaborative studies to address current or projected imbalances between water supply and demand and to work toward sustainable solutions. The program's four key elements are: state-of-the-art projections of future water supply and demand; analysis of how the basin's existing water and power operations will perform in the face of changing water realities; developing options to improve operations and infrastructure to supply adequate water in the future; and recommendations for how to optimize operations and infrastructure in a basin to supply adequate water in the future.

Following a basin study completed in 2012 for the Colorado River, States in the region set common water planning and management goals and have cooperated to achieve them. The study confirmed the general consensus that the Colorado River Basin will continue to face reduced water supply (due to increased drought and

[53] Leon F. Szeptycki, Jerry Hatfield, Wayne Honeycutt, and David Raff, "The Federal Role in Watershed Scale Drought Resilience," discussion paper prepared for White House/NDRP Drought Symposium, July 15, 2015.
[54] U.S. Drought Monitor, Tabular Data Archive, http://droughtmonitor.unl.edu/MapsAndData/DataTables.aspx.

other factors), and provided a framework for efficiency, planning, and drought resilience projects.[55] It calls for high-level cooperation between States and stakeholders to implement significant drought response steps and makes clear that the long-term challenges facing the basin must be tackled collaboratively by all sectors that depend on its water.

The Basin Studies Program is intended to provide a critical process and funding for pulling together broad communities of water users, local governments, and State and Federal agencies for watershed-scale planning. In early 2015, USBR announced a new $5 million Drought Response Program more specifically tailored to drought planning, mitigation, and response. The program will fund projects sponsored by water users related to drought planning (predicting droughts and planning response), drought resiliency (improving the reliability of water supply, management, or benefits to the environment during droughts), and emergency drought response. A good basin-scale plan, however, does not guarantee follow-up action; one project following plan recommendations has estimated costs between $3.2 billion and $5 billion, which presents significant economic challenges to this crisis.

[55] USBR, "Colorado River Basin Water Supply and Demand Study," http://www.usbr.gov/lc/region/programs/crbstudy/finalreport/index.html.

Responsibility to American Indians and Insular Areas

DOI's mission includes fulfilling trust responsibilities and special commitments to American Indians, Alaska Natives, and affiliated island communities.

Responsibility to American Indians is consistently a top management challenge for DOI. Through BIA and the Bureau of Indian Education (BIE), DOI works with 566 federally recognized Indian tribes, has trust responsibilities for more than 55 million surface and 57 million subsurface acres of land belonging to Indian tribes and individuals, and provides education services to approximately 42,000 Indian children in tribal schools and dormitories. DOI funds Indian Country programs that provide support for education, agriculture and rangeland management, emergency management, tribal justice systems, social services, and more.

In the Insular Areas, DOI has administrative responsibility for coordinating Federal policy in the territories of American Samoa, the Commonwealth of the Northern Mariana Islands (CNMI), Guam, and the U.S. Virgin Islands. DOI also administers and oversees Federal assistance provided under the Compacts of Free Association for three sovereign nations: the Federated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau. DOI coordinates with the U.S. Department of State and other Federal agencies to promote economic development and budgetary self-reliance in these nations.

OIA manages DOI's responsibility to the Insular Areas. OIA's mission includes improving the financial management practices of Insular Area governments and increasing economic development opportunities through financial and technical assistance. OIA funds Insular Area government programs to improve education, health care, and infrastructure.

Summary of OIG Work

Our FY 2015 project work included examination of Indian education services, acquisition management, and capacity-building.

Indian Education and Schools

The quality of Indian education and the success of native students are ongoing concerns at DOI as well as the U.S. Department of Education, the White House, and Congress.

BIE's mission is to provide quality education opportunities from early childhood through life in accordance with a tribe's needs for cultural and economic well-being, in keeping with the wide diversity of Indian tribes and Alaska Native

villages as distinct cultural and governmental entities. More than 180 schools in 23 States are either operated directly by BIE or receive BIE program funds.

In FY 2015, we initiated review of a selection of Indian schools across the country, looking at prevention of school violence, condition of school facilities, and academic achievement. A key component of providing a quality education, and a systemic problem area across the Indian school system, is having school facilities that are safe and conducive to learning.

Prevention of School Violence

For this review, we initiated a series of 16 inspections regarding violence prevention at schools funded by BIE: 7 BIE-operated, 8 grant-operated, and 1 contract-operated.[56] We issued reports in 2008 and 2010 on this same topic in which we concluded that schools were not prepared to prevent violence and ensure the safety of students and staff. Our objective then and now was to determine the quality of safety measures in place to prevent violence against students and staff from internal and external threats.

We found school safety measures in many of the schools to be inadequate. Further, at most of the schools, half or more of the 18 key safety measures we identified and reviewed were not in place. While no single safety measure is so critical that its absence at an educational facility is cause for immediate concern, we found that the more safety measures not in place, the less prepared the school was to respond to an incident.

Condition of School Facilities

It is well recognized—by Congress, bureau personnel, school officials, and the media—that Indian schools are broadly in poor physical condition. Federal agencies have found many of the same issues regarding the condition of school facilities.

[56] These DOI OIG reports examine violence prevention at the Ahfachkee Indian School (Report No. C-IS-BIE-0011-2014), the Chemawa Indian School (Report No. C-IS-BIE-0025-2014), the Cherokee Central Schools (Report No. C-IS-BIE-0010-2014), the Flandreau Indian School (Report No. C-IS-BIE-0003-2014), the Lukachukai Community School (Report No. C-IS-BIE-0006-2014), the Miccosukee Indian School (Report No. C-IS-BIE-0012-2014), the Moencopi Day School (Report No. C-IS-BIE-0007-2014), the Ojo Encino Day School (Report No. C-IS-BIE-0033-2014), the Paschal Sherman Indian School (Report No. C-IS-BIE-0029-2014), the Pierre Indian Learning Center (Report No. C-IS-BIE-0005-2014), the San Ildefonso Day School (Report No. C-IS-BIE-0037-2014), the Sicangu Owayawa Oti (Rosebud Dorm) (Report No. C-IS-BIE-0004-2014), the Te Tsu Geh Oweenge Day School (Report No. C-IS-BIE-0035-2014), the Tonalea Day School (Report No. C-IS-BIE-0008-2014), the Tuba City Boarding School (Report No. C-IS-BIE-0009-2014), and the Yakama Nation Tribal School (Report No. C-IS-BIE-0027-2014).

We conducted a series of inspections of facilities at 13 schools to assess current conditions and to review BIA's, BIE's, and tribes' ability to ensure a physical environment that is safe and conducive to learning.[57]

We found a number of systemic issues with communication and coordination, in addition to deteriorating facilities, at the schools we visited. Major deficiencies and health and safety concerns that should be addressed immediately include asbestos, radon, and mold; structural concerns and condemned buildings; electrical issues; and inadequate fire systems. In addition, an important valuation tool used for funding decisions poorly represents actual school conditions, and the overall execution of custodial oversight is inadequate.

Dedicated commitment, at all programmatic levels, to long-term solutions is required to both address specific deficiencies in facilities now and to ensure more proactive management of facilities in the future. We made 22 recommendations to help improve the operation and condition of Indian school facilities.

Academic Achievement

We conducted a series of inspections at BIE-funded schools to evaluate the programs in place to improve educational achievement.[58] Concerns about academic achievement generally fall into one of two broad areas: the achievement gap and graduation rate.

- **Achievement gap.** Research has found that, as early as Grade 4, students attending BIE-funded schools achieve test results below those of their public school counterparts. Furthermore, the higher the grade level, the greater the gap in test scores.
- **Graduation rate.** The public school graduation rate averages roughly 76 percent, while the average graduation rate from BIE-funded schools is below 50 percent.

Thus we focused on how BIE worked to close the educational achievement gap and increase the graduation rate at each school. Specifically, we concentrated on

[57] DOI OIG Report No. C-EV-BIE-0006-2014, "Bureau of Indian Education School Facilities," report in progress.

[58] These DOI OIG reports examine academic achievement programs at the Ahfachkee Indian School (Report No. C-IS-BIE-0021-2014), the Chemawa Indian School (Report No. C-IS-BIE-0026-2014), the Cherokee Central Schools (Report No. C-IS-BIE-0020-2014), the Flandreau Indian School (Report No. C-IS-BIE-0013-2014), the Lukachukai Community School (Report No. C-IS-BIE-0016-2014), the Miccosukee Indian School (Report No. C-IS-BIE-0022-2014), the Moencopi Day School (Report No. C-IS-BIE-0017-2014), the Ojo Encino Day School (Report No. CR-IS-BIE-0034-2014), the Paschal Sherman Indian School (Report No. C-IS-BIE-0030-2014), the Pierre Indian Learning Center (Report No. C-IS-BIE-0015-2014), the San Ildefonso Day School (Report No. C-IS-BIE-0038-2014), the Sicangu Owayawa Oti (Rosebud Dormitory) (Report No. C-IS-BIE-0014-2014), the Te Tsu Geh Oweenge Day School (Report No. C-IS-BIE-0036-2014), the Tonalea Day School (Report No. C-IS-BIE-0018-2014), the Tuba City Boarding School (Report No. C-IS-BIE-0019-2014), and the Yakama Nation Tribal School (Report No. C-IS-BIE-0028-2014).

how schools assessed the academic needs of students. We found that many BIE-funded schools were not properly assessing the academic needs of their students, as required by the No Child Left Behind Act of 2001 (Pub. L. No. 107-110). The legislation requires that schools complete a comprehensive needs assessment to help them plan how to meet the specific needs of their student populations. We also found that not all schools were properly assessing students' English language proficiency. As a result, students who may have mastered conversational English but were unable to express themselves effectively using academic English (a term defined as the formal written, auditory, and visual language used in learning environments) may not have been properly identified and may not have received the additional support necessary to help them achieve academically.

