ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR 2017

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE

COMMITTEE ON APPROPRIATIONS

HOUSE OF REPRESENTATIVES

ONE HUNDRED FOURTEENTH CONGRESS

SECOND SESSION

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PART 5

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ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR 2017

THURSDAY, FEBRUARY 11, 2016.

BUREAU OF RECLAMATION

WITNESS

ESTEVAN R. LOPEZ, COMMISSIONER, BUREAU OF RECLAMATION

Mr. SIMPSON. I would like to call the hearing to order. Good afternoon, everyone. Our hearing today is on the fiscal year 2017 budget request for the Bureau of Reclamation. Our witness is Commissioner of Reclamation, Mr. Estevan Lopez. Mr. Commissioner, welcome back to the subcommittee. Last time you were here you had been on the job for only about two months. I am happy to see that you have not been scared off yet. I look forward to talking with you about the Reclamation's accomplishments over the past year as well as the challenges facing the Bureau of Reclamation.

Joining the Commissioner at the witness table is Mr. Robert Wolf, Director of Program and Budget Office. We are happy to a have you join us here as well, Mr. Wolf.

Historically the Bureau of Reclamation was instrumental in development of the western United States. The electric power and movement and management of water from municipal, industrial, agricultural uses provided by Reclamation projects allowed citizens to settle new areas, provided industrial support for World War II, and supported broad economic growth. Today the water and power benefits of Reclamation projects are no less important to the economic health of the region and of the Nation as a whole. But the challenges facing Reclamation have changed. Then the challenges were designing and constructing immense infrastructure projects, projects that decades later remain engineering marvels.

Now, Reclamation must figure out how to maintain this aging infrastructure necessary to support a still growing population while also addressing the new environmental requirements of new interpretations of old requirements that have increased the amount of water directed toward restoring fish runs and habitat areas. For the past several years Reclamation has had to deal with an uncooperative mother nature as well.

And just in case anyone thought that task was too easy, Reclamation must attempt to meet these goals with a budget that has not seen a significant increase in many years. Taken together these circumstances mean it is even more important that we, the executive and legislative branches together resist the pull to overpromise results and that we ensure that the funding provided is directed to the activities that will bring the greatest benefits to the Nation.

I look forward to discussing with the Commissioner how the Federal government might address these many concerns. Again I would like to welcome you to the Subcommittee, Commissioner Lopez. Please ensure for the hearing record the questions for the record and any supporting information requested by the Subcommittee are delivered in final form to us no later than 4 weeks from the time you receive them. Members who have additional questions for the record will have until close of business today to provide them to the subcommittee's office.

With that I would like to turn to Ms. Kaptur for her opening comments.

[The prepared statement of Mr. Simspon follows:]

OPENING STATEMENT
The Honorable Mike Simpson
Chairman, Energy and Water Development Subcommittee
House Committee on Appropriations

Hearing on the Bureau of Reclamation
FY 2017 Budget Request
February 11, 2016

I'd like to call this hearing to order. Good morning, everyone. Our hearing today is on the fiscal year 2017 budget request for the Bureau of Reclamation.

Our witness is the Commissioner of Reclamation, Mr. Estevan López. Mr. Commissioner, welcome back to the Subcommittee. Last time you were here, you had been on the job for only about two months. I'm happy to see you haven't been scared off yet. I look forward to talking with you about Reclamation's accomplishments over the past year as well as the challenges facing the Bureau of Reclamation. Joining the Commissioner at the witness table is Mr. Robert Wolf, Director of the Program and Budget Office. We're happy to have you join us again as well, Mr. Wolf.

Historically, the Bureau of Reclamation was instrumental in development of the western United States. The electric power and movement and management of water for municipal, industrial, and agricultural uses provided by Reclamation projects allowed citizens to settle new areas, provided industrial support for World War II, and supported broad economic growth.

Today, the water and power benefits of Reclamation projects are no less important to the economic health of the region and of the nation as a whole. But the challenges facing Reclamation have changed. Then, the challenges were of designing and constructing immense infrastructure projects – projects that decades later remain engineering marvels. Now, Reclamation must figure out how to maintain this aging infrastructure – necessary to support a still-growing population – while also addressing new environmental requirements, or new interpretations of old requirements, that have increased the amount of water directed towards restoring fish runs and habitat areas. For the past several years, Reclamation has had to deal with an uncooperative Mother Nature, as well.

And just in case anyone thought that task was too easy, Reclamation must attempt to meet these goals with a budget that has not seen significant increases in many years. Taken together, these circumstances mean it is even more important that we – executive branch and legislative branch together – resist the pull to overpromise results and that we ensure that the funding provided is directed to the activities that will bring the greatest benefits to the nation. I look forward to discussing with the Commissioner how the federal government might address these many concerns.

Again, I'd like to welcome him to the subcommittee. Commissioner López, please ensure that the hearing record, questions for the record, and any supporting information requested by the Subcommittee are delivered in final form to us no later than four weeks from the time you receive them. Members who have additional questions for the record will have until close of business Monday to provide them to the Subcommittee office.

With that, I'll turn to Ms. Kaptur for her opening comments.

Ms. KAPTUR. Thank you, Mr. Chairman, and thank you to our witnesses, Mr. Lopez and Mr. Wolf. We look forward to your testimony and thank you so very much for joining us today.

The Bureau of Reclamation is responsible for providing agricultural, municipal, and industrial water supply in the west. Economies, ecosystems, and communities all rely on the availability of clean water. At a time when demand is increasing and many regions have been hard hit by extended drought, the Bureau is being asked more and more to provide solutions to the west's water needs while being good stewards of our natural resources.

I hope to hear today how the fiscal year 2017 request reflects this responsibility with a reduced budget. Reclamation's budget request for water and related resources is a 12.8 reduction in the 2016 appropriation. While we are all interested in finding appropriate places to cut, I do have concerns that this reduced request continues the disinvestment in our Nation's water resource infrastructure. Therefore it will be especially important that the Subcommittee understands the specific methodology used to arrive at this particular set of projects and activities. Drought in the western states continues to be an issue. As Senator Feinstein said to me when I want to describe your state, what is happening, what do I say, she said you tell the world we are becoming a desert state. There has been some recent higher than average rainfall and snow pack and we will be interested to hear your comments about how that impacts your operations.

Given Reclamation's role as a provider of water I hope we can gain additional understanding of how this drought is impacting Reclamation projects and water deliveries. Reclamation plays a vital role in delivering water to tribes in rural communities that could not otherwise access clean water and I do appreciate that the administration budget continues to meet the Nation's obligation under the Indian Water Rights settlements.

Finally, much of the Bureau's infrastructure was built nearly a century ago. In fact, over half of the Bureau's dams are more than 60 years old. It is critical that Reclamation maintain this aging infrastructure and it is incumbent on Reclamation to explain how the budget request provides funding levels that meet the Bureau's responsibility to keep Americans safe while maintaining its dams in proper working order. We are all interested in ensuring that every dollar is spent effectively and efficiently, and I look forward to your testimony today on how Reclamation plans to accomplish this task.

Thank you, Mr. Chairman, for the time.

Mr. SIMPSON. Thank you. Mr. Lopez, the floor is yours.

Mr. LOPEZ. Thank you, Chairman Simpson, Ranking Member Kaptur, and members of the subcommittee. It is an honor and a pleasure to appear before you to discuss the President's fiscal year 2017 budget for the Bureau of Reclamation.

I appreciate the time and consideration given to reviewing and understanding Reclamation's budget, projects, and programs. I look forward to working collaboratively with you to continue to address the complex issues in the west. I have submitted detailed written testimony for the record.

The budget sustains our efforts to deliver water and generate hydropower consistent with applicable Federal and state law. The ex-

treme and prolonged drought affecting the western states adversely impacts our people and costs the Nation billions of dollars. While weather in 2016 is being favorably influenced by the periodic El Niño, 1 year alone will not alleviate all the impacts of a multi-year drought. In this regard we appreciate the additional drought response funding received in 2016. This fiscal year 2017 budget, totaling $1.1 billion, addresses our many priorities by allocating funds to most effectively implement our management responsibilities for water and power infrastructure. I would like to share some insights.

The budget supports the Strengthening Tribal Nations initiative through endangered species recovery, rural water projects, and water rights settlement programs. The budget provides $106.2 million for planning and construction associated with Indian water rights settlements, and includes $10.4 million for Reclamation's Native American Affairs Program to support activities with tribes. Rural water projects are funded at $38.1 million, consisting of $18.6 million for the operation and maintenance of completed Tribal systems and $19.5 million for continued construction of authorized projects, several of which benefit Tribes.

The budget supports river restoration, providing a total of $135.5 million for projects and programs that directly support the goals of America's Great Outdoors Program through local and basin wide collaboration in watershed partnerships. This includes $27.3 million for the Endangered Species Act recovery programs, $11.8 million for the Trinity River restoration program, and many other activities addressing restoration in the Colorado River, the Middle Rio Grande, the Columbia-Snake Rivers, and Yakima River basins.

The budget continues to promote research and development to advance the science and technology that supports best management of the country's natural resources and heritage. This includes $22.8 million for science and technology and $5.8 million for the desalination water purification research program. Scientific discovery, technological breakthroughs, and innovation are vital to responding to the challenges and opportunities of the 21st century. Reclamation's budget includes sponsorship of technology prize competitions to spur innovation and research related to climate adaption and clean energy. $61.5 million is included to fund Reclamation's WaterSMART Program, consisting of collaborative efforts to achieve sustainable water management. Such efforts include Title 16 water recycling, WaterSMART grants, water conservation field services, and other activities designed to support water conservation efforts.

Reclamation also continues to develop and implement approaches to climate change adaptation through WaterSMART. Some examples include the Basin Study Program which takes a coordinated approach to assess risks and impacts and to develop landscape-level science and understanding, the Drought Response Program that aims to implement a comprehensive approach to drought planning, and actions to help communities develop long-term resilience strategies, and the Resilient Infrastructure Program, by which we continue to develop and test enhanced decision making criteria for infrastructure investment and will integrate operational efficiencies that are compatible with climate variability adaptation goals.

A total of $86.1 million is provided for Reclamation's Safety of Dams Program, which includes $64.5 million to correct identified safety issues, $20.3 million for safety evaluation of existing dams, and $1.3 million to oversee the Department of Interior's Safety of Dams Program. The Central Utah Project Completion Act Office is a departmental office within the Department of Interior that reports directly to the Office of Water and Science. This budget proposes $5.6 million for this program, and includes $1.3 million to be transferred to the Utah Reclamation Mitigation and Conservation Commission.

In summary, the budget demonstrates Reclamation's commitment to addressing the water and hydropower demands of the west in a fiscally responsible manner. It continues our emphasis on managing, operating, and maintaining our infrastructure to deliver water and power in an environmentally and economically sound manner. We will continue to work with our customers, States, Tribes, and other stakeholders to effectively manage water resources in 2017 and beyond.

This completes my statement and I would be happy to answer any questions.

[The prepared statement of Mr. Lopez follows:]

United States Department of the Interior

BUREAU OF RECLAMATION
Washington, D.C. 20240

IN REPLY REFER TO:

Statement of Estevan López
Commissioner
U.S. Bureau of Reclamation
Before the
House Appropriations Committee
Subcommittee on Energy and Water Development
On the President's Fiscal Year 2017 Budget
February 11, 2016

Thank you Chairman Simpson, Ranking Member Kaptur, and members of this Subcommittee for the opportunity to discuss with you the President's Fiscal Year 2017 Budget for the Bureau of Reclamation. I appreciate the time and consideration this Subcommittee gives to reviewing and understanding Reclamation's budget, projects, and programs and I look forward to working with the Committee in the future as Reclamation continues to address water issues in the West. Reclamation is committed to prioritizing and implementing its overall program in a manner that serves the best interest of the American public.

The Budget sustains our efforts to deliver water and generate hydropower, consistent with applicable Federal and State law, in an environmentally responsible and cost-efficient manner. It also supports the Administration's and Department of the Interior's (Department) priorities to ensure healthy watersheds and sustainable, secure water supplies; build a landscape-level understanding of our resources; celebrate and enhance America's great outdoors; power our future; strengthen tribal nations; and engage the next generation.

The extreme and prolonged drought facing the western States affects major U.S. river basins throughout the West. Exceptional drought in many western States, specifically California, Nevada, Washington, and Oregon, affects households across the country because of the adverse impact on agricultural production. Drought is estimated to cost the Nation billions of dollars and impact thousands of jobs. In California alone, the estimated cost of the 2015 drought on agriculture—crop production, livestock, and dairies—is $2.7 billion with a total loss of 21,000 seasonal and part-time jobs. The effects of the current drought on California's Sacramento and San Joaquin River Basins, its water, its agricultural economy, and its communities are particularly acute. The Colorado River Basin—crucial for seven States and several Tribes, in addition to two countries—is also enduring historic drought. Nearly 40 million people rely on the Colorado River and its tributaries for some, if not all, of their municipal needs. The Basin is experiencing the worst drought in recorded history; the period from 2000 through 2015 was the driest 16-year period in more than 100 years of record keeping. In 2015, Lake Mead, behind the Hoover Dam on the Colorado River, has declined to its lowest elevation since the 1930's. Snowpack, which functions as reservoir storage for many western basins, is diminishing.

Water year 2016 is shaping up to be influenced by the periodic "El Nino" anomaly associated with warmer ocean temperatures in portions of the Pacific, a phenomenon that generally leads to

a wetter than normal year in areas of the western U.S., including California. However, one wet year alone will not alleviate the impacts of the multi-year drought. This water year exists against the backdrop of long-term sustained climatic change; both short-term and long-term droughts are expected to intensify. Although Reclamation continues to emphasize strategic priorities and operational activities to understand, and effectively adapt to, the risks and impacts of a changing environment on western water management, groundwater must be replenished before runoff can fill rivers and reservoirs, and the hydrologic system as a whole will need time to recover. As one of the Nation's primary suppliers and protectors of water, Reclamation needs to continue to plan and prepare for the next drought and its successors, despite cautious optimism in 2016.

This Budget addresses Reclamation's priorities by allocating funds based on objective and performance-based criteria to most effectively implement its management responsibilities for water and power infrastructure in the West. Reclamation's goals and priorities—including water supply reliability and power generation, climate variability adaptation, water conservation, aging infrastructure, sound science to support critical decision-making, and ecosystem restoration—were balanced in the formulation of the FY 2017 budget. Reclamation continues to look at ways to more efficiently plan for the future challenges confronting water resources management, and to improve the way it does business.

In order to meet Reclamation's mission goals, we are building a landscape-level understanding of our resources and the protection and restoration of the aquatic and riparian environments influenced by our operations. This budget is focused on meeting National priorities for Indian water rights settlements, ecosystem restoration, and healthy watersheds and sustainable, secure water supplies. Further details of these efforts will now be discussed.

Water and Related Resources

The FY 2017 Budget for Water and Related Resources, Reclamation's principal operating account, is $813.4 million, a reduction of $305.6 million from 2016 enacted. This reflects the budgetary shift of $106.2 million from this account to establish a separate Indian Water Rights Settlement Account, and $36.0 million to establish a separate discretionary account within the San Joaquin River Restoration Fund.

The Budget includes a total of $383.5 million at the project and program level for water, energy, land, fish and wildlife resource management, and development activities. This provides for planning, construction, water sustainability activities, management of Reclamation lands, including recreation areas, and actions to address the impacts of Reclamation projects on fish and wildlife.

The Budget also provides a total of $429.9 million at the project level for water and power facility operations, maintenance, and rehabilitation activities. Reclamation emphasizes safe, efficient, economic, and reliable operation of facilities, ensuring systems and safety measures are in place to protect the facilities and the public. Providing adequate funding for these activities continues to be one of our highest priorities.

Highlights of the FY 2017 Budget for Water and Related Resources

I would like to share with the Committee several highlights of Reclamation projects and programs within the Administration's Budget. The Budget continues to promote and support efficient

water management, increased renewable energy production, the construction of new infrastructure and sound maintenance of existing facilities, restoration of aquatic environments, and the continued use of applied science and new technologies to help safeguard sustainable water deliveries and energy production. As a result, Reclamation continues to play an important role in providing a strong foundation for economic activity across the American West.

WaterSMART Program – One method Reclamation employs to stretch water supplies in the West and prepare for these ongoing challenges is the WaterSMART (Sustain and Manage America's Resources for Tomorrow) Program. The programs included in WaterSMART are collaborative in nature and work to effectively achieve sustainable water management. WaterSMART Grants, Title XVI Water Reclamation and Reuse, and the Water Conservation Field Services Program, along with other Reclamation activities, support the Department's Priority Goal for Water Conservation. The Basin Studies component of WaterSMART supports the Department's priority goal Ensuring Healthy Watersheds and Sustainable, Secure Supplies.

In the FY 2017 Budget, the Administration proposes to fund WaterSMART at $61.5 million. The WaterSMART components include: WaterSMART Grants funded at $23.4 million; the Basin Study Program funded at $5.2 million; the Title XVI Water Reclamation and Reuse Program funded at $21.5 million; Water Conservation Field Services Program, funded at $4.2 million; the Cooperative Watershed Management Program, funded at $1.8 million; the Drought Response program, funded at $4.0 million; and the Resilient Infrastructure program, funded at $1.5 million.