Crow Tribe Accounting System

At USBR's request, we audited the Crow Tribe's accounting system and associated interim costs for two contract agreements under the Water Rights Settlement Act of 2010 (Pub. L. No. 111-291) for the rehabilitation of the Crow Irrigation Project and the construction of a municipal, rural, and industrial water system.[59]

We determined that the Crow Tribe billed USBR for attorney fees, equipment purchases, tribal payments, and subcontractor labor without having sufficient supporting documentation. We therefore questioned $400,542 in unsupported costs associated with the two agreements. We also identified $75,857 in unallowable costs (for an overall total of $476,399 in questioned costs). In addition, we identified weaknesses in the tribe's accounting system, including commingling of funds, unaccounted-for program income, a flawed reporting system, errors in development of project budgets, unclear and inconsistent policies and procedures, insufficient monitoring of general ledger accounts, and insufficient subrecipient monitoring.

Capacity-Building for Public Accountability

Each Insular Area government has an Office of the Public Auditor (OPA) or equivalent entity that helps assure the integrity of government operations and spending. OPAs face challenges in competing for and retaining qualified audit and investigative staff, largely due to insufficient budgets and limited labor pools. To augment our limited program of direct audits and evaluations, OIG provides training and technical assistance to enhance the capabilities of OPA staff.

In FY 2015, we conducted five training and technical assistance sessions for OPA staff in American Samoa, CNMI, Kosrae, the Marshall Islands, and Palau. We tailored the training topics to the needs of each jurisdiction. The range of trainings included, for example—

[59] DOI OIG Report No. ER-CX-BOR-0010-2014, "Crow Tribe Accounting System and Interim Costs Claimed Under Agreement Nos. R11AV60120 and R12AV60002 With the Bureau of Reclamation," June 2015.

- assistance on how to respond to changing requirements (for example, Palau's OPA staff are now required to conduct financial statement audits);
- new audit areas (how to audit failed banks in Palau to identify the causes of failure, to inform safeguards for other banks);
- report writing for high-profile topics (reporting on potential fraud in Kosrae); and
- updating and reinforcing audit and accounting practices (in CNMI, the Marshall Islands, and America Samoa).

In addition, we provided training to other government entities in Kosrae, CNMI, Marshall Islands, and America Samoa regarding general and government accounting. Our capacity-building activities foster on-island ability to assure public accountability throughout the Insular Areas.

Common Themes That Connect Our Findings

We have consistently found that substantial work is needed to improve the Indian education system, particularly in creating environments where children are safe and have adequate means to thrive. In both American Indian and Insular Area operations, improving contracts and grants oversight and enhancing the audit skills within local governments are priority concerns for strengthening financial management and stability.

Looking Ahead

Management of Contracts and Grants

DOI awarded more than $1.6 billion in new contracts and grants to Indian Country and more than $53 million in grants to Insular Areas during FY 2014. Historically, single audits and OIG audits of tribal nations have identified numerous and significant problems, including inadequate employee background checks, improper payments to related parties, general financial mismanagement issues resulting in significant deficiencies, inadequate segregation of duties resulting in stolen funds, unallowable commingling of Federal funds with tribal funds, and flawed reporting systems. In the Insular Areas, oversight is challenging due to limited resources and the logistics of the remote locations. Together, these issues result in delayed audits, errors in reports, and no reports.

DOI-funded programs and operations in Indian Country and Insular Areas are extremely susceptible to fraud, waste, mismanagement, and abuse due to nepotism, unqualified employees, failure to follow policies and procedures, the absence of internal controls or oversight, little or no transparency, and fear of reprisal for reporting wrongdoing.

We anticipate doing more audit work at tribes determined to be high risk, to recover funds where possible but also to help prevent recurrence of the underlying issues and to refer instances of suspected or identified fraud to our investigative unit. For example, we initiated a review of some of the Lower Brule Sioux Tribe's

programs after preliminary audit work in June 2015 indicated that the tribe may be using Federal funds inappropriately. We deployed a team of auditors to identify unsupported and unallowable costs and potential fraud, waste, mismanagement, and abuse.

Regarding the Insular Areas, OIG will continue to provide training and site visits to help build the capacity and integrity of the workforce, assisted by OIA as resources permit. OIA is expected to continue to develop internal controls and policies in accordance with Federal requirements and will continue to communicate and coordinate to help improve the administration of grant programs.

Barriers to Federal Investigation

The Federal Government has jurisdiction to investigate and prosecute the misuse of Federal funds and other Federal crimes on reservations, including crimes involving tribal government officials. OIG plays an important role in this area, as approximately one-fifth of our investigations involve Indian Country. Investigating crimes on Native lands can be challenging for many reasons, including remote locations, cultural differences, and the complexities of overlapping jurisdictional areas. Sometimes distrust or conflict are barriers to cooperation and information-sharing. As one example of an extreme case, a 2015 Human Rights Watch report examined the "largely unaccountable" tribal government for the Lower Brule Sioux Tribe in South Dakota. In 1999, OIG issued a report finding cost overruns of $7.1 million for the tribe. In 2006 and 2007, two more Federal audits revealed another $1.2 million in funds used for purposes for which they were not intended. According to the Human Rights Watch report, the six-member Tribal Council operates with little or no transparency and accountability, and greatly impedes Federal investigations. The report chronicled a pattern of serious mismanagement and described how Tribal Council members have systematically withheld information from the public—and investigators—to avoid accountability. The report also noted that resource constraints further hampered OIG's ability to investigate wrongdoing, with just a handful of investigators for the region that includes Lower Brule, and declared: "The way the Lower Brule Tribal Council has exercised its sovereignty has left tribal members with little way to secure a remedy against official misconduct, secrecy, or abuse."[60]

Obstacles such as limited transparency and accountability and withholding information hinder OIG's work to protect against fraud, waste, and abuse. Further, feelings of impunity among tribal councils can lead to unethical behavior. Without access to accurate records that show how funds are spent, moneys intended for specific purposes can be difficult to track. The aforementioned

[60] Human Rights Watch, "Secret and Unaccountable, the Tribal Council at Lower Brule and its Impact on Human Rights," January 12, 2015, https://www.hrw.org/report/2015/01/12/secret-and-unaccountable/tribal-council-lower-brule-and-its-impact-human-rights.

barriers to Federal investigation have helped create an environment in some tribes that limits the Federal Government's ability to fulfill its mission. Further work must be done within these tribes to open their borders to investigators and weed out irresponsible individuals who waste or steal tribal resources.

Land Buy-Back Program

Across Indian Country, more than 245,000 owners of 3 million fractionated interests, spanning about 150 Indian reservations, are eligible to participate in the Land Buy-Back Program. The program was created to implement the land consolidation component of the *Cobell* v. *Salazar* settlement, which provided $1.9 billion to consolidate fractionated land interests across Indian Country. As we noted in our management challenges report for FY 2014, land fractionation is a serious problem throughout Indian Country. As lands are passed down through generations, they gain more owners. Many tracts now have hundreds and even thousands of individual owners. Because obtaining landowner consensus is difficult, the lands often lie idle and cannot be used for any beneficial purpose. Managing this tremendously complex situation is costly for DOI and can be frustrating for individual owners, who may consider their ownership proportions so diminished as to be worthless.

To date, the Land Buy-Back Program has made more than 86,378 purchase offers to owners of fractionated interests, successfully concluded transactions worth more than $660 million, and transferred the equivalent of more than 1,326,000 acres of land to tribal ownership. As part of the settlement, the Land Buy-Back Program continues to contribute to the Cobell Education Scholarship Fund, managed by the American Indian College Fund. Contributions to the scholarship fund have so far exceeded $19.5 million.

The Land Buy-Back Program is challenged by a short implementation timeframe (10 years from December 2009) and the sensitivity surrounding acquisition of Indian lands by the Government, as well as its dependence on other programs and agencies to provide current mineral and timber values and validated tract maps, which assist in accurately valuing the land for buy-back purposes. DOI also has struggled to hire qualified review appraisers, required for the process, and the ever-present political factors continue to pose challenges to project schedules and resource requirements.

Medical Marijuana Industry

Reservations with slow growth in gaming revenues and few natural resources have moved toward finding alternate revenue sources to sustain them economically. As a result, tobacco and marijuana companies are approaching tribes to move them into growing and producing cannabis for the medical marijuana industry. An October 2014 memo from the U.S. Department of Justice (DOJ) directed U.S. attorneys nationwide not to prosecute federally recognized tribes conducting marijuana-related businesses on reservation land as long as they

meet nine specific criteria, including the prevention of criminal elements from profiting from marijuana sales and keeping cannabis products away from minors.

Marijuana production on tribal lands faces unique challenges. Some tribal leaders believe that legalizing marijuana could worsen reservation problems such as substance abuse and domestic violence, but others see the marijuana business as an economic opportunity to boost financial operations and improve the quality of life for their people.

Sovereign Indian nations will need to perform careful negotiation with multiple Federal agencies ranging from BIA to the U.S. Drug Enforcement Administration and the Internal Revenue Service. The unique relationship between federally recognized tribes and the United States as "domestic dependent nations" gives tribes the purview, like States, to enact laws that do not conflict with Federal laws. As tribes explore their options to legalize and grow marijuana on their reservations, the roles and authority of tribes and the Federal Government may need to be clarified or even restructured, just as happened a generation ago with the evolution of casino gaming.

Obstacles to Control and Oversight at Indian Country Schools

Congress, DOI personnel, school officials, and the media recognize that Indian schools are, broadly, in challenging conditions. We previously noted systemic problems across the system of schools funded by BIE and described our reviews of prevention of school violence, condition of school facilities, and academic achievement. Our ongoing work aims to achieve improvements in DOI's facilities investment decisions and the bureaus' and tribes' ongoing management of schools. DOI spent an estimated $140 million during FY 2015 in construction and facilities management for BIA programs. More than half of this money supports approximately 180 Indian schools.

The problems at schools in Indian Country are substantial. Indian students served by BIE often come from remotely located and rural communities with poor local economies, high unemployment rates, and low incomes. Many of these communities have above-average crime rates and below-average literacy rates. Further, the educational and emotional needs of Indian students are deeply affected by suicide. Studies have shown that Indian teens have the highest suicide rate of any population group in the Nation: among Native Americans aged 15 to 24, suicide rates are more than double the national average. These problems will not be solved in the short term and require continued attention. DOI's budget request for FY 2016 proposes increased funding for Indian education as part of a multiyear reform.

Also underway are efforts to promote tribal control and operation of BIE-funded schools. In June 2014, the American Indian Education Study Group, convened by DOI and the U.S. Department of Education, issued a "Blueprint for Reform" that recommended a shift in BIE's role from direct provider of education into a

capacity-builder and service-provider to tribes that run their own schools. The goal of greater tribal control of schools is to give tribes more power to engage children, infuse schools with tribal cultural values and native languages, and improve educational outcomes.

To facilitate that transition, DOI needs to make changes to improve accountability and reduce institutional fragmentation. GAO has reported for several years on how systemic management challenges within DOI's Office of the Assistant Secretary for Indian Affairs continue to hamper efforts to improve BIE schools.[61] Multiple organizational realignments over the past 10 years have resulted in a fragmented structure, with offices across different units being responsible for BIE education and administrative functions. Frequent turnover in BIA leadership and insufficient strategic planning have further compounded the problem. The outcome for schools is delayed receipt of educational services and supplies, and confusion over whom to contact at BIA with questions or problems.

Limited staff capacity poses another challenge to addressing BIE school needs. BIA data indicate that about 40 percent of its regional facility positions (such as architects and engineers) are vacant. In 2014, GAO reported that BIE had many vacancies in positions that oversee school spending. Teacher shortages across the United States have affected tribal schools as well. Without adequate staff and training, BIA will continue to struggle to monitor and support schools. Inconsistent accountability hampers management of BIE school construction and monitoring of school spending. Specifically, GAO has found that BIA did not consistently oversee some construction projects. Inconsistent accountability also impairs BIE's monitoring of school spending. In 2014, GAO found that BIE does not adequately monitor school expenditures using written procedures or a risk-based monitoring approach, contrary to Federal internal control standards. As a result, BIE failed to provide effective oversight of schools when they misspent millions of dollars in Federal funds.[62]

To address recommendations from the "Blueprint for Reform" and from GAO, BIE has undertaken a restructuring to strengthen its capacity and oversight, initiated by Secretarial Order No. 3334, issued in June 2014. [63] Among other changes, to improve the monitoring and oversight of school spending, a newly formed School Operations Division will focus specifically on acquisitions, grants, budget, and finance, and report to the BIE Director. According to this Order, the responsibilities of BIA's three associate deputy directors will be realigned, and school support teams will be created to work with individual schools and tribes to maximize school performance. Until the restructuring is complete and BIE

[61] GAO Report No. GAO-15-597T, "Further Actions on GAO Recommendations Needed to Address Systemic Management Challenges with Indian Education," May 13, 2015.
[62] Ibid.
[63] DOI Secretarial Order No. 3334, "Restructuring the Bureau of Indian Education," June 12, 2014, http://www.doi.gov/news/upload/BIEsecOrder.pdf.

assumes its new primary role as a supporter (rather than operator) of tribal education programs, BIE will remain in a state of transition.

Energy Development and Management

GAO has identified BIA "management shortcomings" as a major hindrance to energy development in Indian Country.[64] Coupled with a complex regulatory framework and tribes' limited capital and infrastructure, BIA management problems can increase costs and project development times, leading to missed development opportunities and lost revenue for American Indians.

BIA review and approval is required throughout the energy development process, but BIA does not have comprehensive data to identify ownership and resources available for such development, or a documented process to track and monitor its review and response times. GAO recommended that DOI take steps to address data limitations, track its review process, and provide clarifying guidance, among other actions to improve American Indian energy development and management.

Meanwhile, the island communities in our Insular Areas face great challenges in achieving reliable, affordable, and secure energy for electrical power and transportation. The cost of electricity in the Insular Areas is, on average, about three times higher than the national average. Most islands have a relative abundance of renewable energy resources but are currently dependent on imported fossil fuels to meet most of their energy needs.

OIA has partnered with the U.S. Department of Energy, specifically the Office of Energy Efficiency and Renewable Energy and the National Renewable Energy Lab, to support energy transformation, sustainability, and climate change adaptation and resiliency for the Insular Areas. Current projects include solar and geothermal power projects in American Samoa and CNMI, a wind pilot project in Guam, and strategic energy planning in the Freely Associated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau. In addition, American Samoa has announced that it intends to achieve 100 percent renewable energy power for its outer islands within the next 2 years. OIA will continue its efforts and partnerships to help the Insular Areas develop technologies for renewable energy resources.

Financial Accountability in Insular Area Government

Through the years, we have had general concerns that Insular Area programs remain vulnerable as a result of unreliable financial systems, weak procurement controls, and limited capacities of on-island agencies. Insular Area governments continue to possess insufficient resources to adequately prevent and detect fraud, waste, or mismanagement involving federally and locally funded programs.

[64] GAO Report No. GAO-15-502, "Indian Energy Development: Poor Management by BIA Has Hindered Energy Development on Indian Lands," June 8, 2015.

Both OIG and GAO have repeatedly reported challenges faced not only by Insular Area governments, but also by OIA to effectively monitor programs and spending. In recent years, we have restricted our audit and evaluation program in the Pacific to focus on evaluations that support OIG's role as a member of the Interagency Coordination Group of Inspectors General for Guam. In addition, we have provided a limited program of capacity-building to strengthen accountability mechanisms within the Insular Area governments.

Continued efforts are needed to fully address the vulnerabilities of Insular Area programs and OIA's financial challenges. OIA should continue to coordinate with other grant agencies to effectively monitor the use of grants and promote financial accountability. Further, OIA needs to leverage its limited resources to promote accountability within the Insular Area governments.

Acquisition and Financial Assistance

OIG has consistently identified acquisition management as an area in need of improvement. It's also an area of significant spending: DOI awarded approximately $ 9.3 billion in new grants and contracts in FY 2015.

We focus on key aspects of DOI programs and operations, selecting audit assignments based on risk assessments and data mining techniques, or in response to a request (e.g., from DOI bureaus, our investigators, other Federal agencies, or Congress).

Prevention or remedying problems in acquisition and financial assistance processes is always critical, especially in times of fiscal constraint. In FY 2015 we noted problems in pre-award planning and competition, as well as in monitoring contract performance, such as contractors billing for work outside of contract scope and contractors billing for unsupported costs.

Summary of OIG Work

In our FY 2015 projects related to grants and contracts, OIG identified problem areas, opportunities, and management issues and made recommendations to help improve financial assistance and acquisition processes and administration.

Staff in our Office of Investigations focused significant resources, time, and effort on establishing lines of communication, relationship-building, and collaboration with our DOI partners. Investigators also held regular briefings with audit staff to share information, discuss findings, and determine appropriate courses of action.

Grants Management

The overall management of grants and cooperative agreements—known commonly as "grants management"—has historically been subject to fraud and waste throughout Government. Over time, growth in both the numbers of grant programs and levels of funding has created greater complexity in Federal grants management processes, requiring greater oversight.

OIG dedicates significant resources to reviewing the adequacy of departmental and bureau grants management policies and procedures to ensure that DOI spends Federal dollars in accordance with applicable laws and regulations. Areas of concern include insufficient planning and inadequate administration and oversight. These deficiencies, individually and collectively, could increase fraud, waste, and abuse and diminish the integrity of grants management.