Rural Water Projects – Congress specifically authorized Reclamation to undertake the design and construction of six projects intended to deliver potable water supplies to specific rural communities and Tribes located primarily in Montana, New Mexico, North Dakota, and South Dakota. The FY 2017 Reclamation budget includes $38.1 million for rural water projects; $18.6 million of that total is for operation and maintenance of completed tribal systems, while the remaining $19.5 million is for continued construction for authorized projects.

Dam Safety Program - A total of $86.1 million is provided for Reclamation's Safety of Dams Program, which includes $64.5 million to correct identified safety issues. Funding also includes $20.3 million for safety evaluations of existing dams and $1.3 million to oversee the Interior Department's Safety of Dams Program.

Site Security - A total of $26.2 million is provided for Site Security to ensure the safety and security of the public, Reclamation's employees, and key facilities. This funding includes $4.1 million for physical security upgrades at high risk critical assets and $22.1 million to continue all aspects of Bureau-wide security efforts, including law enforcement, risk and threat analysis, personnel security, information security, risk assessments and security-related studies, and guards and patrols.

Powering Our Future –The Budget includes $1.3 million to support Reclamation's Sustainable Energy Strategy and actions identified through the Sustainable Hydropower MOU with our partners at the Department of Energy (DOE) and U.S. Army Corps of Engineers. This funding will provide for increased hydropower development at existing Reclamation facilities, and will allow Reclamation to work with Tribes to assist them in developing renewable energy sources. These important projects will assist in the production of cleaner, more efficient energy and will support the Renewable Energy Resource Development Priority Goal.

Strengthening Tribal Nations – The FY 2017 Reclamation budget supports the Strengthening Tribal Nations initiative through a number of activities and projects. For example, the budget includes $10.4 million for Reclamation's Native American Affairs Program in support of Reclamation activities with Tribes, including technical assistance, Indian Water Rights Settlement negotiations, implementation of enacted settlements, and outreach to Tribes; and $15.7 million to continue the operation and maintenance associated with the delivery of up to 85,000 acre-feet of water to the Ak-Chin Indian Community in Arizona. Ongoing authorized rural water projects also benefit both tribal and non-tribal communities. Projects in the FY 2017 Budget benefiting Tribes include the rural water component of the Pick-Sloan Missouri Basin Program, Garrison Diversion Unit; Fort Peck Reservation/Dry Prairie; and Rocky Boy's/North Central Montana; and operation and maintenance funding only for tribal features of the Mni Wiconi Project following completion of construction. Numerous other projects and programs, such as the Columbia/Snake River Salmon Recovery Program, Klamath Project, and the Yakima River Basin Water Enhancement Project also benefit Tribes. In FY 2017, $106.2 million for planning and construction of three recent Indian Water Rights Settlements is being proposed in a new separate account as described below.

River Restoration – To meet Reclamation's mission goals of securing America's energy resources and managing water in a sustainable manner for the 21st century, our programs also focus on the protection and restoration of the aquatic and riparian environments influenced by our operations. Ecosystem restoration involves many activities, including Reclamation's Endangered Species Act recovery programs, which directly address the environmental aspects of the Reclamation mission. In FY 2017, a total of $135.5 million in the Budget for Reclamation projects and programs directly supports the goals of the America's Great Outdoors Program, through local and basin-wide collaboration in watershed partnerships. Several of the programs are described below.

The Budget has $27.3 million for Endangered Species Act Recovery Implementation programs within the Bureau of Reclamation, including $19.9 million in the Great Plains Region to implement the Platte River Endangered Species Recovery Implementation program. Within California's Central Valley Project, $11.8 million is for the Trinity River Restoration Program, with an additional $1.5 million from the Central Valley Project Restoration Fund.

Many other projects and programs also contribute to ecosystem restoration including the Lower Colorado River Multi-species Conservation Program, Middle Rio Grande Endangered Species Act Collaborative Program, the Columbia/Snake River Salmon Recovery Program, and the Yakima River Basin Water Enhancement Project.

Research and Development – Reclamation continues to promote research and development to advance the science and technology that supports best management of the country's natural resources and heritage. In FY 2017 the research and development (R&D) budget totals $28.6 million, with $22.8 million for Science and Technology and $5.8 million for the Desalination and Water Purification Research Program. Scientific discovery, technological breakthroughs, and innovation are the primary engines for expanding the frontiers of human knowledge, which are vital for responding to the challenges and opportunities of the 21st century. Scientific and engineering innovation promotes sustainable economic growth and job creation, moves us toward a clean energy future, and helps us manage competing demands on environmental resources. Desalination and water purification research strives to produce new clean water technologies, reduce costs, and decrease environmental impacts while converting unusable waters into viable water supplies. Reclamation's budget for these efforts also supports the Administration's science

and technology priorities, including sponsorship of technology prize competitions, to spur innovative breakthroughs and research related to climate adaptation and clean energy.

In addition to the highlights just discussed, the FY 2017 Water and Related Resources budget provides $110.8 million to operate, manage, and improve California's Central Valley Project; this amount reflects the shift of $36.0 million for a separate discretionary account within the San Joaquin River Restoration Fund, as discussed below. The next three accounts are also related to California water and restoration.

San Joaquin River Restoration Fund

Reclamation proposes $36.0 million of current funds for the San Joaquin River Restoration Fund account in FY 2017. The FY 2017 Budget funds activities consistent with the settlement of *Natural Resources Defense Council* v. *Rodgers* as authorized by the San Joaquin River Restoration Settlement Act. The Act includes a provision to establish the San Joaquin River Restoration Fund to implement the provisions of the Settlement. The Settlement's two primary goals are to restore and maintain fish populations, and restore and avoid adverse impacts to water supplies. Under the Settlement, the legislation provides for nearly $2.0 million in annual appropriations from the Central Valley Project Restoration Fund for this purpose.

Central Valley Project Restoration Fund

The FY 2017 Budget includes a total of $55.6 million for the Central Valley Project Restoration Fund (CVPRF). This amount is determined on the basis of a three-year rolling average not to exceed $50.0 million per year and indexed to 1992 price levels. These expenditures are offset by collections estimated at $55.6 million from mitigation and restoration charges authorized by the Central Valley Project Improvement Act.

California Bay-Delta Restoration

The FY 2017 Budget provides $36.0 million for California Bay-Delta Restoration. The account focuses on the health of the Bay-Delta ecosystem and improving water management and supplies. The Budget will support the coequal goals of environmental restoration and improved water supply reliability, under the following program activities including: $2.2 million for a Renewed Federal State Partnership, $5.3 million for Smarter Water Supply and Use, and $28.5 million for Habitat Restoration. These program activities are based on the Interim Federal Action Plan for the California Bay-Delta issued December 22, 2009.

Indian Water Rights Settlements

In FY 2017, Reclamation will enhance support of tribal nations. The FY 2017 Budget proposes $106.2 million for Indian Water Rights Settlements (IWRS), in a new account of the same name. Reclamation is proposing establishment of an Indian Water Rights Settlements account to assure continuity in the construction of the authorized projects, and to highlight and enhance transparency in handling these funds. This account is proposed to cover expenses associated with Indian water rights settlements contained in the Claims Resolution Act of 2010 (Public Law 111-291) and the Navajo-Gallup Water Supply Project within Title X of the Omnibus Public Land Management Act of 2009 (Public Law 111-11).

Of this amount, $6.4 million is for the Aamodt Settlement (Pueblos of Nambe, Pojoaque, Tesuque and San Ildefonso in New Mexico); $12.8 million for the Crow Settlement (Crow Tribe in Montana); $87.0 million for the Navajo-Gallup Settlement (Navajo Nation in New Mexico). These settlements will provide permanent water supplies and offer economic security for the Tribes and pueblos described above. The agreements will build and improve reservation water systems, rehabilitate irrigation projects, construct a regional multi-pueblo water system, and codify water-sharing arrangements between Indian and neighboring communities.

Per the Claims Resolution Act of 2010, in addition to the discretionary funding included in this Budget, additional mandatory funds have already been made available to Reclamation, in order to realize the deadlines mandated in the settlement acts. The White Mountain Apache Tribe activities will continue in FY 2017 using mandatory funds.

Policy and Administration

The FY 2017 Budget for Policy and Administration, the account that finances Reclamation's central and regional management functions is $59.0 million. The account supports activities necessary for the management and administration of Reclamation that are not chargeable directly to a specific project or program, such as corporate oversight, policy and overall program management, budget preparation, finance and procurement, and management of safety and health, human resources, and information technology.

Permanent Appropriations

The total permanent appropriation of $106.8 million in FY 2017 primarily includes $103.6 million for the Colorado River Dam Fund. Revenues from the sale of Boulder Canyon power are placed in this fund and are available without further appropriation to pay for operation and maintenance of the project and other costs.

2016 through 2017 Priority Goals

Priority goals are a key element of the President's agenda for building a high-performing government. The priority goals demonstrate that our programs are a high value to the public and they reflect achievement of key Departmental milestones. These goals focus attention on initiatives for change that have significant performance outcomes, which can be clearly evaluated, and are quantifiable and measurable in a timely manner. Reclamation's participation in the Water Conservation and Supply Enhancement, Renewable Energy Resource Development, Climate Change Adaptation, and Engaging the Next Generation priority goals helps to achieve these objectives.

Water Conservation and Supply Enhancement – The FY 2017 Budget will enable Reclamation to achieve water conservation capability for agricultural, municipal, industrial, and environmental uses in the western United States by 1,040,000 acre-feet/year cumulatively (since 2009) through September 30, 2017. This will be accomplished through the use of the WaterSMART Program to assist communities in stretching water supplies while improving water management and increasing the efficient use of water. By the end of FY 2015, Reclamation had already exceeded the prior goal of 975,000 acre-feet through partnerships with States, Tribes, irrigation and water districts and other organizations with water or power delivery authority.

Renewable Energy Resource Development – The Budget also supports efforts to increase approved capacity authorized for renewable energy resources affecting Department of the Interior managed lands to at least 16,600 Megawatts (since 2009) by September 30, 2017. Reclamation contributes to the Departmental goal primarily through the Memorandum of Understanding (MOU) on Hydropower with the Departments of Interior, Energy, and the U.S. Army Corps of Engineers (USACE), signed March 24, 2010. The MOU encourages the development of sustainable hydropower at Federal facilities in order to help meet the Nation's needs for reliable, affordable, and environmentally sustainable hydropower by prioritizing goals and coordinating hydropower research and development efforts through studies and assessments. The Budget includes $1.3 million for Reclamation to implement an automated data collection and archival system to aid in hydropower benchmarking, performance testing, and strategic decision-making.

Climate Change Adaptation – Consistent with the direction in the President's 2013 Climate Action Plan, Reclamation is developing and implementing approaches to understand, and effectively adapt to, the risks and impacts of a changing environment on western water management. Some examples include:

- The Basin Study Program takes a coordinated approach to assess risks and impacts; develop landscape-level science; communicate information and science to other entities and agencies; and work closely with stakeholders to develop adaptation strategies to cope with water supply and demand imbalances in a collaborative manner.

- The Drought Response Program will implement a comprehensive new approach to drought planning and will implement actions to help communities manage drought and develop long-term resilience strategies.

- Through the Resilient Infrastructure Program, Reclamation will proactively maintain and improve existing infrastructure for system reliability, safety, and efficiency for water conservation to prepare for extremes and to support healthy and resilient watersheds. Reclamation will continue to develop, implement, and test an enhanced decision-making criteria framework for selecting resilient infrastructure investments and will identify opportunities to integrate operational efficiencies more compatible with climate variability adaptation goals, as part of the Bureau's ongoing infrastructure investments.

- Reclamation's Science and Technology Program conducts water resources research to improve capability for managing water resources under multiple stressors, including a changing climate. This research agenda will collaborate with and leverage the capabilities of the Interior Climate Science Centers.

Reclamation's WaterSMART Grants, Water Conservation Field Services, and Title XVI Programs are enabling the West to better adapt to the impacts of a changing environment by helping to conserve tens of thousands of acre-feet of water each year in urban and rural settings, on both large and small scales.

Engaging the Next Generation – By September 30, 2017, the Department of the Interior will provide 100,000 work and training opportunities over four fiscal years, 2014 through 2017, for individuals ages 15 to 35 to support the Department's mission. In FY 2017, Reclamation will continue to provide work and training opportunities by leveraging funding through agreements with 21st Century Conservation Service Corps partners. Reclamation will continue to use the Public

Land Corps Act authority and the Youth Conservation Corps Act to enter into partnership agreements. These agreements will be used to assist on-the-ground projects and internships involving youth in cooperative efforts in cultural and natural resource conservation related to Reclamation projects. In addition, a partnership agreement with the National Fish and Wildlife Foundation will help provide additional youth conservation employment opportunities.

President's Build America Investment Initiative –To help advance the goals and priorities of the Department, a new Center for Natural Resources Investment was recently launched by the Department as part of the President's Build America Investment Initiative. Reclamation fully supports this activity, as the new center will promote increased private investment in water infrastructure and facilitate locally-led water exchange agreements in the western United States to increase resilience of water supplies and drive additional investment in conservation technologies.

Appropriations/Authorization Language Proposals – The Administration is proposing two significant changes in authorizations, for which language is included in the FY 2017 Budget. The first is to extend the California Federal Bay-Delta Authorization Act, as amended, from 2017 through 2018, so the CALFED program can continue its mission—even more important given the current drought. Language is also included to increase the authorized appropriations ceiling of Section 9504(e) of the Secure Water Act of 2009 from $350 million to $400 million to provide the appropriations ceiling needed for much of the funding for Reclamation's WaterSMART program, one of our most effective programs.

Central Utah Project Completion Act

The Central Utah Project Completion Act, or CUPCA, Office is a Department of the Interior program that reports directly to the Office of Water and Science. The FY 2017 Budget proposes $5.6 million, a reduction of $4.4 million from 2016 enacted, and includes $1.3 million to be transferred to the Utah Reclamation Mitigation and Conservation Commission. The 2017 reduction in construction funding is the result of difficult choices necessitated by the constrained fiscal environment. The Budget provides funding through the CUPCA office to continue the partnership with the Central Utah Water Conservancy District in completing the Spanish Fork Canyon-Provo Reservoir Pipeline (Northern Pipeline) of the Utah Lake System delivering 30,000 acre-feet of water to Salt Lake County; required program oversight activities; and endangered species recovery program implementation.

Conclusion

Importantly, the FY 2017 Budget demonstrates Reclamation's commitment to addressing the water and power demands of the West in a fiscally responsible manner. This Budget continues Reclamation's emphasis on managing, operating, and maintaining its public infrastructure and delivering water and power in an environmentally and economically sound manner, in the interest of the American public. Reclamation is committed to working with its customers, States, Tribes, and other stakeholders to find ways to balance and support the mix of water resource demands in FY 2017 and beyond.

This completes my statement. I would be happy to answer any questions.

Mr. SIMPSON. Thank you, Commissioner. With the consent of my Ranking Member, we have a couple of other chairmen of Subcommittees that need to be at a meeting that starts at 2 o'clock, so I was going to call on them first and let them go.

Mr. Frelinghuysen.

Mr. FRELINGHUYSEN. Thank you. Thank you, Mr. Chairman. Commissioner, Ranking Member Kaptur mentioned that the history of the Bureau of Reclamation and I am focused on something called the History of Large Federal Dams Planning, Design, and Construction. And let me just read a portion of it. The history of Federal involvement in dam construction goes back to at least to the 1820s when the Army Corps of Engineers built wing dams to improve navigation on the Ohio. This work expanded after the Civil War when Congress authorized the Corps to build storage dams on the upper Mississippi and regulatory dams to aid navigation on the Ohio. In 1902, when the Congress established the Bureau of Reclamation—which you represent and head today—then called the Reclamation Service, the role of a Federal government increased dramatically. And of course today you have a major role. What is your relationship these days with the Army Corps of Engineers? I know that often the focus is on drought, but in reality I would assume is there any interaction between you and the Corps in terms of shared technology, data, things of that nature? Where do you interact, if at all?

Mr. LOPEZ. Thank you for that question. We have extensive interaction with the Corps of Engineers. The Corps of Engineers often dictates the flood control rules by which we operate many of our reservoirs. So we interact closely with them on those things. We have entered into a memorandum of understanding to collaborate on hydropower and increasing hydropower generation and understanding how we need to adapt our hydropower operations in the face of a changing climate. We do some joint projects, an example being Folsom, a dam raise and retrofit of Folsom Dam in California where we are doing that project together. We have designed various phases of it; some of them we have been in charge of, some of them the Corps has been in charge of.

Just yesterday we had a coordination meeting—we do quarterly meetings with the Corps on any number of issues, but certainly they are the other big water management agency within the U.S. and we interact with them in any number of ways and in a cooperative and collaborative manner.

Mr. FRELINGHUYSEN. So I was unaware, but of course in our neck of the woods on the east coast we deal with an abundance of water, like Hurricane Katrina or Super Storm Sandy. It is a question of what we can do to assure the public that we are ready for the next natural disaster. But I thank you for your work in this area. I think it is good for the Committee to know that there has been the historic collaboration.