FWS Grants to States Under the Wildlife and Sport Fish Restoration Program

The Pittman-Robertson Wildlife Restoration Act and the Dingell-Johnson Sport Fish Restoration Act (16 U.S.C. §§ 669 and 777, as amended, respectively) established the Wildlife and Sport Fish Restoration Program. Under the program,

FWS provides grants to States to restore, conserve, manage, and enhance their sport fish and wildlife resources. The acts and Federal regulations contain provisions and principles on eligible costs and allow FWS to reimburse States up to 75 percent of the eligible costs incurred under the grants. The acts also require that hunting and fishing license revenues be used only for administration of the States' fish and game agencies. Finally, Federal regulations and FWS guidance require States to account for any income earned using grant funds.

This year, FWS announced that grant funds to be distributed through the program exceeded $1.1 billion. As with any financial assistance program, a system of monitoring and independent audit must provide assurance that the funds are used appropriately. Each year, OIG conducts several audits to determine whether States (1) claimed program costs in accordance with the acts and related regulations, FWS guidelines, and grant agreements; (2) used State hunting and fishing license revenues solely for fish and wildlife program activities; and (3) reported and used program income in accordance with Federal regulations.

OIG completes about 13 grant audits each year for FWS. We continue to work with FWS officials on any audit findings, so that their monitoring activities can help States resolve the findings and prevent any problems from reoccurring.

Lower Brule Sioux Tribe Program Review

For many years, the Lower Brule Sioux Tribe's auditor has had the same finding: that Lower Brule has commingled Federal funds with tribal funds and used them for unallowable purposes. The most recent audit found that Lower Brule had commingled advanced Federal funds from a number of programs, including three different agencies (DOI, the U.S. Department of Transportation, and the U.S. Department of Health and Human Services), and used funds inappropriately.

Based on these findings, in FY 2015 we initiated a review of four Lower Brule programs.[65] We are deploying a team of auditors, analysts, and investigators to identify unsupported and unallowable costs and potential fraud, waste, mismanagement, and abuse. We anticipate doing more proactive audit and review work at many of the high-risk tribes to recover funds where possible, but also to help prevent recurrence of the underlying issues and to refer instances of suspected or identified fraud to our investigative unit.

Clean Vessel Act Grant Oversight

The Clean Vessel Act of 1992 (Pub. L. No. 102-587) allows FWS to provide grants to State governments for various projects. One such project provided funds to the California Division of Boating and Waterways (DBW) for the construction, renovation, operation, and maintenance of marine pumpout stations and waste

[65] DOI OIG Report No. 2015-ER-069, "Agreements Between the Bureau of Indian Education, Bureau of Indian Affairs, and Bureau of Reclamation and the Lower Brule Sioux Tribe," report in progress.

receiving facilities. The project's purpose is to reduce pollution from vessel sewage discharges and prevent localized degradation of water quality in the United States. We completed an audit on two FWS grants to DBW to determine whether the claimed costs were allowable under applicable Federal laws and regulations, allocable to the grant and incurred in accordance with its terms and conditions, and reasonable and supported.[66]

Out of $2,206,811 in claimed costs for the selected grants, we questioned $1,167,748. We also learned that DBW's insufficient segregation of duties puts these Clean Vessel Act funds at risk. Further, we could not determine how or why project costs were charged to each grant, because no clear record of which projects were funded by which grants existed, creating an issue of transparency. Finally, because DBW did not compete awards for major subgrants, we could not determine whether the State paid fair market prices for services. We recommended that FWS resolve the ineligible and unsupported costs and require adherence to grant management requirements. FWS concurred with the recommendations in our report and is working to recover the questioned costs.

Hurricane Sandy Grant Oversight

In FY 2015, DOI awarded more than $20 million in grant funds to support storm relief and recovery efforts for Hurricane Sandy. Our continued audits of recipients of Hurricane Sandy funds have identified high-risk issues and practices for emergency grants related to disaster response.

In FY 2015, we completed a grant audit related to Hurricane Sandy recovery efforts. We audited incurred costs claimed by the University of Florida under a cooperative agreement with BOEM under the authority of the Outer Continental Shelf Lands Act (Pub. L. No. 106-580).[67] The purpose of the agreement was to evaluate sand deposits and supplies for coastal restoration and beach nourishment projects. Out of $873,300 in claimed costs, we identified $112 in unallowable costs and $59,681 in unsupported costs, for a total of $59,793 in questioned costs. BOEM has submitted a plan of action to OIG that addresses the audit findings and will provide a written response once the questioned costs have been resolved.

DOI's response to Hurricane Sandy provided us with a unique outreach opportunity. OIG special agents conducted more than 30 site visits to organizations and entities receiving Hurricane Sandy recovery funds. During these visits, they conducted 20 fraud awareness briefings and numerous other operational capability briefings for bureaus and partner entities, which provided

[66] DOI OIG Report No. WR-GR-FWS-0007-2014, "U.S. Fish and Wildlife Service Clean Vessel Act Grants to the California Department of Boating and Waterways, Grant Nos. F10AP00748 and F10AP00749," September 2015.
[67] DOI OIG Report No. 2015-WR-018, "Bureau of Ocean Energy Management Cooperative Agreement No. M13AC00012 With the University of Florida," September 2015.

OIG direct exposure to more than 200 individuals—key personnel related to Hurricane Sandy recovery efforts.

Contract Management

OIG has dedicated significant resources to review the adequacy of departmental and bureau policies and procedures related to contract management. Across contract audits, we have identified areas of concern, including contractor selection, presolicitation planning and competition, and administration and oversight of contracts.

In a strategic approach to outreach, our investigation staff identified NPS parks that were receiving the largest amount of funding for construction-related projects for 2015 through 2020. OIG special agents then provided staff at these parks with an overview of investigations, discussed contracting-related risks and vulnerabilities, and showed them how OIG can assist them in their work by identifying potential fraudulent behavior and emphasizing ethical standards.

Hurricane Sandy Contract Oversight

The funding provided by DOI to support emergency storm relief and recovery efforts in the aftermath of Hurricane Sandy included contract awards (as well as grant awards, discussed above). Our FY 2015 audits included two related to Hurricane Sandy recovery contracts.

NPS awarded three contracts to NY Asphalt in November 2012 to support cleanup work after Hurricane Sandy. In our audit, we determined that NY Asphalt billed NPS for equipment rental without providing sufficient supporting documentation, including shift tickets, payroll records, load tickets, and a billing reconciliation.[68] This led us to question as unsupported $963,599 in costs associated with the three contracts. We also identified $24,604 in unallowable costs.

Also during our audit, we found that NPS failed to use an effective process to select the contractor and exercised flawed monitoring throughout the contract period. As a result, NPS did not prevent or detect numerous internal control problems and paid tremendous markups for equipment rentals. We provided NPS with a management advisory detailing our concerns surrounding NPS' contract selection and monitoring processes.

In our second Hurricane Sandy related audit, we examined contract compliance by Perini Management Services, Inc., on an NPS contract for repair projects at the

[68] DOI OIG Report No. X-CX-NPS-0001-2014, "Final Costs Claimed by NY Asphalt, Inc., Under Contract Nos. INPSANDY12003, INP13PX28237, and INP13PX22222 With the National Park Service," October 2014.

Statue of Liberty and Ellis Island National Monument.[69] The award was a firm-fixed-price task order for $34,997,502, and during the first 8 months, Perini requested and received six modifications that increased the value to $37,300,427, an increase of $2,302,925 (or 6.6 percent of the original task order award). Perini expects to complete the task order by December 3, 2015.

In our audit, we did not identify any significant issues with the contractor, but we did identify two issues related to NPS' contract award and oversight: inadequate monitoring of the subcontract plan and failure to use the independent Government cost estimate in evaluating the offers. We made two recommendations to NPS to resolve these issues.

Lockheed Martin Services, Inc.

BIA awarded a time-and-materials task order to Lockheed Martin Services, Inc., for support to BIA's Division of Energy and Minerals Development for development of the National Indian Oil and Gas Evaluation and Management System (NIOGEMS). In an audit, we identified $781,247 in unallowable costs and made three recommendations to BIA to resolve these costs.[70]

We found that BIA failed to document the process for selection of the contractor as required by the Federal Acquisition Regulation (FAR) at 48 C.F.R. § 15.406-3, and failed to properly monitor the contractor throughout the contract period. As a result, BIA did not prevent or detect numerous problems, including mismanagement of contract funds, missing acquisition documentation, absence of contracting officer approval on invoices, unclear invoice presentation, unauthorized addition of labor categories, and failure to define education and other minimal requirements for labor categories. BIA is currently addressing the three recommendations, which will provide the corrective actions needed to ensure this contract is in compliance with the FAR.

MWH Americas, Inc.

USBR awarded a time-and-materials contract to MWH Americas, Inc., to investigate and report on the feasibility of enlarging Shasta Dam and its reservoir for various water resource purposes. The contract is valued at $4,410,657 and the contractor had claimed total costs of $2,963,883.[71]

We completed an audit of interim costs and determined that MWH did not bill USBR in accordance with the contract. MWH was authorized to perform work (including labor, materials, and other direct costs) that met the requirements of the

[69] DOI OIG Report No. 2015-ER-020, "Audit of National Park Service Task Order No. P14PD00557 With Perini Management Services, Inc.," September 2015.
[70] DOI OIG Report No. 2015-ER-036, "Interim Costs Claimed by Lockheed Martin Services, Inc., Under Task Order No. A11PC00409 With the Bureau of Indian Affairs," August 2015.
[71] DOI OIG Report No. ER-CX-BOR-0009-2014, "Interim Costs Claimed by MWH Americas, Inc., Under Contract No. GS00F0040L With the Bureau of Reclamation," July 2015.

statement of work (SOW), but MWH billed the contract for costs that were not related to the SOW. This caused us to question $694,726 of the claimed costs as unallowable. We offered one recommendation to USBR to address these unallowable costs; USBR concurred with our recommendation and is taking action to resolve the questioned costs.