Thank you, Mr. Chairman. Thank you.

Mr. SIMPSON. Thank you. Mr. Calvert.

Mr. CALVERT. Thank you, and thank you, Commissioner for coming today. It is good to see you again. I know that you are anticipating that I am going to ask about California water and the problems that we are having in the State of California. Do you feel so

far this year that the Bureau has used its discretion and pumped the maximum amount of water possible?

Mr. LOPEZ. Mr. Chairman and representatives, yes, I do. And I know that that is going to get some pushback. So let me explain what I mean. There is an awful lot of water that is flowing in the system this year compared to what we have had in the last few, with the El Niño weather pattern that is out there.

Having said that—this being by some measures the fifth year of an ongoing drought, the last 4 years having been extremely dry, some of the species that the Fish and Wildlife Service and the National Marine Fishery Service are called to protect through the Endangered Species Act are at record lows. So they have basically tightened their requirements on what we can pump. We have been coordinating very, very closely to make sure that we maximize how much we can pump within those constraints, but——

Mr. CALVERT. Well, saying that—because I have a limited amount of time—I have been told as of today we have pumped less water as of today than we did at the same date last year, in a historic drought. And obviously we have had significant flows of water. As a matter of fact, through December, through the end of January, you have had many time periods where you had 50,000 cubic feet per second flowing through the delta and we were pumping at some points less than 1500 cubic feet per second. And I have talked to a number of people up there and, I know that the smelt is under stress, but there are some farmers that are under stress too in the central valley. I wanted to bring that up. And I know after a long time of pumping it is been capped at 2500 cubic feet per second through the major storm periods. As of today I understand, or tomorrow, you are going to be pumping 5,000 cubic feet per second, which you are allowed under the biological opinion.

What kind of assurances that we are going to maintain that 5,000 cubic feet per second?

Mr. LOPEZ. Mr. Chairman and representatives, I cannot give you any assurance in that regard. What we are doing is we are monitoring the situation day-by-day and we are working in close cooperation, collaboration with both the Fish and Wildlife Service and NMFS. They basically set the regulatory limit for that reverse flow on the Old and Middle River that then limits how much we can actually pump out of there.

[Mr. Lopez responded further for the record:]

In addition we must abide by the requirements of the Biological Opinions.

Mr. CALVERT. But do you not think that it is kind of unusual that we have pumped less water as of now than we pumped last year and we had a historic drought last year?

Mr. LOPEZ. Mr. Chairman and representatives, I am unaware of whether that is correct or not.

[Mr. Lopez responded further for the record:]

Unfortunately flow conditions on the San Joaquin River for most of this winter have not been that much better than last year. Given that many of the Delta criteria found in the Biological Opinions are influenced more by San Joaquin River flows than Sacramento River flows, it is not all that surprising that overall winter pumping rates are not that much different.

Mr. CALVERT. That is what I have been told.

Mr. LOPEZ. I will take your word for it.

Mr. CALVERT. Maybe if you can for the record get that information to us; we would like to know. Because obviously—I just got off the phone with Scripps, the El Niño expert over there, considered the world expert on this, and of course, you know, we had significant storms in the front part of this year, but he is pessimistic that we are going to have significant wetness over the next number of days. He said he could be wrong, but based upon historic averages it does not look that we are going to get the huge storms that we had hoped to get. And since these flood flows are gone now and we cannot get water back that we have lost—I understand if we had pumped to the 5,000 cubic feet per second we would have had an additional 200,000 acre feet of storage which we do not have. That is gone, there is nothing we can do about that. But in the future—is the breeding cycle for the smelt over now? Is that done? Have they moved further down into the bay?

Mr. LOPEZ. Mr. Chairman and representatives, I believe not. And I think what has really been controlling this has to do with something called the turbidity, how cloudy the water is. If there is a—what they call a turbidity bridge that——

Mr. CALVERT. How long is that going to last? I have been hearing about that for the last 6 weeks.

Mr. LOPEZ. It could go for a while. They have been monitoring it——

[Mr. Lopez responded further for the record:]

The current delta smelt life stage of primary concern is the larval to juvenile phase. This concern period will depend mostly on water temperatures.

Mr. CALVERT. Basically all winter long——

Mr. LOPEZ. What I am told, and I am not an expert in this, but what I am told is that the spawning from these fish happens in the spring, sometime in March or April I think.

Mr. CALVERT. So basically then we will lose all the water for the season?

Mr. LOPEZ. Not necessarily, but we are——

Mr. CALVERT. Possibly.

Mr. LOPEZ. We are operating conservatively as a result of that.

Mr. CALVERT. So we could have some of the highest flows of water, one of the top three El Niños of the last 100 years, but yet not be able to use any of that water?

Mr. LOPEZ. Representative, again, we will pump as much as we are able to within the limits that we are constrained to.

Mr. CALVERT. I know you work with the Corps of Engineers, and they just finished this project that would allow you to have more flexibility in how you operate Folsom Dam. Why can we not pump one gallon for storage for every gallon that you release out of Folsom? If you are going to release water out of there why can we not utilize that for some other purpose other than releasing it down into the river?

Mr. LOPEZ. First of all, Folsom now is I think the only major reservoir within the state that is actually above average for this time of season, and it is now operating into the flood control——

Mr. CALVERT. OK. So I am not going to argue with the Corps' determination of whether or not they think they need to do releases, they get nervous if it gets over a certain level and they want to protect Sacramento. I not want to flood our friends in the

Capital down there. But why can we not pump some of that water versus none of that water?

Mr. LOPEZ. The restriction or the constraints on our pumping are not based on what we release out of that reservoir or the combination of other reservoirs. It depends oftentimes on what is flowing out of the delta and how that impacts what is called the negative flow in the old and Middle River, the contribution of flow that is coming from the San Joaquin side of the valley. If that ends up being reversed too much, that ends up, apparently, confusing the fish. And that is one of the constraints that is then placed on our ability to pump to our capacity.

Mr. CALVERT. So right now you are saying that 100 percent of that water has to be sent downstream?

Mr. LOPEZ. The water that has to be released for flood operations, it is simply released out of there. There is an opportunity—in some instances it provides an opportunity for us to pump it once it reaches the delta or where our pumps can pick it up. It is just one of the other contributors into the overall flow in that portion of that delta.

[Mr. Lopez responded further for the record:]

I believe not. And I think what has really been controlling this has to do with something called the turbidity, how cloudy the water is.

Mr. CALVERT. Thank you, Mr. Chairman.

Mr. SIMPSON. Thank you. Ms. Kaptur.

Ms. KAPTUR. Thank you, Mr. Chairman. You are abdicating your own ability to ask questions on this round?

Mr. SIMPSON. I will go around. I will do it last.

Ms. KAPTUR. All right, thank you very much.

Commissioner Lopez, thank you again for your testimony. Let me ask you, looking historically, how atypical is the current dry spell in the West that is impacting your operations?

Mr. LOPEZ. Well, let us talk as of last year because right now it is——

Ms. KAPTUR. I am looking over 100 years and there are a lot more people today and animals in California and the Western States than there were when the BOR was established. But I am looking historically, how atypical is the current dry spell?

Mr. LOPEZ. It is extremely atypical. Up until it started raining this rainy season, the last 4 years represented the driest 4 years on record. And if you look back even further through tree ring information it was amongst the driest in the last 1,200 years. It is not exactly the driest period in California.

On the Colorado River system they are now into their 16th year of drought. That represents the driest 16 year period on record in the Colorado River system and it is among the driest 16-year periods in 1,200 years, as evaluated by tree ring data.

Ms. KAPTUR. So based on that statement I would have to assume that every year that goes on becomes more difficult for your operations because there is less water for more people and users. Am I correct?

Mr. LOPEZ. Every year that continues dry certainly creates more challenges.

Ms. KAPTUR. OK, looking ahead beyond 1 year, does the BOR project an option scenario that informs your decisions on water

availability and water use? In other words, if you look 10 years, 5 years, 15 years, do you have projections? If this continues what options you have to exercise down the road? Does that kind of planning scenario exist within the BOR?

Mr. LOPEZ. There are, Representative, and we do those sorts of planning scenarios for each basin that we operate within.

Ms. KAPTUR. OK.

Mr. LOPEZ. It is not one single scenario for all of reclamations area, but rather we generally look at those things on a basin-by-basin basis.

Ms. KAPTUR. OK, I know we cannot look to just the worst years, but assuming this continues for another 10 years, what decisions would you be faced with making for the West in each of those regions?

Mr. LOPEZ. So, right now, without a doubt, the most difficult decisions are in California, where there is a growing population. So much of our agriculture is in California, there is tremendous pressure on the environment as we were just talking about.

Ms. KAPTUR. Excuse me, sir. On the agriculture question, what percent of the water used in California is for agriculture, just approximately?

Mr. LOPEZ. I do not know that number, but I can tell you how much agriculture there is. It is something like 10 million acres of agriculture and we produce something like 60 percent of the vegetables for the Nation out of agriculture and 25 percent of fruits and nuts, I believe. So, it is a huge impact——

Ms. KAPTUR. It is over half of the water, is it not, that goes to agriculture?

Mr. LOPEZ. I am pretty sure that probably is.

Ms. KAPTUR. That is not correct?

Mr. VALADAO. If you subtract the water that is sent out to the ocean for the environment you can look at it that way, if you want to skew the numbers that direction you can say 50 percent, but of the total amount of water that falls on the state of California, that is not an accurate statement.

Mr. LOPEZ. So if we exclude the water that goes out into the ocean and what we actually use, what we put to use for municipal, industrial, and agricultural uses, agricultural uses amounts to about 75 to 80 percent of those totals and that is generally true West-wide, including in California.

Ms. KAPTUR. I am just trying to get a feel for it.

Mr. LOPEZ. As has been pointed out, quite a lot of water either flows out into the ocean or is otherwise used for environmental purposes, and that is not accounted for in that calculation.

Ms. KAPTUR. And finally, Mr. Commissioner, on this round can you comment on the precipitation to date and what is the status of Reclamation reservoirs? As a result of the recent record-level drought, what can you tell us about your reservoirs?

Mr. LOPEZ. So, let me talk about California reservoirs in particular to begin with. The last 4 years of drought have drawn down our reservoirs to record levels and, although we have had a good spring so far and a good winter season in terms of precipitation, snowpack in many instances is 100 percent of historical average upwards to approaching 130 percent of historical averages, yet all

of our reservoirs save one are below where they would be at this time of year in a typical year. The one that is not is Folsom Lake—that we were just talking about—and that is just slightly over where it would be at this time of year.

Ms. KAPTUR. Yield the floor, Mr. Chairman.

Mr. SIMPSON. Mr. Fleischmann.

Mr. FLEISCHMANN. Thank you, Mr. Chairman.

Commissioner, Mr. Wolf, thank you for being before us today. I represent a district in east Tennessee, so I am very intrigued and interested in what you are talking about, the water in the West, and I thank you for that discussion. I have a question about the Department of Energy and your work with the Department of Energy. They have proposed $25 million for the creation of a new innovation hub to focus on research and development related to desalination. What involvement, I have a two-part question, if any, has Reclamation had to date and what future involvement, if any, is envisioned for Reclamation with respect to DOE's proposal?

And my second question, what steps are being taken to ensure that the two agencies are not duplicating work? For instance, which agency will focus on which specific aspects of desalination research?

Mr. LOPEZ. So, I know that we do have some level of collaboration with the Department of Energy and other agencies that have similar responsibilities. The White House has coordinated a lot of roundtables on an issue-by-issue basis relative to desalination in particular. I do not have at the top of my head a very good answer beyond that. I can supplement it for the record, though.

Mr. FLEISCHMANN. OK, if you would please provide that to us, thank you.

Commissioner Lopez the budget again includes a significant increase for the science and technology program: A 37 percent increase above fiscal year 2016, which was a 70 percent increase above fiscal year 2015. Can you please discuss what specifically this year's increase will accomplish?

Mr. LOPEZ. We will be using our science and technology program to explore things like desalination, things that can reduce the cost, the energy burden of desalination, the membranes used in desalination, all of those sorts of issues, not only for ocean desalination, but brackish groundwater desalination, and the reuse and recycling of otherwise impaired waters. We are looking at hydropower and making that more efficient as well. We are looking at environmental research, how to deal with some of the environmental constraints that we are faced with, so that we can continue to maximize our use of water without being constrained by environmental uses. Things of that nature.

Mr. FLEISCHMANN. OK. The subcommittee has long been interested in getting the agencies to plan for more than just 1 year at a time, for instance through the development of a 5-year comprehensive plan. This look at the future is particularly important for programs like reclamations that must balance maintenance of existing assets with the important new investments. Do we know what the agency-wide funding needs will be for the next 5 years? Do you see anything coming that will cause a change in priorities in any way?

And my final question will be reclamation's budget has remained relatively flat for decades. How does Reclamation prioritize needs for existing and new investments when developing its budget requests, sir?

Mr. LOPEZ. So, Representative, generally speaking, we look at our aging infrastructure and we prioritize anticipated needs for rehabilitation and rework of aging infrastructure. Much of our infrastructure is now 50 to 100 years old. Some of it is over 100 years old at this point. In terms of our aging infrastructure, we routinely have historically maintained a 5-year look of what our needs are going to be, and that number has ranged from about $2- to 3 billion over the next 5 years generally. We fund that through a variety of sources and that is taken into account in developing our budget. The request actually includes amounts that will support the cost share that our partners provide, including hydropower generation partners. They provide significant amounts of funding towards that. We also have some dam safety monies that are included in keeping up some of that infrastructure. So for infrastructure planning we do take a look at our needs 5 years out.

Beyond that there is an increasing interest in Congress to have us just look at aging infrastructure investments from a different perspective. They have asked us to look at it from the perspective of all of our needs, not just in a 5-year window, and we are working to develop that sort of data right now. Much of our infrastructure data has been transferred to some of our partners and we have to take into account their ability to help fund the infrastructure as we generate those plans, so we are working on all of it.

Mr. FLEISCHMANN. Thank you, Mr. Chairman. I yield back. Thank you, sir.

Mr. SIMPSON. Mr. Visclosky.

Mr. VISCLOSKY. Thank you very much, Mr. Chairman.

Commissioner, thank you for being here today. In another life I did a lot of work on CALFED and, given the delay in completing a number of water storage studies, Congress in the fiscal year 2016 act established deadlines to complete these studies. Do you have enough money in your 2017 budget request to meet those congressional deadlines for those studies in CALFED?

Mr. LOPEZ. Mr. Chairman, Representative, thank you for that question. I do believe that we do have enough money in our budget for those purposes. I will say that we start off behind schedule right off the bat. One of the storage studies we were given a deadline for, which was at the end of December of last year, we have not met that deadline, but it was understood, I think, when that deadline was put in there. We have finished the technical work on that study right now. That is the Temperance Flat study. That is the second of five that are called for. It is going through a final administrative review. It will be out to Congress relatively shortly, I believe.

Next, we will be going on to the Sites Reservoir and we anticipate that we will be able to get that done in the timeframes that are called for in the budget.

Mr. VISCLOSKY. You said you were behind on the first one. Did you reference several different studies in your answer to me? I did not understand.

Mr. LOPEZ. So, there are five studies——

Mr. VISCLOSKY. Five studies.

Mr. LOPEZ [continuing]. That were called for. The first one we have completed. We completed that last year.

Mr. VISCLOSKY. So we are down to four?

Mr. LOPEZ. We are down to four.

Mr. VISCLOSKY. Got it.

Mr. LOPEZ. The next one, the upper San Joaquin or Temperance Flat, that is the one that was due at the end of December. We are behind on that one.

Mr. VISCLOSKY. Of 2015?

Mr. LOPEZ. Of 2015.

Mr. VISCLOSKY. OK, and when do you anticipate that will be completed?

Mr. LOPEZ. So, it is undergoing final administrative review. It should be done within the next couple of months is my guess.

Mr. VISCLOSKY. Finally completed?

Mr. LOPEZ. And out to Congress. We need to submit that report to Congress.

We have already begun working on the following one, which will be Sites Reservoir, and that requires some agreements amongst non-Federal funders before we actually get into the development of some of that study. It is not a Reclamation proposed study—excuse me, not a Reclamation purposed project, so it is anticipated that it will be funded by private funders and the state of California, and we are trying to work through the funding agreement so that we can complete the study on that. We are well on our way toward—

Mr. VISCLOSKY. So, you have a deadline, but what you are saying is you will not make a Federal investment in that project——

Mr. LOPEZ. That is correct.

Mr. VISCLOSKY [continuing]. Because you are still obligated to meet the deadline? And you are suggesting you may have a problem not because of budgetary constraints, but because you are dealing with private parties in the State of California?

Mr. LOPEZ. Mr. Chairman, Representative, I do not think we have a problem with it.

Mr. VISCLOSKY. OK.

Mr. LOPEZ. I do think that we have to complete the agreements on how that study will be funded, though. But we are on track to get those agreements done.

Mr. VISCLOSKY. And then there are two remaining?

Mr. LOPEZ. And then Los Vaqueros is next after that and we have not begun on that yet and there is——

Mr. VISCLOSKY. And will you, and I do not have the information in front of me, but although you have not begun, will you meet the deadline?

Mr. LOPEZ. I believe we felt like we would.

Mr. VISCLOSKY. And if you do not, it is not because of lack of funding?

Mr. LOPEZ. That is correct.

Mr. VISCLOSKY. OK, and then you have one more?

Mr. LOPEZ. So, then the final one is B.F. Sisk or it is also known as San Luis Low Point, and all of these are being done sequentially. We are working on them sequentially so that we are not

spreading ourselves so thin that we cannot get anything done, and we think that we are on pace to get those completed.

Mr. VISCLOSKY. And you would anticipate—and, again, it would not be lack of funding—that you would meet that congressionally mandated deadline for the fifth one?

Mr. LOPEZ. That is correct.

Mr. VISCLOSKY. OK. If I could, Mr. Chairman, just on tribal water rights settlement, again talking about deadlines, there are statutory deadlines for completing work under a number of the settlements. My understanding is you have about $106.2 million, you requested for 2017. Is that money adequate to meet those settlement deadlines as well as the statutory deadlines?

Mr. LOPEZ. Mr. Chairman and Representative, yes, we believe it is. So we are working on four settlements right now and we have got some significant mandatory funding that was provided for a few of those settlements and we have got a funding stream that will start up again in 2020 from the Reclamation Water Settlement Fund. So, the budget represents the amounts that we will need this year and for upcoming years to make sure that we fill what we call the "donut hole", that money that is needed between the mandatory funding and when this new funding stream kicks in in 2020. But we do think that we have planned things out, including the budgetary aspects, such that we will have enough to complete those settlements.

Mr. VISCLOSKY. OK. So, again, it would not be lack of funding.

Mr. LOPEZ. It would not.

Mr. VISCLOSKY. And I would hope you would meet the statutory deadlines for those settlements.

And if I could just one more, could just put it in perspective because I have to tell you, I am a blank slate when it comes to the negotiations that I assume continue with various tribes. I assume there are multiple negotiations going on and that takes people to do, time and resources. I do not know if I am looking at the right figure, but there is an account of about 10.4 million for a number of issues, including those negotiations. Are those adequate?

And let me tell you, and I am just giving you my impression, I have had a lot of unsatisfactory negotiations in my district because they are either unsatisfactory or because they should never have taken that long, and I just want to make sure because things come up that in fairness to the tribes involved it is not a lack of Federal resources to pursue diligently those negotiations that caused that delay.

So, again, it would be your position money would not cause a delay in those negotiations or do you need more money for those negotiations?

Mr. LOPEZ. We have actually increased the amount of money that we have gotten. That $10.4 million represents an increase. Last year we got an increase and we requested a larger number this year as well to ensure that we did have enough for this.

I have got to qualify this. We are making sure that we manage how many of these negotiations we take on at any one time. Obviously there are an awful lot of tribes that have unsettled water rights that may be interested in beginning those conversations. We are working through those methodically. We are not taking them

all on at once, we are taking on a manageable bite, so that we can continue and get through those, but this budget request does represent enough to keep that process moving.

Mr. VISCLOSKY. OK. Thank you, Mr. Chairman.

Mr. SIMPSON. Mr. Valadao.

Mr. VALADAO. Thank you, Chairman Simpson.

Commissioner Lopez, thank you for your time, you have taken a lot of time to meet with us over the past few years and I appreciate every effort you have made to try to resolve the situation we have in California.

For several years now, Reclamation has been telling us that the severe chronic water supply shortages affecting the Central Valley Project have been the result of drought, not regulation and like Calvert mentioned earlier, however, this year we find that California is going to have an above average winter, and we have so far, and yet it appears that Reclamation is yet again struggling to meet its fundamental contractual and statutory obligations. The likelihood is high that over one million acres of the Nation's most productive farmland will again receive no water from the Central Valley Project. To what, now, do you attribute Reclamation's inability to meet its basic project purposes, that is water for municipal, agriculture, refuge and power purposes?

And then the second part of that is, are there present authorities that should be modified or new authorities considered to address Reclamation's inability to meet its project's purposes?

Mr. LOPEZ. Thank you for that question, representative. As I have explained, the last 4 years have brought extreme drought, and it has certainly impacted our ability to meet supply. That impact, even though we are into a relatively wet year, the impact of those last 4 years has extended, in particular, as it relates to the status of the species that are being protected under the biological opinions so those issues are affecting our ability to pump right now, as I told representative Calvert.

Mr. VALADAO. But back to last year, when you were here, I asked you this basically same question and you attributed it to drought and a lack of water and over even just the last week, we have had inflow as much as 40,000 cubic feet per second. I mean that is 40,000 cubic feet per second of water into the delta and on that day, we pumped around 2,000 cubic feet per second and that was just one day, we had days at 34,000 that we pumped barely over 2,000 and then we got down even in the 30,000 range there were opportunities there that were completely missed and one of the things that we do get is an email, pretty regularly, that tells us we have a very optimistic outlook. The next two days, we are going to see 5,000 or 4,500 and one actually came in today from Dan Murillo, who I think works in the California office, and today he says it will see 5,000 and what is funny about it is it will actually say—it is emailed on the 11th and it will say that on the 10th, that the potential to pump, 4,000 cfs and it did not reach anywhere near 4,000, even though the email is the day after that actual day.

It is funny how it never reaches those goals and now they are saying maybe 5,000 but I have a funny feeling that when we actually get the final report of the actual pumping, it is never going to meet those goals as none of these numbers ever have.

I mean the highest I have got here is 3,500 and again, we went through a drought and we still are in a drought, you are 100 percent right but we are seeing a lot of water flow out into the ocean and so when we talk about an opportunity to capitalize on that and not allow that water to be wasted, once it is out in the ocean, it is too late. If we invest in desalinization we then go out in to the ocean, grab that water and spend a bunch of money to take salt out of it when we should have just taken that opportunity and prevented that water from going out to the ocean in the first place but we are getting a decent amount of rainfall, we are seeing about 105 to 108 percent. I think the lowest part of the state where we are getting rainfall is about 98 percent, so I would say still a pretty decent amount of rainfall, but as that rain falls, it flows out into the ocean and to say, we are backtracked or backlogged because of the drought or it has not taken effect, that water goes out into the ocean so there is no way that can ever have any positive effect on the last 4 years if it is out in the ocean unless we spend, again, a bunch of money to pull it out of the ocean, desalinization and then pump it somehow to the communities that truly need it so again, are there present authorities that should be modified or new authorities considered to address Reclamation's inability to meet the project's purposes?

Mr. LOPEZ. Well, there are a number of things that are being considered in California under the State's water investment plan that include things like the water fix.

Mr. VALADAO. The water bond or is there something different?

Mr. LOPEZ. No, the state water plan has things like some of the storage projects that we were just talking about. The tunnels that we are talking about. A whole bunch of specific actions that will make California's water supply more resilient.

Mr. VALADAO. So in—back to those projects and what was mentioned about the water plan, we are at very low levels in a lot of those reservoirs and I think you said only Folsom was up at about average right now?

Mr. LOPEZ. Right.

Mr. VALADAO. Through the last year, how much water was released from the reservoirs for temperature control or whatever other reason they might have that the water is released from a reservoir to save a species and then flows out into the ocean and no other opportunity to use that water ever again, do you have a number on how much water was used for those types of purposes that were completely lost, that is no longer in storage so that we can have the storage numbers that we have today?

Mr. LOPEZ. I do not have a number for that——

Mr. VALADAO. Can you please get me that number?

Mr. LOPEZ. We can get that. The reason why it is very difficult to get that is because oftentimes for example, last year, we were operating in Shasta to meet temperature needs in the river. However, we were also using that for multiple purposes. We were releasing water and it was being picked up by irrigators downstream of that and in certain instances, we were able to pick that up when it got to the delta and pump it to the south of the delta so on——

Mr. VALADAO. I would love to see that information.

Mr. LOPEZ. We will get it.

[Mr. Lopez responded for the record:]

As of late February 2016, water year 2016 releases from Reclamation's largest Central Valley Project storage reservoir, Lake Shasta on the Sacramento River totaled approximately 1,183,000 acre feet. As of the same date, water year 2016 releases from Folsom Dam on the American River totaled 233,000 acre feet. These releases served multiple purposes, including in-stream flow requirements, water quality, water supply, Delta outflow and salinity management, flood control and power generation. Reclamation's facilities, including the main Central Valley Project reservoirs in California, are specifically authorized for multiple purposes. Water is frequently stored or delivered for dual or simultaneous use for multiple project purposes including, but not limited to, irrigation, municipal, power, recreation, as well as non-ESA fish and wildlife enhancement, so it is often extremely difficult to separate the amount of water that is exclusively dedicated to environmental compliance purposes. It is worth noting that provision of water flow or storage for fish and wildlife purposes can sometimes also be delivered for other beneficial uses.

Mr. VALADAO. I appreciate that. So the next question. CVPIA sets an ambitious goal to at least double the populations and I apologize for my pronunciations of the anadromous species in the Central Valley of California. This includes the ESA listed salmon, steelhead as well as invasive species like the striped bass.

Given that the striped bass are predators of salmon and steelhead and it is still doubling the goal of CVPIA incompatible with the Endangered Species Act and I have actually seen some studies done by water districts there around the delta that show as much as 95 percent—98 percent of delta smelt are consumed by these striped bass. Is it a good idea for us to spend taxpayer resources to protect or add to the population of the striped bass?

Mr. LOPEZ. I was unaware that we were under an obligation to try and double the population of striped bass. That may be incorrect on my part but I thought that those fish increase numbers were intended to be things like anadromous salmon——

Mr. VALADAO. Thank you for pronouncing that correctly because I could not.

Mr. LOPEZ. I have got more practice than you do. So, it is not my understanding that we are supposed to be trying to increase the population of those sorts of invasive species.

Mr. VALADAO. Have you seen and of those studies that show what the striped bass do to the populations of delta smelt and salmon and other species?

Mr. LOPEZ. I have seen them but I have not studied them closely. I have seen some of the studies, in particular as they relate to smelt. I know that there is a big impact on the smelt population.

Mr. VALADAO. Do you have a number to qualify that big impact? In the studies that I have seen, like I said earlier, about 95 percent of the smelt are consumed by these species and it seems like there is no plan or I have not seen a plan yet to address that. If we are looking at your ability to protect delta smelt from being sucked into the pumps because the delta smelt follow the terrain because they need to protect themselves from predators, why would we not look at the striped bass and address that as an issue to try to protect that species instead of cutting off water to so many communities throughout the state of California.

Mr. LOPEZ. Mr. Chairman and representatives, that is something that may make some sense. Earlier when you asked about authorities that might be appropriate for us, that is generally not some-

thing that is within our portfolio. It would be one of the fish agencies that would probably do something like that.

Mr. VALADAO. All right, thank you. I yield.

Mr. SIMPSON. Ms. Roybal-Allard.

Ms. ROYBAL-ALLARD. Welcome, Commissioner. The extreme drought that we have been talking about is a real reminder of the need to maximize the use of available resources and it is important for the Federal Government to be an effective partner with state and local governments to wisely use, reuse, and to reclaim water resources and one proven effective tool is the Title XVI program which provides a huge return in water supply and water quality improvement for relatively very little of Federal investment.

In determining your budget, how did you measure the current need for Title XVI and waterSMART grant projects and to what extent does the funding level meet the demand in California and other western states?

Mr. LOPEZ. Recognizing that we are in a fiscally constrained environment, we try and make sure that we meet all of our other needs and then we build a budget that will still allow us to invest in the sort of thing that you are talking about.

For this year, we are requesting $21.5 million for Title XVI, and that amount will not meet all of the demand. We will put out some opportunity announcements and we will get proposals that will exceed that amount but we prioritize those based on competitive criteria such that we fund the projects that will give us the biggest bang for the buck.

Ms. ROYBAL-ALLARD. So when you say it is not enough to meet the demand, will it have enough of an impact or is there not even enough to have an impact on what is happening?

Mr. LOPEZ. Representative, it definitely has an impact. $21.5 million has an impact. This is a cost shared program where the Federal Government puts in 25 percent and the non-Federal partner puts in 75 percent, so this is a significant amount of funding towards these sorts of projects when combined with the non-Federal cost sharing portion.

Ms. ROYBAL-ALLARD. Well could you provide a status update on the implementation of Title XVI and WaterSMART grant projects in California? I have a list of questions. Let me just ask, you probably have to submit them for the record unless you have the answers now. So that would be one is the status update.

And then also how many projects have actually been completed? How many are under way and how many have not been initiated and what is the timeline in terms of moving forward with projects that have not yet been initiated.

The metropolitan water district plans to work with the Los Angeles sanitation districts to develop the largest recycling project in the Nation. Other than Title XVI, is the Bureau developing long-term plans for Federal incentives or partnerships, including increased financial resources such as grants and loans to make these projects financially feasible.

Mr. LOPEZ. Representative, we have a number of grant programs that will work towards the sort of ends that you are talking about. Certainly, Title XVI is one important one. We have the WaterSMART grant program that is focused on water and energy

efficiency grants, that is a 50 percent cost share. We have requested——

Ms. ROYBAL-ALLARD. I guess, what I am really asking is that in addition to those two programs, do you have other programs or other plans for creating incentives for these kinds of partnerships?

The reason I am asking is the administration has included the WaterSMART program and its priority goals for water conservation and yet the funding levels for Title XVI and smart grants is pretty flat. It does not really reflect the priority of the administration.

Mr. LOPEZ. So we have got some programs to incentivize doing projects. We are not—we do not have a whole bunch of money to fund the programs but we have things like the desalination and water purification research we are looking into the technologies, the science that will make those things more cost effective. We have got the $22.8 million in research and development funding that again is looking to make these things more cost effective and really demonstrate to entities that these are viable means of building their water portfolio but we do not have, in general, given the Federal fiscal constraints, we are not funding projects, actual constructional projects, the way we did historically.

Historically we built things like Hoover Dam and things of that nature. That is not the sort of thing that we are doing today.

Ms. ROYBAL-ALLARD. Well the reason I was asking this question is because water agencies that serve my constituency such as the metropolitan water district are reporting a high demand for water recycling and reuse programs but since there is just an inadequate Federal offset for it so I would urge, in some way for the Bureau to try and align its budget priorities with the stated goals of the administration because I think this could address the serious issue or part of the serious issue that we are dealing with in terms of the drought and what needs to be done.

Mr. LOPEZ. Representative, I should mention also that your point is a good one, without a doubt but our budget represents kind of a prudent budget given the fiscal constraints that we are all operating under, however, recognizing the validity of what you are saying, last year, when we got $100,000,000 for drought response, we allocated $9,000,000 of that toward that Title XVI program, above and beyond what had been in our budget request and $9,000,000 for the WaterSMART program. We also have drought response plans, additional money in those sorts of things. So yes, the point you are making is a good one.

Ms. ROYBAL-ALLARD. OK, in 2014 and I was pleased that the Bureau, along with the municipal water providers in Arizona, California, Nevada and Colorado implemented the landmark Colorado River system pilot conservation program and, as you know, the Colorado River, often called the lifeline of the Southwest supplies water to more than 40 million people and more than 4 million acres of agricultural land. As early as 2016, what are the drought conditions in the Colorado River and how is the Bureau working with basin states to plan for potential shortages through the programs?

Mr. LOPEZ. So as I mentioned earlier in response to earlier questions, the Colorado River is in its 16th year of drought and this is a drought of historic proportions. You mentioned the system con-

servation pilot program project. Those were done with funding that was both Federal and non-Federal. I think four municipalities funded 2 million dollars apiece and we contributed 3 million to that first phase.

Out of the additional drought monies that we got last year, we allocated $3.5 million for a system conservation pilot projects that we hope to leverage with our non-Federal partners.

Ms. ROYBAL-ALLARD. OK.

Mr. LOPEZ. And continue that program. That is $3.5 million dollars for the lower Colorado River. That includes the states of Nevada, Arizona and California and we have also allocated $1.5 million for the upper Colorado River for similar projects.

Ms. ROYBAL-ALLARD. OK, so you are working to continue that pilot program?

Mr. LOPEZ. We are and in addition, in terms of what we are doing to plan for the possibility of shortages—in 2007, we developed a coordinated operating agreement about how Lakes Mead and Powell would be operated in a coordinated fashion. That included agreement amongst the lower basin states as to how shortages would be taken if the reservoir continues to go down—Lake Mead.

Ms. ROYBAL-ALLARD. OK.

Mr. LOPEZ. We are currently exploring the possibility of whether we need to make that drought contingency plan much more robust and we are having good discussions about that. We are not there yet but we are making progress on it.

Ms. ROYBAL-ALLARD. OK, thank you.

Mr. SIMPSON. Mr. Honda.

Mr. HONDA. Thank you, Mr. Chairman and welcome Commissioner. I have a couple of written questions but let me digress from my staff work and just ask you a basic question. The responsibility of water and its management, is that primarily a state's responsibility or is that a Federal responsibility, historically?

Mr. LOPEZ. Representative, I think that has varied from state to state, first of all. In the west, certainly states administer and manage water rights within a state but for many of the big Reclamation projects, we as the Federal Government ended up doing them. These projects were simply too big for states and local entities to take on, so that is the role that we played historically, so the response to your question is that it is a mix of responsibilities, all the way from Federal to state to local and to tribal, all of those levels of government have different responsibilities.