Common Themes That Connect Our Findings

OIG findings in acquisitions and financial assistance revealed poor bureau monitoring procedures exacerbated by a need for qualified personnel and the issuance of new guidance. Also within financial assistance, bureaus do not have an adequate number of trained staff to effectively manage the pre-award, post-award, and closeout requirements for managing grants and cooperative agreements. Unlike for acquisition, no certification process exists for financial assistance staff, and as a result, no training standards were developed. This gap in training creates an inconsistent application of regulations, poor oversight of awards, and repeat audit findings.

Looking Ahead

OMB guidance issued in 2013 titled "Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards," often referred to as the "Super-Circular," will continue to significantly affect day-to-day management and administration of Federal financial assistance awards. Together, this relatively new guidance and the need for qualified grant specialists means that DOI will likely continue to face challenges with the monitoring of Federal financial assistance awards.

In FY 2015, more than 75 percent of the acquisition actions executed by DOI were of a fixed-price type, representing over $2 billion. DOI needs to develop a protocol for evaluating these types of contracts to determine whether the Department is getting what it paid for at a reasonable price. This would involve both pre-award cost reviews and post-award compliance reviews.

We will continue to audit Hurricane Sandy and BIA awards, as we have consistently identified high-risk issues associated with these awards regarding contract oversight, pre-award processes, and post-award monitoring. We will also focus on awards that make up a significant part of DOI's funding obligations—specifically, awards in the professional support services category, which made up more than 20 percent of the FY 2015 acquisition obligations, and tribal self-government contracts under the Indian Self-Determination and Education Assistance Act (Pub. L. No. 93-638), which made up approximately 25 percent of the FY 2015 assistance award obligations.

We have found that stakeholders appreciate and are receptive to our message when we commit our resources to traveling to their locations. These outreach efforts, however, have associated travel costs. As a result, we struggle with

balancing our limited financial resources between our core investigative efforts and our proactive outreach to external stakeholders.

Disaster Response

Disaster and emergency management—planning, preparation, response, recovery, and mitigation—can be costly, and typically involves the efforts of multiple Federal agencies, multiple levels of government, and the private and nonprofit sectors. In an emergency, DOI's primary concerns are—

- taking needed action on DOI lands, at DOI facilities, and in support of DOI-managed resources;
- providing assistance to State and local officials with immediate emergency response; and
- supporting interagency response plans with application of designated DOI resources.

The Federal Emergency Management Agency's (FEMA) National Response Framework (NRF) is designed to ensure that the necessary resources to respond to a disaster are applied quickly and efficiently across the Federal Government. The framework assigns roles and responsibilities under a set of Emergency Support Functions (ESFs), which organize functional capabilities and resources by purpose rather than department or agency to support an effective response. Of the 15 ESFs described in the NRF, DOI has a national coordinating role under ESF No. 9, Search and Rescue, and ESF No. 11, Agriculture and Natural Resources, and has a support role for all other ESFs. DOI is also a full partner in the National Mitigation Framework, the National Response Framework, and the National Disaster Recovery Framework and contributes to interagency plans supporting State, tribal, and local communities. While DOI supports many recovery support functions, its primary job is to serve as the coordinating agency for the Natural and Cultural Resources (NCR) Recovery Support Function (RSF). The NCR RSF facilitates the integration of capabilities across the Federal Government to support the protection of natural and cultural resources and historic properties through appropriate response and recovery actions to preserve, conserve, rehabilitate, and restore them consistent with post-disaster community priorities and in compliance with applicable environmental and historical preservation laws and executive orders protecting natural and cultural resources.

DOI's Office of Emergency Management (OEM) oversees an integrated and comprehensive program that spans the continuum of prevention, planning, mitigation, response, and recovery. The Interior Operations Center (IOC) hosts the Incident Command Center and manages situational awareness of impending hazards and response operations for the Department. The IOC relies on internal reporting from the bureaus and offices, as well as interagency partners, supplemented by open source reporting, to provide emergency status information to the DOI Secretary and other senior leadership. DOI also has a National Incident Coordination Team (DOI-ICT) whose primary focus is to coordinate and advise on policy issues associated with incidents or events requiring an interagency

response, affecting multiple bureaus, or having significant impact on one bureau. In addition, each bureau has a variety of disaster response plans and procedures in place based on their roles and responsibilities, and some have specific roles in the National Mitigation Framework, the National Response Framework, and the National Disaster Recovery Framework.

Further, disaster response was described as a concern under human capital management in the 2015 GAO High-Risk List, due to its complexity and the demand for uniquely talented responders.

Summary of OIG Work

In the past fiscal year, OIG initiated several projects related to Hurricane Sandy cleanup that directly relate to disaster response. We have summarized that work under "Acquisition and Financial Assistance" in this management challenges report, as the findings fit more generally under that challenge area.

Common Themes That Connect Our Findings

Given DOI's leadership role in national disaster management and response efforts, coordination and communication—both within DOI and across other collaborating agencies—need to be streamlined and efficient.

Looking Ahead

Fragmented Teams and Interagency Coordination for Emergency Response Planning

BIA serves as the lead for the Tribal Assistance Coordination Group (TAC-G), a group of Federal agencies that collaborate to strengthen emergency management among tribal nations. As a whole, the Bureau does not have a defined role in disaster response, and tribal attendance at the TAC-G meetings, which are held regularly, is sporadic. Coordination of tribal disaster response is managed under ESF No. 15, External Affairs, led by the U.S. Department of Homeland Security and FEMA tribal coordinators. Each of the more than 560 tribes has its own disaster planning concept, which differs in terms of partners, operations, and structure. The decentralization of strategic response and emergency management within DOI limits command and control and causes confusion during a disaster.

In addition, most tribes do not have an updated emergency management plan that is compliant with FEMA and National Incident Management System requirements, nor are tribes adequately staffed or funded to provide emergency management services. BIA and Federal Government emergency managers generally do not exercise "command and control" over tribes, as they are sovereign governments.

Fluctuations and Coordination in Funding

The manner in which emergency management funding is captured across DOI may hamper effective disaster response reporting and planning. Currently, each bureau's emergency management programs are not clearly identified as line items

within their specific budgets. Therefore, emergency management obligations and expenditures are not consistently captured in current financial reporting processes, making it difficult to manage requirements across DOI. When bureaus and offices, including OEM, are affected by a disaster, additional funding may be requested via a supplemental budget request, reimbursed through FEMA or the U.S. Coast Guard, or (in most cases) covered internally using other program funds. Without a consistent process to capture emergency management obligations and expenditures within bureaus in DOI's accounting system, bureau and office emergency management programs are challenged to fully report and track emergency responses, emergency training, and preparation.

Furthermore, since some agencies have responsibilities on the national level during a disaster, command and control of the organization as a whole becomes strained. For example, NPS has national search and rescue responsibility in the event of a disaster; USGS is responsible for response to natural hazards such as volcano eruptions, earthquakes, and floods; and BSEE serves as the lead for well control preparedness by reviewing oil spill response plans, overseeing response to uncontrolled wells, and managing funds for oil spill response research. With the bureaus and offices stove-piped in this way based on type of hazard, inaccurate or delayed information-sharing can occur.

High Risks of Emergency Contracts

Effective contract administration is always critical, not just during an emergency—but our audit work has found that emergency contracts for disaster response are riskier than normal, making proper administration and oversight more urgent. Emergency acquisition activities must include appropriate oversight to ensure timely and satisfactory contract performance and prudent stewardship of taxpayer funds, even though bureaus may be required to adjust their practices to the circumstances at hand. In FY 2016, the Office of Acquisition and Property Management (PAM) will explore the feasibility of creating Web-based training on emergency contracting, including a toolkit for reference by acquisition personnel in emergency situations.

Operational Efficiencies

In testimony before the U.S. Senate's Committee on the Budget in March 2015, the head of GAO noted that the continued fiscal pressures facing the Government reinforce the need for improved efficiency of Government programs and activities.[72] Likewise, in its 2015 annual report, GAO identified opportunities for improved efficiencies related to agency improper payments, revenue collection, management of IT acquisitions and operations, and improved management of Federal oil and gas resources. All of these topics affect DOI, and we cover them all in our management challenges report. Also of note, in GAO's 2015 update to its High-Risk List, human capital management was designated as an area of concern, which we also address in this report.

The effective operation of DOI has a significant impact on the health, safety, and security of the American public. Government leaders are being asked to function with fewer resources and must continue to find new ways to tackle complex challenges. How they manage the operations and performance of their agencies influences their ability to achieve meaningful outcomes.

Summary of OIG Work

FY 2015 projects related to operational efficiencies focused on management of resources and programs.

Recreation Revenues

Two ways that BLM and NPS can generate revenue are by charging recreation fees to the visitors who use their lands and by charging lease fees to the concessions that operate on the lands. In FY 2015 we examined BLM's and NPS' current fee structures and practices, and identified opportunities for the bureaus to increase revenue as well as strengthen their operations to continue these gains in the future.

In an evaluation of BLM's concession management practices on lands it manages along the lower Colorado River in Arizona and California, we found that BLM is misusing its legal authorities to manage the concessions and is improperly retaining portions of the lease fees collected from the operators of these concessions.[73]

In an audit of BLM's recreation fee program, we found that BLM is not charging fees in a way that will increase its revenues. Specifically, BLM is not charging

[72] GAO Report GAO-15-440T, "Government Efficiency and Effectiveness: Opportunities to Reduce Fragmentation, Overlap, Duplication, and Improper Payments and Achieve Other Financial Benefits," March 4, 2015.
[73] DOI OIG Report No. C-EV-BLM-0013-2013, "Review of Bureau of Land Management's Concession Management Practices," March 2015.

recreation fees in some of its camping and day-use areas, even at sites where it could do so if a few basic amenities were added; also, at the long-term visitor areas we visited, fees were considerably lower than those of comparable local businesses.[74]

Our audit of NPS' recreation fee program focused on NPS' three largest means for generating recreation revenue: park-unit entrance fees, interagency entrance passes, and commercial bus tour fees. As with BLM, we found that NPS' fee revenue has been lower than it could be.[75]

In all three reports, we focused our recommendations on helping BLM and NPS increase their revenue from these fees while improving fee management. Among other things, we recommended that BLM examine the feasibility of charging visitor fees at some of its campgrounds and day-use areas, identify long-term visitor areas whose fees are not based on fair market value, and correct its lease fee collection and retention practices, and that NPS lift its longstanding fee moratorium and begin the process of updating and finalizing its fee models.

Follow-Up on Energy-Related Management Advisories

To help ensure operational effectiveness and efficiency at DOI's bureaus, OIG performs verification reviews to check on the status of previous recommendations and identify any barriers to implementation. In FY 2015, we issued an inspection report on nine energy-related management advisories issued to BLM and ONRR between FYs 2008 and 2013.[76] Our objective was to determine whether BLM and ONRR had implemented OIG recommendations. We concluded that the bureaus had implemented 19 recommendations, were currently implementing 14 recommendations, and did not concur with 2 recommendations. We reviewed the basis for the nonconcurrences and supported the justifications, and consider both of these recommendations resolved.

The 14 outstanding recommendations were from 4 advisories we issued to BLM, which had not provided sufficient information for us to verify timetables for implementation. We referred the 14 recommendations to DOI's Office of Financial Management (PFM) to track implementation and suggested that BLM prepare corrective action plans. We also encouraged BLM to track implementation of all open recommendations from our office, including those stemming from investigations. Successfully tracking and implementing OIG recommendations will promote more efficient and effective operations of programs.

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[74] DOI OIG Report No. C-IN-MOA-0002-2013, "Review of Bureau of Land Management's Recreation Fee Program," February 2015.
[75] DOI OIG Report No. C-IN-NPS-0012-2013, "Review of National Park Service's Recreation Fee Program," February 2015.
[76] DOI OIG Report No. CR-IS-MOA-0005-2014, "Energy Related Management Advisories," November 2014.

Common Themes That Connect Our Findings

At several recreation areas, DOI appears to be mishandling funds generated through charging fees, which has negative effects on both the bureaus and the public who use the facilities. Action needs to be taken to address the issues surrounding fee pricing and collection to ensure both the accountability and viability of open-to-public areas going forward.

Looking Ahead

Hiring and Retention

DOI faces challenges in hiring and retaining staff at the bureaus responsible for oversight and management of Federal oil and gas (BLM, BOEM, and BSEE), as discussed previously under "Energy Management." We also noted challenges in hiring and retaining IT and cybersecurity professionals under "Information Technology."

More broadly, DOI's hiring and retention across all bureaus is hindered by lower salaries and a slower hiring process compared with similar positions in private industry. Human capital shortfalls can erode the capacity of Federal agencies and threaten their ability to effectively and efficiently carry out their missions. GAO has identified key areas that need attention such as (1) revising the General Schedule (GS) classification system to make it more modern, flexible, and simple; (2) determining Governmentwide skills gaps in mission-critical occupations and taking action to address them; (3) improving performance management; and (4) strengthening employee engagement.[77] Strategic management approaches are required to prepare workforces to meet present and future mission requirements and achieve organizational success.

Workers' Compensation Program

In 2010, President Obama established a 4-year initiative called Protecting Our Workers and Ensuring Reemployment (POWER), covering FYs 2011 through 2014. Designed to enhance workplace safety and health efforts across the Federal Government, the POWER Initiative set aggressive performance targets and collected agency performance data on a quarterly basis.

Because the initiative ended in FY 2014, no agency performance targets were established for FY 2015 and DOI is awaiting the next presidential initiative or successor to POWER. DOI continues to focus on efficient management of the compensation program, its data, and related costs.

In addition, claims processing challenges exist within DOI. The Federal Employees' Compensation Act (FECA) provides medical benefits, income replacement, and certain supportive services to Federal civilian employees with

[77] GAO Report GAO-15-619T, "Human Capital: Update on Strategic Management Challenges for the 21st Century," May 20, 2015.

work-related illnesses or injuries, or in the case of death, survivor benefits to family members. The costs of FECA benefits are initially paid by the U.S. Department of Labor (DOL) through the Employee Compensation Fund and reimbursed by DOI at the end of each fiscal year.

One barrier to operational efficiency is that DOI does not have access to DOL's Web-based portal for electronic filing of key FECA claim forms, called the Employees' Compensation Operations and Management Portal (ECOMP). This system provides direct access to medical documents maintained by DOL's Office of Workers' Compensation Programs, and tracks current status and supervisory completion of claims forms in real time. Without access to ECOMP, the filing and processing of claims is less efficient and more prone to compliance errors.

The majority of bureaus and offices in DOI use a separate system (called Safety Management Information System, or SMIS) that is not compatible with ECOMP. DOI bureaus must rely on written requests to the Office of Workers' Compensation Programs for case-file documents, and the slow processing time increases the length of time in which employees are out of work and contributes to the number of long-term roll cases (2 years or more). These cases generally have higher compensation costs and require more investigation into medical and wage loss data in ECOMP than other cases. Finally, because DOI bureaus cannot file wage-loss compensation claims electronically, they are noncompliant with regulatory requirements to establish a method for electronic submission of these claims. The Office of Workers' Compensation Programs also requires that wage-loss compensation claims be submitted within 5 days of signature by the agency official, resulting in extra burden on the bureaus without an electronic submission option. Currently, the bureaus rely solely on fax or U.S. mail to submit wage-loss compensation claims.

The net effect of not having access to ECOMP is not only slower processing of employee claims and higher costs from continued workers' compensation payments, but also more time and resources to manage the process on paper.

Recreation Fees and Revenue Collection

A primary concern for DOI operations is extension of the Federal Lands Recreation Enhancement Act (Pub. L. No. 108-447), or FLREA, which authorizes agencies including NPS, FWS, BLM, and USBR to collect recreation fees from visitors at national parks and other Federal sites. However, FLREA is scheduled to expire on September 30, 2017 (an extension from its original sunset date of December 2014), unless reauthorized by Congress. Should FLREA expire, NPS in particular stands to lose a significant source of funding that supplements an already strained budget, which will affect the visitor experience, availability of amenities and services, and conservation and preservation efforts.

In response to our review of BLM's and NPS' current fee structures and practices, these bureaus are making changes that should help increase revenue and improve

operations. In November 2014, BLM issued a revised "Recreation Permit and Fee Administration Handbook," which provides guidance on establishing new fee sites and modifying existing fees. The handbook also requires State directors to review the fees at each recreation site every 2 years to ensure that they are based on fair market value, and to provide accountability for money collected from recreation fee sites. Meanwhile, in August 2014, NPS lifted a self-imposed fee moratorium that had been in effect since 2008, and authorized parks to begin soliciting public support for possible entrance fee changes. The process, however, will likely command significant time and resources, because FLREA requires agencies to obtain and document public support before instituting or changing a recreation fee. NPS has also begun the review process for updating its commercial tour fee schedule.

To accomplish their goals of protecting America's resources while ensuring the best possible experience for visitors to public lands, BLM and NPS need to continue to examine opportunities for enhancing revenues. An upcoming opportunity to generate revenue is when NPS celebrates its 100-year anniversary on August 25, 2016. This centennial provides an opportunity for NPS to plan celebration activities that attract visitors and boost revenues.

Public Safety

Each year, millions of individuals visit DOI's national parks and monuments, wildlife refuges, and recreational sites. DOI is responsible for serving these visitors and for maintaining and protecting thousands of facilities and millions of acres of property. In some cases, the isolation of lands and facilities presents unique vulnerabilities, making public safety a challenge. At national parks and federally managed lands, ensuring the health and safety of visitors is just as critical for DOI as protecting and preserving these areas.

The increased risk of wildfire threatens public health and safety as much as it threatens natural and cultural resources. In addition, DOI's role in energy management has a clear public safety aspect. Protecting public health, safety, and the environment are primary considerations in DOI regulations, design and operating standards, monitoring and oversight, reclamation activities, financial assurance requirements, and research on new and advanced technologies.