Mr. HONDA. So the issue of Reclamation, is that a recent phenomenon that we have?

Mr. LOPEZ. Well——

Mr. HONDA. Historically.

Mr. LOPEZ. Well Reclamation was—the Bureau of Reclamation or the Reclamation Service was formed in 1902.

Mr. HONDA. OK.

Mr. LOPEZ. In recognition that many of these projects were simply too large for an individual state or an individual irrigation district to take on and that has been our historical undertaking and I think that Reclamation has largely been responsible for—I do not think it is an exaggeration to say that we have contributed exten-

sively towards the settlement of the west and the development of the west in terms of the availability of that water.

Mr. HONDA. OK, so in terms of reclamation design, and the desire of different states, let us say California right now, the design of Reclamation, was that basically a state design and then the feds came in and helped or was that a joint project?

Mr. LOPEZ. Are you asking about the Central Valley Project in particular or——

Mr. HONDA. We can talk about that one.

Mr. LOPEZ. It is a mix of things. I think the answer to your question is sometimes a state or even an irrigation district began something and then realized that they could not do it and they asked for——

Mr. HONDA. OK.

Mr. LOPEZ. For assistance, and we often stepped in and provided that assistance with an overlay of laws.

Mr. HONDA. But since 1902, with the genesis of the Reclamation bill, Reclamation, was that created, in working with states, was that because of the lack of water or was it because they wanted to be able to manage the water in ways they wanted to benefit from?

See, right now, we are in a drought, so we are talking about Reclamation as if it were drought driven. I am asking the question what was the driving force in the old days?

Mr. LOPEZ. The driving force was the development of the West, the building up of the West, the building up of——

Mr. HONDA. Without any respect to drought?

Mr. LOPEZ. Well——

Mr. HONDA. I am not saying lack of water.

Mr. LOPEZ. Reservoirs, which is what we are known for, Lake Mead behind Hoover Dam there, is capable of——

Mr. HONDA. I get that.

Mr. LOPEZ. Holding 25 million acre feet, that is designed exactly to deal with the drought.

Mr. HONDA. That is flood control or drought?

Mr. LOPEZ. Both. That is mostly drought. We store water when it is plentiful. I just talked about the fact that there have been 16 years of drought. To date in the lower Colorado River, there has not been a shortage, as a result of the water that we have had in those reservoirs. We stored the water, when it was plentiful, and we have been able to expand its use given these times of drought.

Unfortunately, in cases like California, there perhaps is not enough storage to be able to do——

Mr. HONDA. That storage is dropping precipitously, and yet we are providing the water downstream. The ultimate users of the Colorado River originally does not reach Mexico or the Gulf of Cortez; is that correct?

Mr. LOPEZ. In most years, the Colorado River does not reach the——

Mr. HONDA. Correct. So, water management, water control has a history to it in terms of how we want to benefit our own selves. Where I am going with this is how we developed reclamation and how we develop our storage and reuse has been based upon the highest and best use, I guess, but with the onslaught of the drought, which we have experienced in the past but we are experi-

encing it now in greater numbers, it seems like we are talking about storage and water as if the drought is over.

I think folks are not saying the drought is over. I think they are saying we have 100 percent plus snow pack, 100 percent better than average, but the bottom line is still it does not fill our reservoirs and our storage capacities.

I just wanted to make a distinction when we talk about, you know, better than average of rainfall versus how we continue to manage our water as one. Two, the infrastructure we have right now, whether it is in Central Valley, whether it is from Owens Valley, or whether it is in L.A., I think it is a hodgepodge of different techniques which may not be sufficient and efficient today.

So, the issue of Reclamation in the early basin, they tried to take all the water and send it to the ocean to prevent mud slides and things like that, and now they are looking at reclamation and conservation and reuse.

I think looking at redirecting attention, money, and resources needs to be looked at, but I guess my question would be if that is the case, what responsibility do the cities, the state, county, and the feds have in redesigning that so these waters could be captured, reused, and stored?

I guess the other question is these run offs, is there a reason why—I guess the question is a lot of the run off goes to the ocean, which I do not think is bad, it is good for everything that is down river, but I think there is a question of how much of that water is being used to store and recharge the ground.

Is that a purview of the Bureau of Reclamation, and what are the duties of the local water districts in that effort, too?

Mr. LOPEZ. In certain instances, it is directly in our responsibility, in other instances, there is either a state or local entities that have the infrastructure and the facilities that they might be able to do something with. It is all over the place. It is all over the place, as you correctly point out. It is a hodgepodge of entities that own this infrastructure.

It is a hodgepodge of technologies that we use, things like dams for storage, desalination, conservation, all of those things. All of these are tools in a water management portfolio toolbox, and all of them are necessary.

Mr. HONDA. I am not going to suggest that we limit agriculture. I think we need to continue it. I do think there is a land use issue here that is outside your purview, that policy makers like ourselves have to look at, and that is continuous building in deserts without the presence of water, and I think the administration needs to look at that as a Federal issue working with the states.

If water is becoming more and more of a national issue, if not a global issue, I think we need to have a broader national policy relative to water, its management, how we look at water because it is like fuel, you know. We have to have a different look at how we look at fuel and sustainability. Maybe that is the bottom line.

I appreciate your work, but I also appreciate the complexity, it seems, of the different entities you have to work with, and your budget seems to be pretty small in my estimation, to address this. That may be music to your ears, but it seems like the policy mak-

ers have to rethink what we want and are we willing to pay for it.

Thank you, Mr. Chairman.

Mr. SIMPSON. Mr. Fortenberry.

Mr. FORTENBERRY. Thanks, Mr. Chairman. As a part of your portfolio, there are hydropower generation. Can you expand on the options for micro hydropower generation, smaller scale, what are the options available? Is it a growing opportunity? How does the agency intersect with this? I noticed you have a small grant program in this regard, but if you could comment on that, it would be helpful.

Mr. LOPEZ. So, we have things like a lot of our infrastructure portfolio, including, say, canals or conveyance systems for water. Any time a gravity moves the water, there is an opportunity for putting something on there to generate electricity.

We have been expanding, including through our research programs, trying to look at all options to generate additional electricity through pipes in canals, things of that nature.

Mr. FORTENBERRY. This is in a development phase, there are some examples that are potentially scalable, can be duplicated across the country?

Mr. LOPEZ. There are. We have——

Mr. FORTENBERRY. I will give you an example. Along the Missouri River, there is a community who I no longer represent but my district is proximate to them, in that reach of the Missouri, there is a significant elevation drop, and they were exploring the possibility in the bend of how could we capture the dynamics of that gravity fall and generate electricity.

This is a community that has had to overcome many, many problems, so they are forward thinking. It is exciting to listen to them think through this. I think the difficulties, the complexities of that are overwhelming for a small community, and that is why I am asking the question.

Are there examples out there that could be scalable to similar situations and is this growing, is this an area of your responsibility or your projected mission?

Mr. LOPEZ. There are examples of those sorts of things that I just described. We are looking for ways to promote the increased use of that, including things like lease of power privilege.

This is a program that we have where we offer—we provide the water to partners, irrigation districts, for example, we allow somebody that operates our infrastructure to develop hydropower facilities, through a lease of power privilege, we give them an opportunity to lease some of the facilities and actually put a hydropower generator in a canal.

Mr. FORTENBERRY. This is where you have Reclamation projects going on already; right?

Mr. LOPEZ. That is right.

Mr. FORTENBERRY. There is nothing scaled to other options across the country based upon your experience or is there?

Mr. LOPEZ. It is—our projects are where there are Reclamation projects, but it is certainly technology that is transferrable anywhere there is water moving through——

Mr. FORTENBERRY. Do you have a role, a seat at the table, as the Department of Energy and its sustainable renewable development portfolio, looking at this? I am curious, help me understand it.

Mr. LOPEZ. We have a memorandum of understanding with the Department of Energy and the Corps of Engineers where we are looking at just this sort of thing, how to——

Mr. FORTENBERRY. This is fairly new there?

Mr. LOPEZ. Our emphasis on it is fairly new; the technology for doing it, it has been around.

Mr. FORTENBERRY. The technology is forever. We used to do this fairly commonly, you can see the water wheels throughout the countryside. It is not complicated, it is just a matter of will, I would assume, and prioritization; is that correct?

Mr. LOPEZ. I think that is correct, and finances.

Mr. FORTENBERRY. You have a grant program for this?

Mr. LOPEZ. We have a water and energy efficiency grant program. That is a competitive based program. I think it is available within Reclamation states.

Mr. FORTENBERRY. OK. Do you have any river restoration grants let in Nebraska?

Mr. LOPEZ. I do not know that we have river restoration grants. We have river restoration partnerships. On the Platte River, we are a partner in the Platte River recovery implementation program. That is a major program on the Platte River. That is actually working quite well. We contribute extensively in collaboration with state and local entities.

Mr. FORTENBERRY. We have a very unique situation, for the benefit of the committee, in Nebraska, in that we have a municipal infrastructure called natural resource districts. They are actually a tax levying district with elected officials who do environmental and conservation work, very long, well established process for doing this. That is probably who you have partnered with on the Platte River recovery set of options.

There are other reclamation type projects going on, restoration type projects going on along the Missouri as well. Again, I was curious as to where you might be interacting with those.

Mr. LOPEZ. On almost any river in the areas that we serve, we are involved in these sorts of activities. Almost all of them, with the local water users, the states, the Tribes, whoever has an interest in that resource.

Mr. FORTENBERRY. One more quick question, Mr. Chairman, and then I am done. Can I refer this local community to you? They are actually doing analysis on the potential for hydropower there. Do you have the capacity to take an inquiry from them? Is this the right place in the shop?

Mr. LOPEZ. You can send it to me and I will find the right person in our shop to send it to. I am not the right person but we do have that right person.

Mr. FORTENBERRY. Thank you very much.

Mr. SIMPSON. Thank you, Commissioner. In fiscal year 2012, Reclamation was directed to assemble data on pipeline reliability for a variety types of pipes, and to conduct an analysis of the performance of these types of pipes. More than 4 years later, that analysis is still not done. Can you please provide the committee with an up-

date on the status of that analysis and when will this report be completed and submitted to Congress?

Also, in fiscal year 2016, the Consolidated Appropriations Act directed Reclamation to contract with one of the Department of Energy's national laboratories to develop performance data related to zinc coated ductile iron pipe applications in certain soils. What has Reclamation done to date to comply with this directive?

Mr. LOPEZ. Mr. Chairman, first of all, to begin with, the survey that was called was, it took a very long time to find an entity that would take this issue on. We were at the last stages of negotiating a contract when the entity that we were working with decided suddenly they were not interested in doing it.

We shifted gears and went back to the old proposals that we had received, and finally in November of last year, we entered into—we signed a contract with the University of Virginia, I think.

Mr. WOLF. Virginia Tech.

Mr. LOPEZ. Virginia Tech, to complete that survey. I think that will be completed—is it late this year? I am not sure of the time frame. I will verify the time frame. We are under contract to complete the survey.

Secondly, as to working with one of the national labs, we have been in contact with the Department of Energy, letting them know about this language that was in the appropriations bill, and we are working with them to transfer that money to them.

The direction that we have gotten is to not try to influence the outcome of that, so we have requested that the Department of Energy actually be the entity that decides what national lab will take that on and oversee that work.

Mr. SIMPSON. Appreciate that. This is the first year Reclamation is requesting funding for phase two grants under their cooperative watershed management program. However, the authorization is for grants up to $1 million. The budget request is for only $1.5 million total for phase two grants.

Does Reclamation intend to award only one or two grants, or will there be several grants at amounts well below the authorized level? The authorization for phase two grants seems to envision these grantees will receive funding in multiple years, perhaps without recompeting each year. How does Reclamation intend to implement this aspect of the phase two grants' authorization?

Mr. LOPEZ. Thank you for that question, Mr. Chairman. Up until now, we have been working on phase one of that program. Phase one was simply where we worked with entities to organize themselves into working watershed groups that would then propose projects and that sort of thing.

Phase two is where we will help them implement some of those projects. During this current fiscal year, 2016, we are in the process of developing criteria under which we will put out the funding requests for the projects that will come under phase 2.

The request that we got for fiscal year 2017 is modest, as you have noted, and we do not intend to just fund one or two large projects. Given that this is a relatively new program, we are going to try to fund multiple relatively small projects, something where the Federal contribution would be something on the order of $100,000, so we can get some experience at this.

We are suggesting they apply on a phase-by-phase basis, something they can complete in a year, and then compete again for subsequent phases in subsequent years.

Mr. SIMPSON. Appreciate that. Ms. Kaptur.

Ms. KAPTUR. Thank you, Mr. Chairman. Commissioner, several times we have discussed today Lake Mead, and you mentioned Lake Mead and the condition of the Colorado River Basin and so forth. Could you talk about the changing conditions of Lake Mead? Can you add a little additional explanatory note here to the record?

Mr. LOPEZ. Sure.

Ms. KAPTUR. What has been happening to Lake Mead?

Mr. LOPEZ. So, up until probably the late 1990s anyway, Lake Mead was pretty close to full, and then we started soon after 2000, we started into this prolonged drought. In that time frame, the lake level has continued to drop, but it is a huge reservoir. It holds something like 25 million acre feet. It holds an awful lot of water. It has dropped, I think—one of the more recent statistics I have heard was—it dropped to something like 39 percent of capacity.

There is less than half of the available supply there. As it goes down, the concern is it could continue to go down, and all of a sudden be going down very quickly. That is the reason we have been working on some drought contingency plans, something whereby the users would voluntarily agree to reduce their use and slow down the drop in the elevation until such time that the hydrology turns around.

Ms. KAPTUR. Has it ever been in this condition before?

Mr. LOPEZ. So, it is the lowest since it was filled in the 1930s. It was completed in about 1935 or so.

Mr. SIMPSON. Would the gentlelady yield for just a minute?

Ms. KAPTUR. I would be happy to yield.

Mr. SIMPSON. Is it totally going down because of the drought or is there increased usage upstream so there is not as much water going in also? Is it a combination of both those things?

Mr. LOPEZ. This year we were getting a very high precipitation and Lakes Mead and Powell—which is upstream of that and also a huge reservoir—both of them were filled in the late 1990's. Since then, as I have said, since 2000, we have been in drought and those have both steadily gone down.

Ms. KAPTUR. Do you that desalination is inevitable to supply the needs of people and business in the years ahead?

Mr. LOPEZ. I do think that we are going to use that as one part of our water supply portfolio. It is already being used in California and other places. Certainly it is being used around the world, in dry areas around the world.

Ms. KAPTUR. At what point do we reach a tipping point at the BOR where people say you know what, the system is too risky. If we do not get rain for two years or precipitation for five years, at what point do we have contingency plans and ways of providing water for ongoing activities within your 17 state region?

Mr. LOPEZ. There are contingency plans right now. In virtually all of the systems that we operate, we have contingency plans for droughts. Where we can, we're making them more robust as we learn that the droughts are continuing.

Ms. KAPTUR. You know, I want to say this for the record, because I am actually a land planner by training. I did that long, for many, many years, long before I ever came to Congress. And within the Department of Agriculture, we have a major publication that was done called Land, Food and People. I have never seen it from the BOR, but maybe it exists. And what it talks about is the relationship between human food consumption and the available land and technologies we have to date to supply a given number of people, both domestically and then globally.

And late last quarter, Newsweek had a major article in Newsweek about increasing global population and how we have to accelerate our agricultural technologies in order to meet growing food demand. That did not even involve water. That was just land and people and trying to keep that relationship so that we have enough to feed. And there are many places on the globe today that do not have enough food. But on the water question, it is interesting. I have never seen anything out of the bureau called water, food and people because with more people, you have more animals and you need more production.

And it seems to me that the pressures in the dry west are going to continue to grow. I would commend to your attention that really I think important work by the Department of Agriculture. If a similar study, it is an analytical report. If it exists for the BOR, I would love to see it.

Mr. LOPEZ. So Reclamation has a program called the Basin Study Program wherein basin by basin, river basin by river basin, we are analyzing supply and demand, current and projecting out 50 years, projecting what those supply and demands are going to be 50 years out—including the growth, either human growth or agriculture, how it might change, as best we know it. Obviously, these are projections. We also take into account as best we know, climate change. And we have got, we have been doing that. To date, we have funded—I believe it is—24 such plans. And 13 of those are complete. I think three of those thirteen still have not been released. They are under final review. The remainder are works in progress. But next month we will be putting out a Secure Water Act Report that will summarize what we have learned from all of those basin studies to date.

Those reports are due every five years and we will have that out next month. And it will give the current knowledge that we have based on what we have learned about from those basin studies, from west wide climate risk assessments and things of that nature. So it is not a report by the title that you have mentioned, but it addresses the issues that you are talking about.

Ms. KAPTUR. What was interesting on the food report is that we cannot continue to serve an exponentially growing population with the current architecture of production globally. And so we are going to have to perfect our technology in more technologically advanced growing systems to meet the need. In that regard, desalination with the Department of Energy in looking forward, they have proposed a $25 million for the creation of a new innovation hub to focus on research and development related to desalination. What involvement, if any, has Reclamation had to date, and what future involvement is envisioned with respect to DOE's proposal, and

what steps are being taken to ensure that the two agencies are not duplicating work. For instance, will each agency focus on specific aspects of desalination research? I cannot see how we get out of this conundrum without desalination. Maybe someone from the west has a different idea. But not at the levels of population growth that we are experiencing and the shortages and with what is going on with climate change. I mean there is a lot that has to change.

Mr. LOPEZ. The Office of Science and Technology is coordinating the efforts of various entities, including ours and the Department of Energy's on these fronts. I cannot give you a lot more detail than that right now, but there is, we are keeping track of what each of us are doing to make sure that we are not duplicating efforts.

Ms. KAPTUR. All right, thank you. I have one other question on this round. Commissioner, there are several ways to address water supply in times of limited water resource, water efficiency being one and water recycling being another one, and new surface projects. How does your budget propose to balance these and how much is Reclamation proposing to spend on new dam construction, water efficiency and water recycling in the proposed budget? What is the balance there?

Mr. LOPEZ. We are not doing a lot of construction these days on storage projects. What we are doing right now is we are completing a number of storage studies that then we will work with—those storage studies will be presented to Congress and Congress will either authorize them or not and see if they want us to go forward with them.

In all instances, we anticipate that if those are going to go forward, we are going to have to find non-Federal partners. In certain instances, as we were talking about earlier in California, for example, the Sites Reservoir, we anticipate that those, the thought even from the local entities is that it will not be a Federal investment, but rather we will provide some of the technical background and expertise and the investment will come from local entities.

We are participating in water conservation and water recycling efforts—as I have talked about—in the Title 16 and water smart grants and those sorts of efforts. Those, I can give you numbers for those in our budget, in the $21.5 to $23.5 million for each of those programs, in that range. But our construction budget, as I have said is, we are not doing a lot of new construction. What we are focused on is maintaining the infrastructure portfolio that we do have.

Ms. KAPTUR. Thank you. You've just been excellent, Thank you.

Mr. SIMPSON. Before I call on Mr. Valadao, let me ask you, and follow up on just that. If non-Federal partners are going to pay for it, do you do the technical expertise and the design, do they then own it?

Mr. LOPEZ. They would own it.

Mr. SIMPSON. They make the decisions of how it is operated and so forth?

Mr. LOPEZ. Oftentimes, in the case of California, it is an extremely complex system. The state owns some, there are local entities that own some, or it is a Federal entity that own some. And all of these rely on the same sources in the Bay Delta, on the res-

ervoirs that are upstream to catch that water, so while an entity may own this, everybody has to work collaboratively with all of those other entities to make this a functional system or it's just going to—nobody can do it alone.

Mr. SIMPSON. OK. Mr. Valadao.

Mr. VALADAO. Mr. Chairman, I feel like I need to invite everybody out to my part of the country in California. We need to work on the scheduling because every year at this time, we actually have our World Ag Expo, which does not have anything on desalination there, but it has all the dealers talking about and showing off the new developments in agriculture, the latest technologies in drip and things like that. One of the interesting things is that in the last couple of years, the opinions have changed a little bit within some government agencies.

For years they said, oh, you need to get more advanced, you need drip, you need sprinklers, all these other types. But now with groundwater being such an issue, I have actually had some agencies send out letters and recommend that we start to flood irrigate again to recharge the groundwater. So it is always interesting how opinions change, and in my short life, I am 38, that I have already seen it start to bounce back a little bit.

But my main question is on the fiscal year 2016, the Act included $100,000 in additional funding for western drought response. I would like to hear exactly how Reclamation plans to use this additional funding. And additionally, Reclamation was directed to allocate the additional funding to those activities that would have the most direct, most immediate and largest impact on extending limited water supplies during current drought conditions. What kind of analysis did Reclamation do, use to determine that the selected activities would meet the Congressional directive?

Mr. LOPEZ. I am going to focus my answer primarily on what we have allocated to California but I can get broader if you like. Because California, as you know, was the epicenter. That is where we focused most of our allocations. For the Central Valley Project, out of that $100 million in drought funding, we allocated $37.9 million to that. And here are some of the things that we allocated money to, monitoring for fish, obviously knowing where those fish are is going to impact when we can pump, just what we were talking about earlier. Salinity barriers to keep the salinity from coming in to the Delta and hopefully limit or at least reduce the amount of water that we have to allow to push that salinity out. Last year, as I think you know. Folsom Reservoir dropped to such a level that there was concern that we would not be able to meet the water needs of the downstream communities. So we leased some pumps to make sure that we could do that. We have got some money in there to acquire those pumps permanently. We have got some pump back facilities in the Friant-Kern Canal so that we can move that water up to the canal if we need to. We have got some monies allocated toward refuge water supply.

Mr. VALADAO. Is that buying water?

Mr. LOPEZ. It is buying water and also conveyances to make sure that what we buy we get to where it is needed more effectively, otherwise we are just losing water.

Mr. VALADAO. And some water I think was purchased from Westlands Water District and now is owed back. Am I wrong on that?

Mr. LOPEZ. I do not know the specifics of it. What we are focused on right now are some acquisitions that would be of a more permanent nature.

Mr. VALADAO. OK.

Mr. LOPEZ. And then there is some critical habitat restoration for salmon that we're looking at in Battle Creek area. All of these are kind of contingent—where we would spend the money contingently. We have, in the language that we put in this spending plan, we tried to assure that we left ourselves room to deal with emergent situations. If we know that there is an emergency need for someplace else, we'll be able to reallocate or refocus some of these monies. The analysis that we have, it is largely based on the experience that we have had over the last couple of years. We have known what has been required to be able to operate efficiently and those are where we focused our monies.

Mr. VALADAO. On those barriers, is this new construction or some sort of—I mean you cannot just build a barrier overnight.

Mr. LOPEZ. It is a riprap barrier across that channel that is installed as the hydrology starts drying up and it is taken out as it starts wetting up again. It is not something that can be left in place.

Mr. VALADAO. OK. And totally off the wall question here, but I did a flyover with some folks over some of our reservoirs over this past summer. And there were a lot of reservoirs that were obviously very low. But what really stood out to me was, and if anybody has ever been on a boat and used a fish finder, there is a lot of peaks and valleys in the bottom of those reservoirs. At a point in time when reservoirs are so low why would not we have just sent in some trucks and hauled some of that dirt out and increase capacity? It seems like the easiest way to increase storage.

Mr. LOPEZ. The cost of that would be incredible to really make a big dent in increasing the volume that you could make in there. And it would not even be a very quick process, at least for us. We would have to undergo some sort of a NEPA process, even to analyze the effects of trucking materials out of there. When we do a NEPA, we have to analyze all of the effects that we are going to have on the people and the resources in that vicinity.

Mr. VALADAO. OK. Because there is, I was surprised by how big some of these mountains looked inside of these reservoirs and they take up a lot of space. And you always see opportunities for construction and things like that where dirt is needed to build things up. If it is a road, if it is around the Delta, we always hear about the barriers that are needed in support because they are getting so old and the potential for flooding and things like that. It seems like there is a lot of opportunity for that dirt to be used and there might even be a market for it. It might be something that would work very well for all of us, so maybe it is something we could look into. But that is all I have, so I appreciate your time. Thank you, Chairman.

Mr. LOPEZ. Thank you.

Mr. SIMPSON. Ms. Roybal-Allard.

Ms. ROYBAL-ALLARD. I just have one follow up question. Commissioner Lopez, you are not able to determine at this time if your budget was going to meet the potential demand for Title 16 monies. Can you tell us whether or not the appropriations in 2015 and 2016 met the demand?

Mr. LOPEZ. So I want to again just say that our budget reflects the reality of the fiscal constraints that we live in. Obviously, if we had more monies, those monies could be used. In 2015 and 2016, you have added additional monies. Congress has seen fit to add some additional monies and we have allocated some additional monies to Title 16.

In both instances, I think that the requests for Title 16 money have exceeded the amounts that we have had available to us. We have analyzed those proposals to make sure that we fund the ones that will generate the most bang for the buck. So that's how we have allocated it out.

Ms. ROYBAL-ALLARD. OK. So even with the increase, it still did not meet demand in the previous years?

Mr. LOPEZ. That is correct. Earlier I was asked about Title 16 projects and I do not have the numbers exactly, but there is something like 53 authorized projects that are out there right now. And each of those has a cap of up to $20 million of Federal funds. I think that there is 11 that are still ongoing. Some of them are—and there is another 11 that I think have been completed. Is that right?

Mr. WOLF. I think it's 21 and 21.

Mr. LOPEZ. Twenty-one and 21, excuse me. And then there was 11 that are inactive at this point. So those are the ones that have been authorized. I think we have certainly gotten a lot of questions from entities that are interested in new authorizations to date. Really, what we are doing if anything is just provided feasibility studies, let people know when something like that is feasible.

Ms. ROYBAL-ALLARD. OK. Thank you.

Mr. SIMPSON. Mr. Honda.

Mr. HONDA. Again, thank you Mr. Chairman. Earlier I talked about the runoffs and I was just wondering, to capture runoffs like in urban areas, or even in the agricultural areas, are there restrictions from using the runoff to recharge groundwater? Are there steps in order to be able to do that? Because it seems like the bulk of our infrastructure in terms of water management is to create concrete pathways for water to go to the sea and if we want to do capture some of this, are there restrictions that prevent us from using most of the discharge or the runoffs to be used as recharged into groundwater aquifers.

Mr. LOPEZ. So in particular in urban environments, there are regulations as to how runoff should be captured and treated. In urban environments, oftentimes the runoff will have oil or other chemicals mixed into it, often a lot of trash and that sort of thing. So there are processes that have to be met to try and clean up some of that water. I am not sure the requirements on actually being able to use that for recharge. Obviously, any time that you impound any water, whether you want to or not, unless it is a lined impoundment structure, some of that is going to recharge and some of it is going to percolate into the groundwater and be captured.

Similarly, in agricultural areas, some of the runoff may have agricultural chemicals in it, fertilizers, pesticides, those sorts of things. Those are much harder to—those are not things that you can simply skim off. But places where you have heavy agriculture and drain systems, the waters that you do collect in those are oftentimes impaired. But similarly they also will percolate into the ground.

Mr. HONDA. So if we see so much water going out and in California, we divert about 43 million acre feet of water, 34 of that is for agriculture and nine is for urban use. Do we know how much water is being returned to the ocean and do we know—is there any studies where we can recapture just some of that runoff? To recharge the groundwater so the urban areas will be able to depend less on transferred water?

Mr. LOPEZ. So we do have information like that, the quality of that information varies from place to place, perhaps where we understand that, or at least we know much water is going out to the ocean. Most clearly it's right in the Delta, where we try and pump water, and whatever we do not pump it goes out into the ocean, and there are a lot of people tracking just how much is going into the ocean.

Mr. HONDA. Some of it is pumped to southern California, too?

Mr. LOPEZ. It is. It is water that largely originates in northern California, and then it is then pumped down to southern California.

Mr. HONDA. But in terms of runoffs in urban areas like L.A., there is a lot of jurisdictions, is there any one study that tell us what these—what is the cost? I guess I am looking for Federal rule in helping the large L.A. Basin to deal with that runoff, because it has an upstream impact to those who, you know, in canal and everything else like that.

Mr. LOPEZ. I am unfamiliar with any study of that nature, but I would be almost—I would almost be certain that the city of L.A., for example, would have a study of that nature because they maintain—as you have noted their flood infrastructure, they know much the water moves through those things.

Mr. HONDA. Well, it will be multi-jurisdictional, because L.A. city is not the only jurisdiction in the basin.

Mr. LOPEZ. Right.

Mr. HONDA. Is there a way to—are you saying that we should go L.A. city to get that, or?

Mr. LOPEZ. We may have information on that, I can check to see with at.

Mr. HONDA. OK. I would appreciate that.

[Mr. Lopez responded for the record:]

In that study, concept development consisted of identifying and developing stormwater capture options in a collaborative manner with stakeholders and the public. Various adaptation strategies were identified to enhance water supply and address impacts from climate change. The developed concepts were evaluated at the appraisal level and included both enhancements to the existing water conservation and flood infrastructure, as well as new structural and nonstructural alternatives.

Capital and operations and maintenance (O&M) costs were developed for each of the four project groups, and the costs were annualized over a 50-year period. The resulting annual cost per acre-foot of stormwater conserved could be used as a preliminary estimate of the cost effectiveness of each project group with respect to water supply.

All of the project groups provide multiple benefits apart from just the capture of stormwater. In addition to stormwater conservation, complementary benefits may include, but are not limited to, increased flood risk management, improved water quality, recreation, habitat/connectivity, ecosystem function, and enhancing local climate resiliency.

Reclamation is pleased to have been a partner with the Los Angeles County Flood Control District (LACFCD) and our other study partners in this effort. Reclamation works with our local partners to bring our technical expertise to these problems and concerns and works collaboratively with everyone to identify future actions that the local partners may want to implement to solve their water supply problems. There is no intent that Reclamation will continue to be actively involved in any future action based on this study effort.

The U.S. Department of the Interior, Bureau of Reclamation (Reclamation) has been working in a collaborative partnership with the Los Angeles County Flood Control District (LACFCD) for the past 3 years to prepare the Los Angeles Basin Stormwater Conservation Study. The purpose of the L.A. Basin Study is to investigate long-range water conservation and flood risk management impacts caused by projected changes in the climate and population in the Los Angeles region. The L.A. Basin Study provides recommendations for potential modifications and changes to the existing regional stormwater capture system, as well as for the development of new facilities and practices, which could help to resolve future water supply and flood risk management issues. The primary focus of the Study is to address the potential of the local stormwater capture system to increase the amount of water captured.

One of the component studies of the overall L.A. Basin Study (Task 5, Infrastructure and Operations Concepts Report, dated December 2015) identifies and develops both structural and nonstructural (i.e., plans and policies) concepts to manage stormwater under projected climate conditions for the Los Angeles Basin watersheds, which includes: Los Angeles River, San Gabriel River, South Santa Monica Bay, North Santa Monica Bay, Ballona Creek, Malibu Creek, and Dominguez Channel/Los Angeles Harbor watersheds (Basin Study Watersheds).

Mr. HONDA. One last question, Mr. Chairman. The canal that goes from the Bay Delta to southern California is a long distanced and it—has there ever been a study as far as the amount of evaporation that occurs on the canal, and capturing that, you know, how much water would be recaptured if we covered it, and how much water will we save?

Mr. LOPEZ. That can help. That canal sends the water to L.A. and San Diego. That is part of state's water system, not ours. However, for all of these systems there are analyses that show how much water has evaporated off of those, and certainly there can be, if they are covered as you are suggesting, that water could be saved, oftentimes it is just a matter of economics. It is expensive to do so.

[Mr. Lopez responded for the record:]

To the best of our knowledge, there has never been a study done by the Bureau of Reclamation or other Federal agencies addressing the placement of a cover over the California Aqueduct running from the San Luis Reservoir to the points of delivery over the Angeles Mountains to Southern California. The Metropolitan Water District of Southern California has done some work related to covering the exposed areas along the 250 mile Colorado River Aqueduct that runs from Parker Dam located on the Colorado River to the terminal reservoir, Lake Matthews, located in Riverside County, California. Their analysis showed them that the economic costs of covering the aqueduct cost more than the amount of water being saved. Their analysis also showed that the amount of evaporation in their canal was less than the amount of water evaporating from their Diamond Valley Reservoir located near the Town of Hemet, CA.

The one other water district that has had some experience in running water through an enclosed aqueduct is the City of Los Angeles Department of Water and Power (DWP). DWP diverts water from the tributaries in the Owens Valley from above the City of Bishop, CA in an enclosed aqueduct from there to the north end of the San Fernando Valley. The entire aqueduct is covered from the point of diversion. We do not know if they have ever estimated the amount of water saved from

using an exposed canal, but they have been using the enclosed system from the first day of operation.

Mr. HONDA. I guess the question would be over long-term is it cheaper to recapture the water and spend the money to recapture it, and have additional water to go down South, as part of a larger strategy. If you have that information, we would like to see that.

Mr. LOPEZ. We will see what we have in that regard. I would mention that I had an occasion to fly over some of L.A.'s water system, and many of their local reservoirs, they have now taken to covering them with plastic balls, to reduce the evaporation off of those, with the same idea in mind. It is not a rigid cover, but it is just sitting on top.

Mr. HONDA. Sure.

Mr. LOPEZ. And reduce the evaporation.

Mr. HONDA. Thank you. Thank you Mr. Commissioner.

Mr. SIMPSON. As you can tell we have 4 members from California on this Committee, and consequently when California has a drought, we have a hearing. I appreciate you addressing that. It is obviously a very important issue to the west and to the country, but I want to talk about another little parochial issue here in the State of Idaho—I really want to start the discussion more than expect any answers because this is probably a fairly new discussion with you, and whether you are even aware of the discussions that have been going on in Idaho, yet, I do not know.

The State of Idaho is working vigorously to address its water supply issues with the Snake River Basin. The Eastern Snake River Aquifer which is hydrologically connected to the Snake River is Idaho's largest and most strategic aquifer resources, and my Ranking Member, Ms. Kaptur, may be interested to know that it is often compared to Lake Erie in water volume.