Summary of OIG Work

FY 2015 projects related to public safety spanned various topics, including operations at a historic lodge, the potable water system at a national park, illegal activities associated with firefighting efforts, weapons management and accountability, and detention facilities in Indian Country.

Security and Public Health

While evaluating NPS' operation and management of the Brinkerhoff Lodge at Grand Teton National Park, we found that guest safety had not been properly assessed and that the lodge does not meet Federal safety and fire requirements.[78] Furthermore, the park had not assessed the lodge's security. In addition to these safety and security concerns, we found that the park has not performed a historic structure report, which determines how best to use and preserve the historic structure and its furnishings. We made four recommendations to ensure the safety and security of the lodge and its guests, one recommendation to determine the best use of this Government asset, and five recommendations to improve NPS' administration and management of the lodge.

At the request of the Secretary of the Interior, we investigated several allegations related to the potable water system at Hawaii Volcanoes National Park (HAVO), located on the island of Hawaii. The Secretary had received a letter from the Office of Special Counsel outlining concerns that HAVO officials did not act on deficiencies noted in a December 2013 environmental health survey of the park and its water system, and that their inaction potentially presented a danger to public health. A team of investigators and auditors visited HAVO and found

[78] DOI OIG Report No. 2015-WR-019, "Evaluation of NPS Management and Operation of Brinkerhoff Lodge at Grand Teton National Park," September 2015.

numerous deficiencies pertaining to the water system, some of which were highlighted in the December 2013 survey.[79]

NPS' Office of Public Health has established capacity in its reporting database for monitoring the status of the correction of violations identified during site visits. Ultimately, however, it is up to individual park units to implement the needed corrections.

Wildland Fire Threat and Response

We completed an investigation into allegations that firefighters at BIA's Fort Yuma Agency intentionally started fires on tribal or BLM-administered public lands.[80] We determined that two BIA firefighters, Blase Smith and Joshua Gilbert, were directly involved in starting 37 fires on BLM, tribal, and State trust lands in Arizona and California between 2009 and 2012. In February 2015, Smith pled guilty to timber set afire and was sentenced to 51 months in custody and ordered to pay $3,814,084 in restitution. Gilbert pled guilty and was sentenced to 3 years' supervised probation and ordered to pay $40,625 in restitution.

The Fort Yuma arson investigation, as well as a similar investigation conducted in North Carolina, spawned an initiative to look at fraud associated with DOI's wildland firefighting efforts, primarily involving administratively determined firefighters[81] on tribal lands. We worked with the National Interagency Fire Center (NIFC) to gather data about human-caused fires and discovered an alarming trend: NIFC had data showing several thousand human-caused fires nationwide over the past 5 years, including more than 1,000 fires at a single reservation in North Dakota. While BLM has detailed policy in place that requires "determination of cause, origin, and responsibility for all wildfires," we found that almost none of these fires had been thoroughly investigated. Such fires have a significant impact on DOI; in addition to property damage and potential injuries or death, DOI spends millions of dollars each year to fight wildland fires.

Weapons Management

In FY 2015, we issued a management advisory to the NPS Director when we found that law enforcement rangers had purchased automatic weapons and "flash-bang" distraction devices, in violation of NPS policy, indicating that NPS continues to struggle with weapons accountability issues. The investigation found a decade-long theme of inaction and indifference at all levels, and basic tenets of property management and supervisory oversight were missing from NPS' simplest processes.

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[79] DOI OIG Report of Investigation, "HAVO Water Distribution System," March 2015.
[80] DOI OIG Report of Investigation, "BIA Wildland Fire Arson," December 2012.
[81] These "administratively determined" positions are a skilled, temporary workforce hired locally to supplement regular Federal employees in emergency response. BIA hires administratively determined firefighters to bolster Government and tribal firefighting resources.

BIA Detention Facilities

In recent years, numerous tribes across Indian Country have received grants from DOJ to construct new detention facilities. In many instances, general contractors perform substandard work, resulting in a facility that cannot be opened (or used). Contractors also are not held accountable during the construction phase. Unless internal controls and oversight are strengthened, BIA detention facilities will continue to be an area of concern for DOI.

For many years and in multiple forums, BIA and DOJ have found these facilities to be understaffed, overcrowded, and underfunded—we reached this conclusion as far back as a 2004 assessment of detention facilities in Indian Country.[82] In 2015, Congress requested that OIG update its 2004 report by examining the current conditions of these detention facilities. In our evaluation, we found that the operation and condition of detention facilities have improved in the 11 years since the prior report, but opportunities exist for further improvements.[83]

Specifically, we found that BIA and tribal contractors were not recording serious incident reports in a centralized system and that existing incident data were unreliable. We also found that required annual health and safety inspections were not completed in the past 3 years at 17 of the 26 facilities we visited. We found that facility maintenance needs were not identified and corrected because maintenance work orders were not recorded in an electronic system. Lastly, we noted that while overcrowding issues have improved in general, overcrowding continues to be a problem at some facilities. These issues continue to have a negative impact on the condition of detention facilities and the health and safety of inmates and correctional staff. In April 2015, we issued three Notices of Potential Findings and Recommendations to BIA. We also made nine recommendations to help BIA further improve detention programs in Indian Country.

Common Themes That Connect Our Findings

Public safety plays a large role in DOI's day-to-day operations. The Department must be vigilant in its responsibilities to protect people visiting public lands and national forests, manage fighting wildland fires, and enforce the law on tribal lands. The key issues that surfaced in our work relate to budget difficulties, human capital challenges, and the need for continued efforts to identify future threats to public safety.

[82] DOI OIG Report No. 2004-I-0056, "Neither Safe Nor Secure: An Assessment of Indian Detention Facilities," September 2004.
[83] DOI OIG Report No. 2015-WR-012, "Bureau of Indian Affairs Funded and/or Operated Detention Programs," report in progress.

Looking Ahead

Increased Tourism

An increase in visitors to national parks and federally managed lands provides economic benefit, builds public support for DOI programs, and showcases the work done to preserve local history, conserve the environment, and provide public open space and outdoor recreation. But increased tourism also raises public safety concerns, especially in remote regions of the parks, during inclement weather, or with regard to protecting more visitors from animals such as bears. Parks may also see an increase in unintentional visitor injuries and fatalities resulting from increased visitor activity in recreational areas of parks where the visitor may be unprepared or not fully aware of risks (heat, animals, swift water, etc.).

This year we have seen several wildlife-related incidents at Yellowstone National Park, including two injuries to visitors and one fatality.[84] The people injured were a 62-year-old Australian man and a 16-year-old Taiwanese exchange student, both injured by bison.[85] The fatality occurred in early August when an experienced hiker was killed and partially consumed by a grizzly bear and her cub.[86]

Due to the wide range of activities that park visitors engage in, their diverse backgrounds and experience levels, and the inherent risks that cannot be managed or transferred away, visitor risk management in the national parks continues to be a difficult challenge. Injury prevention within parks is a shared responsibility between the park staff, park partners, and park visitors. A successful injury prevention and risk management program requires that all parties coordinate efforts to identify and understand the nature of park resources, the risks to public safety that are present, and the steps that can be taken to identify and mitigate conditions that may result in injury. The wildlife-related incidents cited above show that visitors need to have greater understanding and situational awareness in national parks. Technical expertise, staffing, and funding to conduct injury prevention studies and identify effective solutions will continue to be a challenge due to limited funding and competing priorities at parks.

Increased visitation in the parks has resulted in an increase in vehicle congestion on roads to and within NPS-managed lands. The resulting conflicts between vehicle traffic, nonmotorists, park resources, and wildlife lead to resource and property damage, injuries, and fatalities. NPS' Office of Risk Management, in

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[84] For comparison, the last documented bear incident was in August 2011, and analysis shows that on average one or two visitors are gored in the park each year. See http://trib.com/lifestyles/recreation/how-do-people-get-hurt-at-yellowstone-it-s-not/article_e784607d-96c5-5cb7-ae0c-b203b498227c.html.

[85] Phil Gast and Jethro Mullen, "Second Yellowstone visitor injured in bison encounter," CNN, June 2, 2015, http://www.cnn.com/2015/06/02/us/yellowstone-park-bison-encounters-injuries/.

[86] Matthew Grimson, "Hiker Killed by Grizzly Bear in Yellowstone National Park," NBC News, August 10, 2015, http://www.nbcnews.com/news/us-news/hiker-killed-grizzly-bear-yellowstone-national-park-n406656.

partnership with its Park Facilities Management Division and the Federal Highways Administration, is developing a transportation safety program to reduce visitor injuries and fatalities related to motor vehicle crashes. This program will use the "4E" approach of enforcement, engineering, education, and emergency services solutions and will take into account the unique mission of each park.

Increased tourism also affects NPS' day-to-day operations and budget. An increase in visitors can result in an increase in search and rescue operations (SARs). For example, in 2014, NPS conducted 3,091 SAR missions throughout the National Park System, at an approximated cost of $4 million. DOI faces a need for increased manpower and better coordination internally and with other agencies to help handle the influx of visitors to public lands.

Finally, effects of climate change (on weather, environment, and wildlife adaptation) may have greater impact on human health among visitors to public lands—for example, increases in injuries or fatalities due to severe weather, heat-related illnesses, and prevalence of infectious disease. Another anticipated result is increased demand for assistance and visitor services, which directly affects a park's water resources, waste disposal, and food services. NPS currently provides environmental and sanitary assessments to help parks meet industry standards for water and food safety. The increased demands on these systems will also likely result in the need for conducting assessments with adequate frequency to ensure the health and safety of park patrons.