For the past 6 decades ground water levels in this aquifer have been declining which has impacted surface flows in the Snake River. The surface water users and groundwater users in the Snake River Basin above Miller Dam have entered into an agreement that seeks to stabilize the groundwater levels in the Eastern Snake Plain Aquifer. Under the agreement groundwater users have volunteered to reduce their consumptive uses of water from the aquifer by 240,000-acre feed of roughly 12 percent.

The State of Idaho is also committing to funding a managed recharged program that seeks to recharge 250,000-acre feed to the aquifer on an average annual basis. Since the Bureau of Reclamation operates storage reservoirs in the Upper Snake River Basin, I would like to think the Bureau would have a significant interest in this matter.

Mr. Commissioner, could you please describe the extent to which reclamation has been involved in aquifer recharge efforts in Idaho generally, and with the significant settlements specifically, and also what could reclamation do, moving forward, to continue to help stabilize the Eastern Snake Plain Aquifer? Do you foresee any obstacles to reclamations involvement besides perhaps time and money to conduct any necessary reviews? Would any activities envision to date require Federal legislation to move forward?

I know this is a new subject, but I wanted to get it on the record, because the discussion is going to go forward. I met with a bunch

of state legislators, and attorneys and the Attorney General's Office that have been pushing this about three weeks ago when I was in Idaho.

They said they had not talked to Reclamation yet. I said, well, you know, before you can, you need to get Reclamation involved in this, and you need to get Bureau of Land and Management involved, because recharge sites would be on BLM land. One of the things that they indicated would have to be addressed is that Reclamation facilities, canals, could only be used for irrigation purposes.

That that might have to be amended to allow them to use those facilities for recharge purposes to get water out to the recharge sites. Do you have any comments on that?

Mr. LOPEZ. I do. I do have a little bit of knowledge about this, and I know that, perhaps, even since your water users' meeting—last week I know that our Regional Director, up in that area, Lorri Lee, met with some of those water users, and they are talking about the very issues that you are talking about. There are some things that we can be of assistance with.

As you note we have got an interest, in that ground water use impacts surface water supply and our users and our ability to meet our contractual obligations. So we are interested in working with everyone involved in this thing.

I think we have the mechanisms by which we could enter into, if necessary, say Warren Act contract such that we could use some of our existing canals and infrastructure to facilitate these sorts of activities, as long as it does not adversely impact our ability to meet our contractual obligations. And this is generally done off-season so, it is possible.

Mr. SIMPSON. Right.

Mr. LOPEZ. Some of the reservoirs that we operate, Palisades in particular, require that we not release water during the winter to assure that there is sufficient water carrying over into the spring. However, when we have been able to project that, the hydrology is such that we are pretty confident it is going to fill again, we have been able to release, and we have been willing to waive those sorts of requirements. Obviously, we do so making sure that any such operations would be consistent with long-term ESA compliance, that sort of thing.

We have got a great set of partners to work with out there with Minidoka Irrigation District, and the A & B Irrigation District. We have got a beautiful relationship with them. Some of the canals that would need to be used for this sort of recharge type activities are not ours, so we would have to work with the private entities to arrange for that sort of thing, but we are willing to do so.

We have a great relationship with BLM, being a sister agency as well, and I think we could help facilitate those discussions as well. So I think there is plenty of stuff that we can do, and a lot of it is already going on.

Mr. SIMPSON. Well, I appreciate that. It is, as you know, probably better than any of us, that debates between surface water users and groundwater users can sometimes get a little ugly, and in Idaho we started managing the conjunctively, something that California needs to start doing. But it is a difficult issue to address.

Ever since we started the adjudication process, the first day I got into politics, the first issue was adjudication. I mean years and years ago. So I appreciate your willingness to work with us, and that is really all I am asking, is a commitment that you will keep working with these individuals to address the concerns. Because I am glad to see that these people are actually trying to cooperate, and find a way to get the aquifer recharged, because otherwise, what you are going to have is some junior water right users that are just cut off, zero. And nobody wants to see that.

One other thing; it has been suggested that Reclamation's WaterSMART Grants Program, may be one source to financial assistance. What other activities related to aquifer eligible under the WaterSMART Grants Program, and if so what types of activities are we talking about?

Mr. LOPEZ. So the WaterSMART Grant is intended just to provide efficiencies and conserve water. And we generally do not specify what needs to happen with those things. Rather, the entities that apply for those, they get creative and they put forward a proposal that emphasizes the conservation aspects of their project. If they are successful, we fund 50 percent of the project, and then we just need 50 percent from some non-Federal entity. It could be the water districts, it could be the state, but there is plenty of ways that we could work with individuals on it.

Interestingly, we have also got some drought-related planning monies, and those might be usable in that regard too. First off, we want to create drought resiliency plans, and then once projects are identified under those plans, there is an opportunity to fund some of those in subsequent years, so that might be a mechanism as well, because ultimately you are talking about just that—managing these two supplies conjunctively, and creating a plan for future droughts.

I think those are options, but this tells me that the drought-funding opportunity announcement was just released yesterday. So that is something that is current, and could be sought after now. The WaterSMART Grants will be, I think those will be out in June, or something like that are they not?

Mr. WOLF. Yes. We have already received all the applications for that, so we have sufficient applications to fund it, but we will be doing a new funding app between the announcement and 2017 as well.

Mr. SIMPSON. Got it.

Ms. KAPTUR. Could I ask a question? Shall I?

Mr. SIMPSON. Sure.

Ms. KAPTUR. At the same time as those types of grants are released, I assume the community as you serve also have equal access to environmental protection agency grants, and so forth, relating to water. Do they not? Are State Revolving Funds——

Mr. LOPEZ. They do. There is multiple funding sources that are out there available depending on the type of project that needs to be done. And so one area in California, in particular, we are partnering with the Department of Agriculture on NRCS grants, to promote agricultural efficiencies, that sort of thing. So ours are not the only set of grants that are out there, but ours focus on water conservation and efficiencies.

Mr. SIMPSON. Well, I appreciate your willingness to work with the water users in the State of Idaho in trying to address this. I think they are trying to be responsible, and I am sure they are trying to be responsible and address a problem in a long-term manner, and hopefully solve it, but your involvement and advice is vitally important, and I appreciate all the work you have done in Idaho for a lot of projects. You are a very important agency in the State of Idaho.

Mr. LOPEZ. Thank you, Mr. Chairman.

Mr. SIMPSON. Any other questions? Marcy.

Mr. LOPEZ. Mr. Chairman, I just wanted to say, you asked about our commitment to work with you and Idaho on this, and absolutely you have that commitment.

Mr. SIMPSON. Thank you.

Mr. LOPEZ. I had the pleasure of going up there to the dedication ceremony for the Minidoka Dam, and that was a beautiful setting and a beautiful ceremony, so thank you.

Mr. SIMPSON. Yes. Appreciate it.

Ms. KAPTUR. Mr. Lopez, I am very impressed with your working knowledge of the instrumentality that you manage. You really did a good job today. Thank you. And, Mr. Wolf, thank you very much as well.

I just have to make this comment, Mr. Chairman, because you have been so gracious to me, as someone who does not live in California, and nor in a western state, I just have to say how members live in parallel universes, so many times.

And there is no instrumentality. I am envious as I sit here and I listen to the work of the Bureau over 100 years, 200 years, in the west. We in the Great Lakes, have a massive body of fresh water, the largest on the earth, and we have no instrumentality that manages the various entities that are important for us to have clean water, and nor the investments, so bridled to our future.

I happen to represent the largest watershed in the Great Lakes, it extends over three states, I do not represent those other states, nor the nation of Canada which also drains into our watershed; and that lack of management is a great obstacle to us.

So about a year ago my home community, I just share this because there maybe others listening to hearing today. About a year ago my home community of Toledo had a shut off of water for three days to over half-a-million people, because of toxic algae blooms that were feared to be in the water system. It was unbelievable in a community with only one water intake. And we have not dug our way out of that because we have no management entity, that actually can extend an umbrella over this really vast region, and it is not a perfect situation because of that.

You are a great convener; you can bring others to the table. That kind of management instrument does not exist in our region. Secondly, I just want to say over the weekend I spent time in Flint, Michigan, with our colleagues, and Kildee and others, Brenda Lawrence, and so forth, to look at Flint, Michigan, with this tremendous problem of lead in the water, and to see the lack of effective Federal response and because of the lack of effective state response, was very, very troubling to me.

A community that has 99,000 people, gigantic infrastructure needs, and no real—a city under emergency control by the state that was mishandled. You know, I look at all that and I am thinking, it is 2016 and we cannot manage fresh water in the Great Lakes.

So I sort of listened to you and I look at, you know, what has been to be able done in the west, and I think about the next 100 years in this country, and how we are going to manage our fresh water resource. We are going to have 500 million people by 2050, and we are going to have to figure out how to be much more wise about the way that we manage our assets. And I just put that on the record, because the west is very fortunate to have you, and I am sure you have all these lawsuits and problems and all the rest, but at least you can be more comprehensive.

You actually have a map of your watersheds, and you have measurements. Guess what? We do not. And so the ability of the Great Lakes to be a full player is rather messy right now, with all the environmental challenges that we face. So I look at your instrumentality and I am very, very envious, and to see what has been done in the west, and the instrumentalities we have, I believe, are too weak to meet the real need that faces as a country.

So thank you for what you have done. And thank you, Mr. Chairman, for allowing me to put that on the record.

Mr. LOPEZ. Thank you. Thank you for your kind words.

Mr. SIMPSON. I understand how that developed over the years, because in the east actually they were trying to get rid of water. They almost had too much, that is why you have riparian water rights, you go into the west, we were trying to conserve everything because we were in an arid desert, and consequently it was an agency that created the infrastructure to do that, and that is why we have prior appropriation water rights, which is entirely different than riparian water rights.

Ms. KAPTUR. It is true.

Mr. SIMPSON. And it was just the development of the country, but you are right, you need something to oversee this town. I appreciate you being here today, and look forward to working with you on your budget, and making sure we can move this Agency forward, and the job that the American people expect you to do, Congress expects you to do, and you expect to do. So, appreciate it.

Mr. LOPEZ. Thank you, Mr. Chairman.

Mr. SIMPSON. Thank you.

Mr. LOPEZ. Thank you.

Mr. SIMPSON. We are adjourned.

[Questions submitted for the record follow:]

TESTIMONY QUESTIONS FOR THE RECORD
SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT
HOUSE COMMITTEE ON APPROPRIATIONS

Hearing on the Fiscal Year 2017 Budget Request for the Bureau of Reclamation
February 11, 2016

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1. California Water (Calvert Questions)

Calvert Question: 1a. Do you feel so far this year that the Bureau has used its discretion and pumped the maximum of water possible? I know after a long time it has been capped at 2500 cubic feet per second through the major storm periods.

Commissioner Response: The Projects are operating in a manner that Reclamation believes is optimal given day-to-day turbidity, salinity, and delta smelt distribution conditions, in order to remain in compliance with the Biological Opinions and therefore the Endangered Species Act, and consistent with U.S. Fish and Wildlife Services's strong concern that the smelt face near-term risk of extinction. If it were not for Reclamation's discretionary actions, Reclamation is confident that restrictions imposed by the Fish and Wildlife Service under the Biological Opinions/Endangered Species Act would have created much greater losses to pumping. It's also possible that greater Delta smelt take would have occurred, which would have greatly magnified the potential reductions to pumping.

Calvert Question 1b: What kind of assurances that we are going to maintain that 5000 cubic feet per second?

Commissioner Response: ...I cannot give you any assurance in that regard. What we are doing is we are monitoring the situation day by day, and we are working in close cooperation, collaboration with both the Fish and Wildlife Service, and the National Marine Fisheries Service.

Commissioner Response: In addition we must abide by the requirements of the Biological Opinions.

Calvert Question 1c: But do you not think that it is kind of unusual that we have pumped less water as of now than we pumped last year and we had a historic drought last year?

Commissioner Response: ...I am unaware of whether that is correct or not.

Commissioner Response: Unfortunately flow conditions on the San Joaquin River for most of this winter have not been that much better than last year. Given that many of the Delta criteria found in the Biological Opinions are influenced more by San Joaquin

River flows than Sacramento River flows, it is not all that surprising that overall winter pumping rates are not that much different.

Calvert Question: Maybe you can for the record get that information to us; we would like to know.

Question 1d: Why can we not pump some of that water versus none of that water?

Question 1e: ...But in the future—is the breeding cycle for the smelt over now? Is that done?

Commissioner Response: The current delta smelt life stage of primary concern is the larval to juvenile phase. This concern period will depend mostly on water temperatures.

Question 1f: Have they moved further down into the Bay? How long is that going to last?

Commissioner Response: The current delta smelt life stage of primary concern will likely last into June.

Question 1g: So right now you are saying that 100 percent of that water has to be sent downstream?

Commissioner Response: ...I believe not. And I think what has really been controlling this has to do with something called the turbidity, how cloudy the water is.

2. California Water (Valadao Questions)

Valadao Question 2: Water releases from reservoirs for temperature control, or water other reason – Through last year, how much water was released from the reservoirs for temperature control or whatever other reason they might have that the water is released from a reservoir to save a species and then flows out into the ocean and no other opportunity to use that water ever again, do you have number on how much water was used for those types of purposes the were completely lost, that is no longer in storage so that we can have the storage numbers that we have today?

Valadao 2a: Can you please get me that number?

Commissioner Response: We can get that. ...However, we were also using that for multiple purposes. We were releasing it and it was being picked up by irrigators downstream of that and in certain instances, we were able to pick that up when it got to the delta and pump it to the south of the delta so on—

Valadao 2b: I would love to see that information.

Commissioner Response: As of late February 2016, water year 2016 releases from Reclamation's largest Central Valley Project storage reservoir, Lake Shasta on the Sacramento River totaled approximately 1,183,000 acre feet. As of the same date, water year 2016 releases from Folsom Dam on the American River totaled 233,000 acre feet. These releases served multiple purposes, including in-stream flow requirements, water quality, water supply, Delta outflow and salinity management, flood control and power generation. Reclamation's facilities, including the main Central Valley Project reservoirs in California, are specifically authorized for multiple purposes. Water is frequently stored or delivered for dual or simultaneous use for multiple project purposes including, but not limited to, irrigation, municipal, power, recreation, as well as non-ESA fish and wildlife enhancement, so it is often extremely difficult to separate the amount of water that is exclusively dedicated to environmental compliance purposes. It is worth noting that provision of water flow or storage for fish and wildlife purposes can sometimes also be delivered for other beneficial uses.

3. & 4. California Water (Honda Questions)

Honda Questions 3 and 4: Runoff in urban areas like L.A. to recharge aquifers, and costs – In terms of runoff in urban areas like L.A. …is there any one study that tell us [about] these?

The U.S. Department of the Interior, Bureau of Reclamation (Reclamation) has been working in a collaborative partnership with the Los Angeles County Flood Control District (LACFCD) for the past three years to prepare the Los Angeles Basin Stormwater Conservation Study. The purpose of the LA Basin Study is to investigate long-range water conservation and flood risk management impacts caused by projected changes in the climate and population in the Los Angeles region. The LA Basin Study provides recommendations for potential modifications and changes to the existing regional stormwater capture system, as well as for the development of new facilities and practices, which could help to resolve future water supply and flood risk management issues. The primary focus of the Study is to address the potential of the local stormwater capture system to increase the amount of water captured.

One of the component studies of the overall L.A. Basin Study (Task 5, Infrastructure and Operations Concepts Report, dated December 2015) identifies and develops both structural and nonstructural (i.e., plans and policies) concepts to manage stormwater under projected climate conditions for the Los Angeles Basin watersheds, which includes: Los Angeles River, San Gabriel River, South Santa Monica Bay, North Santa Monica Bay, Ballona Creek, Malibu Creek, and Dominguez Channel/Los Angeles Harbor watersheds (Basin Study Watersheds).

Honda Question 3. What is the cost? I guess I am looking for a federal rule in helping the Large L.A. Basin to deal with that runoff, because it has and upstream impact to those who, you know, in canal and everything else like that.

Commissioner Response: In that study, concept development consisted of identifying and developing stormwater capture options in a collaborative manner with stakeholders and the public. Various adaptation strategies were identified to enhance water supply and address impacts from climate change. The developed concepts were evaluated at the appraisal level and included both enhancements to the existing water conservation and flood infrastructure, as well as new structural and nonstructural alternatives.

Capital and operations and maintenance (O&M) costs were developed for each of the four project groups, and the costs were annualized over a 50-year period. The resulting annual cost per acre-foot of stormwater conserved could be used as a

preliminary estimate of the cost effectiveness of each project group with respect to water supply.

All of the project groups provide multiple benefits apart from just the capture of stormwater. In addition to stormwater conservation, complementary benefits may include, but are not limited to, increased flood risk management, improved water quality, recreation, habitat/connectivity, ecosystem function, and enhancing local climate resiliency.

Reclamation is pleased to have been a partner with the Los Angeles County Flood Control District (LACFCD) and our other study partners in this effort. Reclamation works with our local partners to bring our technical expertise to these problems and concerns and works collaboratively with everyone to identify future actions that the local partners may want to implement to solve their water supply problems. There is no intent that Reclamation will continue to be actively involved in any future action based on this study effort.