Park Safety and Security

Public and congressional attention to border security issues continues to grow, and DOI manages parks, refuges, and resources along the Nation's borders, including 20.7 million acres of DOI and U.S. Forest Service land along the southern border of the United States. Border parks have historically been targeted by criminals for drug smuggling, human trafficking, illegal immigration, potential terrorist movement, and other violent crimes such as murders, rapes, robberies, and kidnappings. Border parks experience a greater propensity for these types of serious and violent crimes because these areas are typically in remote locations that are less frequently patrolled by U.S. Border Patrol agents. Many law enforcement officers working these locations have lost their lives over the years. A safe border environment depends on the efforts of multiple Government departments; safety issues have threatened park lands, safety of park visitors and employees, and national security of border parks for numerous years.

Public Perception of Law Enforcement

Increased public scrutiny of law enforcement professionals will likely affect the work of OIG's Program Integrity Division, which conducts internal investigations of law enforcement personnel. OIG has experienced a recent increase in complaints concerning law enforcement personnel, many of them involving use of force incidents. Before the end of FY 2015, we had received 65 referrals related to use of force incidents from DOI law enforcement organizations. We are currently

investigating numerous law enforcement personnel at one particular park for use of force issues, and we anticipate conducting even more of these types of investigations in the future. We recognize the importance of these issues and the influence they have on credibility and public trust.

Human and Environmental Costs of Wildland Fire

Drought and increased duration of fire seasons challenge the fire community to provide more annual coverage and response capability for a longer period of time, as well as maintain a high initial attack success rate on faster growing fires, all while managing incidents of unprecedented size and complexity. In addition to escalating costs of fire suppression activities, and budget shortfalls that affect other critical programs (discussed previously under "Climate Change"), wildfire outcomes include lost lives, property and infrastructure damage, and devastated forests and rangelands.

For example, wildland fires in Montana have forced the closure of roadways and prompted the evacuation of homes in the central part of the State.[87] In California, a fast-moving brush fire north of Napa Valley destroyed outbuildings and forced 500 people to evacuate in July 2015.[88]

In August, California was put under a state of emergency and mandatory evacuations were in place as 25 wildland fires burned across the State. The largest, the Rocky Fire, covered 54,000 acres and destroyed dozens of homes.[89] Also, a wildland fire burning near the Oregon border forced the evacuation of an entire small Washington town, with an estimated 300 people sent to a shelter set up in a local school. Six county fire departments, plus a team from BLM and Washington State air resources, fought the fire.[90]

By early September, wildland fires had led to the death of five Federal firefighters. The first occurred in the Modoc National Forest on July 30, 2015, when a firefighter was killed while scouting the area to find ways to fight a blaze. The second death happened in the Lake Tahoe area on August 8, when a firefighter was struck by a tree while battling a wildland fire.[91] Three other firefighters were killed in central Washington in mid-August when they were in a car crash overtaken by a wildland fire they were battling.[92]

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[87] Associated Press, "Wildfires close popular Glacier Park roadway, prompt evacuations in central region," Fox News, July 22, 2015, http://www.foxnews.com/us/2015/07/22/wildfires-close-popular-glacier-park-roadway-prompt-evacuations-in-central/.
[88] Veronica Rocha, "3,000-acre wildfire north of Napa Valley forces residents to flee homes," Los Angeles Times, July 30, 2015, http://www.latimes.com/local/lanow/la-me-ln-northern-california-wildfire-20150730-story.html.
[89] "California town may sit in huge wildfire's sights," CBS News, August 3, 2015, http://www.cbsnews.com/news/california-wildfire-path-move-through-entire-town-clear-lake/.
[90] "Small Washington Town Evacuated as Wildfire Advances," ABC News, August 5, 2015.
[91] Associated Press, "Firefighter fatally struck by tree while battling wildfire," August 10, 2015.
[92] Susanna Kim, "3 Firefighters Killed in Washington State Blaze Identified," ABC News, August 20, 2015, http://abcnews.go.com/US/washington-firefighters-killed/story?id=33201711.

With the current spread of wildland fires reaching record-setting levels, the risk of loss of life and property has become greater than ever. DOI and partner agencies would benefit from ramping up assets dedicated to preventing wildland fires before they begin. Measures such as controlled burns, along with other forms of fire mitigation, as well as educating the public to help prevent the start of wildfires can help, but funding difficulties (as discussed previously) remain a challenge.[93] By taking initiative to prevent wildland fires and to better fund, equip, and train firefighters, DOI can help prevent the tragic loss of lives as well as damage to property and resources as a result of wildland fire.

Hazards Associated With Hydraulic Fracturing

Many questions have been raised about whether hydraulic fracturing—often referred to as "fracking"—is responsible for earthquakes. In an April 2015 report, USGS scientists identified 17 areas within eight States with increased rates of induced seismicity (minor earthquakes and tremors that are caused by human activity).[94] This report is the first comprehensive assessment of the hazard levels associated with induced earthquakes in these areas; it does not explore causes of the increased seismicity but notes that injection of wastewater or other fluids in deep disposal wells may make earthquakes more likely to occur.[95] In a separate report, researchers at the California Institute of Technology and other institutions in the United States and France have observed how fluid injection activities used in modern energy production can initiate micro-earthquakes. Their findings could lead to better seismic risk management through improved understanding.[96] The Oklahoma Corporation Commission announced plans[97] to place more than 200 oil and natural gas wastewater disposal wells under scrutiny after the Oklahoma Geological Survey announced that it is "very likely" most of the State's recent earthquakes were triggered by the injection of wastewater from oil and gas drilling operations.[98]

Questions also exist about whether and to what extent the hydraulic fracturing process affects the water supply. In a study of sources of contaminants in drinking water, researchers at the U.S. Environmental Protection Agency (EPA) found that the Allegheny River and its tributaries in Western Pennsylvania—the source of

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[93] The Pyramid, "Forest Service Chief predicts 'above normal' wildland fire potential," Daily Herald [Provo, UT], May 7, 2015, http://www.heraldextra.com/sanpete-county/news/forest-service-chief-predicts-above-normal-wildland-fire-potential/article_9bfbd151-61e3-5a4f-a498-560f7cc0422d.html.

[94] USGS Press Release, "New Insight on Ground Shaking from Man-Made Earthquakes," April 23, 2015, http://www.usgs.gov/newsroom/article.asp?ID=4202#.VdtASrNVjIM.

[95] USGS Report No. 2015-1070, "Incorporating induced seismicity in the 2014 United States National Seismic Hazard Model—Results of 2014 workshop and sensitivity studies," 2015, http://pubs.usgs.gov/of/2015/1070/.

[96] Caltech, "Fluid Injection's Role in Man-Made Earthquakes Revealed," June 11, 2015, http://www.caltech.edu/news/fluid-injections-role-man-made-earthquakes-revealed-46986.

[97] "Magnitude 4.5 and 4.0 Earthquakes Recorded in Oklahoma," ABC News, July 27, 2015.

[98] Oklahoma Geological Survey, "Summary Statement on Oklahoma Seismicity," April 21, 2015, http://earthquakes.ok.gov/wp-content/uploads/2015/04/OGS_Summary_Statement_2015_04_20.pdf.

raw water for 13 public drinking water systems—are affected by many different types of contaminant sources, including centralized waste treatment facilities for oil and gas wastewater.[99] Research results also indicated that two public drinking water system intakes on the river receive contaminants from multiple sources, including centralized wastewater treatment facilities, power generating stations, and acid mine drainage.

In FY 2015, EPA also released for public comment a draft assessment of the potential impacts to drinking water resources from hydraulic fracturing.[100] The most comprehensive Government study to date of the relationship between hydraulic fracturing activities and water systems, it found no signs of systemic drinking water contamination, but noted that certain hydraulic fracturing activities have the potential to affect surface and ground water resources, including water withdrawals at times or in locations of low water availability, spills of chemicals or produced water, insufficient or inadequate barriers between subsurface well fluids and water resources, and inadequate treatment and discharge of wastewater. When finalized, EPA's study should advance the scientific basis for future decisions on how best to protect drinking water resources.

As these reports and initiatives show, public interest in hydraulic fracturing is high, primarily questions about its possible side effects. Increased use of hydraulic fracturing has generated opposition as well as support. DOI will have to weigh the economic benefits of this method of oil and gas extraction against potential environmental and health concerns.

[99] EPA Report No. EPA/600/R-14/430, "Sources Contributing Inorganic Species to Drinking Water Intakes During Low Flow Conditions on the Allegheny River in Western Pennsylvania," May 2015.
[100] See "EPA's Study of Hydraulic Fracturing for Oil and Gas and Its Potential Impact on Drinking Water Resources," http://www2.epa.gov/hfstudy.

Conclusion

The challenges described in this report encompass both the vulnerabilities that OIG has identified for DOI over recent years and the emerging issues that DOI will face in the coming years. We remain committed to focusing our resources on the issues related to these challenges to ensure greater accountability, promote efficiency and economy in operations, and provide effective oversight of the activities that embody DOI's mission.

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