Honda Question 4: Canal that goes from the Bay Delta to Southern California evaporation - ...has there ever been a study as far as the amount of evaporation that occurs on the canal, and capturing that...how much water would be recapture if we covered it, and how much water will we save?

Commissioner Response: To the best of our knowledge, there has never been a study done by the Bureau of Reclamation or other Federal agencies addressing the placement of a cover over the California Aqueduct running from the San Luis Reservoir to the points of delivery over the Angeles Mountains to Southern California. The Metropolitan Water District of Southern California has done some work related to covering the exposed areas along the 250 mile Colorado River Aqueduct that runs from Parker Dam located on the Colorado River to the terminal reservoir, Lake Matthews, located in Riverside County, California. Their analysis showed them that the economic costs of covering the aqueduct cost more than the amount of water being saved. Their analysis also showed that the amount of evaporation in their canal was less than the amount of water evaporating from their Diamond Valley Reservoir located near the Town of Hemet, CA.

The one other water district that has had some experience in running water through an enclosed aqueduct is the City of Los Angeles Department of Water and Power (DWP). DWP diverts water from the tributaries in the Owens Valley from above the City of Bishop, CA in an enclosed aqueduct from there to the north end of the San Fernando Valley. The entire aqueduct is covered from the point of diversion. We do not know if they have ever estimated the amount of water saved from using an exposed canal, but they have been using the enclosed system from the first day of operation.

QUESTIONS FOR THE RECORD

SUBCOMMITTEE ON ENERGY AND WATER
DEVELOPMENT HOUSE COMMITTEE ON
APPROPRIATIONS

Hearing on the Fiscal Year 2017 Budget Request for the Bureau of Reclamation
February 11, 2016

RURAL WATER PROJECTS

Subcommittee. Reclamation has several ongoing authorized rural water projects intended to deliver potable water supplies to rural communities. Most of these projects benefit tribal nations. Yet the budget request each year includes only minimal funding for these projects.

Commissioner López, how long will it take to complete each of these rural water projects if annual funding remains consistent with the budget request?

Commissoner López. There is approximately $1.3 billion in remaining authorized Federal appropriations for construction on the six authorized rural water supply projects that are currently under construction. At the current budget request level of $19.5

million for construction, and assuming that projects would not receive additional non-Federal funding above the minimum cost share requirements, the projects would take about 65 years to complete, assuming appropriations increase along with inflation of construction costs. This estimated completion date has considerable uncertainty.

Subcommittee. The budget materials state that one of the criteria used to determine amounts in the request is "financial resources committed." Can you please clarify what is meant by that phrase, especially in light of congressional direction not to use voluntary funding in excess of legally required cost shares as a factor in budget development?

Commissoner López. "Financial resources committed" refers to the sum of Federal and non- Federal funds spent to date in relation to the total project cost. For purposes of this analysis, non-Federal funds are capped at the minimum required cost share amount. It is one of several criteria used to establish funding priorities. The intent is to prioritize projects that are closer to completion.

A second factor was originally proposed in the 2014 Rural Water Assessment Report that considered and prioritized projects with additional non-Federal

cost share over the required amount. However, this factor has not been used in funding allocation prioritization, as directed by Congress in the reports that accompany the Appropriations Acts, since 2014.

STATUS UPDATE

Subcommittee. The U.S. Drought Monitor shows that drought conditions have lessened in some of Reclamation's territory since this time last year. Unfortunately, California and, to a lesser degree, the Rockies and Intermountain region still show as experiencing drought conditions.

Could you please provide an update on the current extent of the drought?

Commissoner López. As noted, the U.S. Drought Monitor illustrates the extent to which the drought is still impacting California and portions of many of the western states. While the western states have received increased amounts of precipitation, it has not been enough to fully alleviate the impacts caused by multiple years of drought.

Subcommittee. How has the rain and snowfall this winter impacted predictions and expectations for the upcoming water year?

Commissoner López. Precipitation during the 2015-2016 water year thus far across Reclamation's five regions has been widely mixed. In general, California and the Mid-Pacific Region experienced El Nino conditions of above-average precipitation and snow in the fall and early winter, which transitioned to a dryer-than-expected February, and is currently returning to wet El Nino conditions in March. While welcome, this precipitation comes on the heels of four years of severe drought in that state, and will not alleviate all of the impacts created by the preceding dry years.

In the Pacific Northwest, precipitation and snow this water year have been above average, with some lingering dry conditions in southern and eastern Oregon. In Eastern Oregon, where the drought was severe last year, storage is significantly below average for this time of year. Current runoff forecasts are above average. However, even with the current forecast the reservoirs are not expected to completely refill; significant spring precipitation will be critical. Irrigation supplies will depend on spring precipitation. For the rest of the Pacific Northwest basins, storage and irrigation supplies are anticipated to be adequate for 2016.

In general, in the Great Plains Region, precipitation and snow have been average to above average this year, and forecasting indicates favorable water year conditions for those locations.

On the Colorado River, which includes the Lower and Upper Colorado Regions of Reclamation, the Basin is experiencing the worst drought in recorded history--with the period from 2000 through 2015 having been the driest 16-year period in more than 100 years of record keeping. Snowpack on the Basin, which functions as a significant source of water storage, is diminishing. The 2015-2016 water year on the Lower and Upper Colorado Regions has been average to moderately dry and will not alleviate the impacts created by the preceding dry years, particularly with respect to existing storage along the river. For this reason, Reclamation's FY 2017 budget request strikes a balance between the agency's roles in near-term operations and long-term planning. We have requested resources for environmental protection, water supplies and power generation, and continuing our many partnerships with local agencies confronted by the shared challenges of drought; climate variability; increasing populations; and the growing water demand associated with energy generation.

Subcommittee. Has it been the right mix of rain and snow or in the right locations to have the maximum benefit?

Commissoner López. No, it has not been the right mix for all locations to achieve the maximum benefit. Many areas are still recovering from the effects of multiple years of drought. It will take several more years of precipitation to achieve that goal.

DROUGHT RESPONSE AND COMPREHENSIVE DROUGHT PLANS

Subcommittee. In fiscal year 2015, Reclamation established a new component of the WaterSMART program – Drought Response and Comprehensive Drought Plans. In just two years, Reclamation has allocated a total of $11.6 million to this program, with the fiscal year 2017 proposal including an additional $4 million. Although those numbers may not seem very high, if you look at the context of a flat budget and aging infrastructure, this new program is not small either.

Mr. Commissioner, can you please describe what Reclamation has done to date under this new program?

Commissoner López. Reclamation's new Drought Response Program, which began implementation in FY 2015, builds on the existing Emergency Drought Response Program to make funding available for activities that will help States, Tribes and local governments prepare for and respond to drought.

Through the new program, Reclamation is providing assistance to water users to conduct drought contingency planning, including consideration of climate change information, and to take actions that will build long-term resiliency to drought (referred to as "drought resiliency projects"). In addition, Reclamation will continue to provide emergency drought assistance under Title I of the Reclamation States Emergency Drought Relief Act of 1991, P.L. 102-250, as amended (Drought Act).

In FY 2015, the first year of program implementation, Reclamation received proposals requesting almost $10 million in Federal funding – about twice the amount of funding available. Reclamation leveraged $5.1 million in Federal funding with over $35 million in non-Federal cost-share contributions to fund 11 Drought Contingency Plans and 12 Drought Resiliency Projects in 9 states in FY 2015.

Subcommittee. In addition to comprehensive drought plans, what types of projects or emergency response actions are being funded under this program?

Commissoner López. In order to maximize program benefits and the types of eligible projects, Reclamation is relying on both Section 9504(a) of the SECURE Water Act (Public Law 111-11, Title IX, Subtitle F) and the Drought Act to implement the new Drought Response Program. Using these two authorities, Reclamation is able to fund a broad range of drought resiliency projects using Section 9504, and emergency response projects authorized under Title I of the Drought Act, described in more detail as follows:

Drought Resiliency Projects. – Under the new Drought Response Program, Reclamation provides financial assistance through a competitive Funding Opportunity Announcement on a 50/50 cost-share basis to implement projects that build long-term resiliency to drought. Projects identified in a drought contingency plan as "mitigation" or "response" actions are eligible for funding, as long as the project will result in continuing benefits that will build resiliency to future droughts and address current conditions. Projects that are eligible for funding include projects that:

- Increase the reliability of water supplies through infrastructure improvements;
- Improve water management through decision support tools, modeling and measurement;
- Implement systems to facilitate voluntary sale, transfer, or exchange of water;
- and/or, provide benefits for fish and wildlife and the environment.

Emergency Response Actions. – Emergency response actions are typically crisis- driven actions in response to unanticipated emergencies. As provided under Title I, eligible projects include: (1) wells; (2) temporary construction activities, including temporary pipes and pumps, among other installations; and (3) other non- construction actions, including water hauling, water purchases and use of Reclamation facilities to convey and store water. Well drilling is the only activity involving permanent installations that is included as an eligible project under Title I. Consistent with the Drought Act, emergency response actions may only be conducted by Reclamation or by

contract, not through the provision of financial assistance.

Subcommittee. How does this program differ from Reclamation's other drought-focused programs and authorities, such as the Drought Emergency Assistance Program?

Commissoner López. The new Drought Response Program builds on and incorporates the existing Drought Program authorized under the Drought Act, and utilizes both the Drought Act and Section 9504 of the SECURE Water Act to maximize the types of projects eligible for funding. Reclamation has been providing emergency drought assistance to States and Tribes under the Drought Act since 1991. Going forward, Reclamation will prioritize planning and preparedness by also making funding available for drought contingency planning and projects that build resilience to drought in advance of a crisis.

Subcommittee. Are you able to quantify the impact on mitigating the effects of drought that this program has had?

Commissoner López. Reclamation just began implementation of the new Drought Response Program in FY 2015, with the award of funding for 12 drought resiliency projects and 11 drought contingency plans. These projects and plans will not be completed until two years from the date of award (end of FY 2017). The 12 drought resiliency projects awarded funding are diverse projects with different types of benefits. For example, the City of Phoenix will use $300,000 in Federal funding to construct a dual- purpose well that will directly inject under-utilized surface water supplies into the aquifer for later withdrawal during times of drought. The Merced Irrigation District in California received $297,977 to develop a real-time simulation water management model to help the district analyze, predict and respond to drought conditions. Descriptions of each of the drought resiliency projects awarded funding in FY 2015 are available on Reclamation's website at http://www.usbr.gov/drought/. The drought contingency plans, which are also described on Reclamation's website, will help communities recognize drought in its early stages, identify potential drought risks in advance of a crisis, and conduct drought activities to build resiliency to drought.

ATMOSPHERIC RIVERS

Subcommittee. Recently, the Committee has provided funding for the Army Corps of Engineers to partner with NOAA and various state and local entities in California to advance research into "atmospheric rivers". The goal is to improve our forecasting ability in order to reduce the amount of stored water that must be released unnecessarily. It would seem to be an important capability for Reclamation, as well.

Mr. Commissioner, would you agree that Reclamation has a strong interest in this topic?

Commissoner López. Yes, Reclamation has a strong interest in being able to better anticipate and prepare for West Coast atmospheric river events and manage our reservoir systems effectively through these events.

Subcommittee. Has Reclamation been involved in efforts to advance this capability – either pursuing your own research or partnering with the Corps?

Commissoner López. Reclamation has been involved in several efforts to advance capabilities in forecasting and managing through West Coast atmospheric river events.

First, since 2014 Reclamation has served on the Steering Committee for the Lake Mendocino Forecast Informed Reservoir Operations (FIRO) Preliminary Viability Assessment (Assessment), which is led by the Sonoma County Water Agency, and the Center for Western Weather and Water Extremes (CW3E) at Scripps Institution of Oceanography, with other members including the National Oceanic and Atmospheric Administration; California Department of Water Resources; U.S. Geological Survey; U.S. Army Corps of Engineers, and others. The Assessment involves demonstrating an approach for using modeling, forecasting tools and improved information to determine whether the Lake Mendocino water management can be improved to satisfy both flood risk reduction and water supply objectives. Reclamation's interest in the Assessment is to understand lessons learned and how they might be

applicable at other Reclamation reservoirs in the western U.S.

Second, Reclamation has initiated a Reservoir Operations Pilot Initiative (Initiative) where the purpose is to develop and test Reclamation guidance for increasing the flexibility of reservoir operations as an adaptation strategy to climate change impacts. This Initiative is a high priority in Reclamation's Climate Change Adaptation Strategy goal to increase water management flexibility. Pilot studies under this initiative were launched in 2015 in each of Reclamation's five regions in the western U.S. Lessons learned in the FIRO Assessment will be shared with each of these Reclamation pilot study teams.

Third, Reclamation invests in research to develop and demonstrate forecasting technologies as well as ways to make forecast information more useful for water management. For example, Reclamation initiated a research study with CW3E in 2015 to study atmospheric river activity along the west coast, the seasonal predictability of this activity, and the potential to develop a seasonal outlook tool about this activity that might be used by water managers.

Subcommittee. Is there funding in the fiscal year 2017 budget request for such work? If not, is it because you wouldn't be able to use any funding in fiscal year 2017 or because it was not viewed as a high enough priority to make it into the budget?

Commissoner López. Yes, there is funding in Reclamation's fiscal year 2017 budget request for the activities listed above. These priority activities exist within the President's budget request primarily within the Science and Technology Program and the Basin Study Program.

WATER AND POWER TECHNOLOGY PRIZE COMPETITIONS

Subcommittee. This budget request includes funding to continue water and power technology prize competitions.

Can you please explain how Reclamation structures these competitions?

Commissoner López. Reclamation structures its prize competitions to comply with the Prize Competition authorities included in the America COMPETES Reauthorization Act of 2010, P.L. 111-358. Prize competitions can be structured as short-term competitions (less than 1 year) with prize purses of approximately $20,000 to $100,000. These competitions are focused on finding new ideas, concepts, or prototypes to solve a specific problem or components of a problem. Prize competitions can also be structured as Grand-scale competitions. Grand-scale competitions attempt to motivate the development of new disruptive or revolutionary technologies that can be demonstrated to work at full-scale in an operational setting. Grand-scale competitions can span multiple years, involve multiple rounds of competitions from concept through field demonstrations, and involve significantly larger prize purses (millions of dollars).

Thus far, Reclamation has used smaller-scale competitions to find new ideas and concepts while building experience in designing and administering prize competitions; as well as partnering with other organizations on Grand-scale competitions to build our knowledge base on water and power technology prize competitions. The FY 2017 request will enable Reclamation to sponsor Grand-scale competitions that pursue revolutionary solutions for ensuring ample, safe water supplies with a primary focus on next-generation advanced water treatment technologies that would significantly reduce the cost and electricity usage of advanced water treatment technologies to increase useable water supplies.

Other key aspects of structuring prize competitions include managing intellectual property, recruiting Federal and non-Federal partners, and effective outreach to broadly engage the public and private sectors. We have successfully partnered with other Federal agencies to pursue problems and

solutions that can be applied across the Federal sector for water resource management. We are now structuring processes to seek partners from the private sector that can co-fund prize purses and then license and pull winning technologies into commercialized, market-ready products that not only meet the needs of Federal agencies but also create jobs, drive the economy, and reach the broader commercial market user-base. Generally, we structure prize competitions such that the Federal government receives a right-to-use the solutions we receive and allow the intellectual property, if any, to remain the property of the solver to license and commercialize. By recruiting private sector partners to jointly sponsor prize competitions, we hope to engage the solver community and catalyze with industry.

Subcommittee. The budget request of $8.5 million for these competitions is almost 40 percent of the entire Science and Technology Program budget request. Can you please explain why you believe prize competitions are the best use of Reclamation's research and development dollars?

Commissoner López. Conventional research and development, and prize competition are both strong models to inspire, and develop new solutions and technologies. Both have a long, proven track record in the private sector, with prize competitions becoming more utilized by the private and public sectors with the advent of an internet-connected world. Prize competitions and conventional research can also complement each other. Often prize competitions do not deliver "ready-to-implement" solutions, but rather deliver strong concepts that need to be further tested and matured with conventional research and development approaches.

In general, conventional research and development is a good approach when research pathways are clear and sources of expertise within your domain are making good steady progress toward implementable solutions. Prize competition can help drive solutions when market forces may not be sufficient to accomplish objectives, or to reach beyond the traditional sources of solvers that typically work in the problem space domain. Prize competitions can also augment and inform traditional research. Now, in addition to using literature

searches to benchmark the current state-of-knowledge and inform research scope, a short ideation prize competition can also collect the state of knowledge stored in people's brains.

At Reclamation, we are finding that the prize competitions we have executed so far are effective at helping our researchers overcome barriers and inspire new ways of solving problems that we would not otherwise know about or be able to access. We are now rethinking and improving our conventional research and development projects in these areas to incorporate some of these new promising concepts.

Subcommittee. What results or benefits have we seen from Reclamation's previous prize competitions?

Commissoner López. In 2014 and 2015, we collaborated with USAID to design and conduct the Desal Prize Grand Challenge which sought small scale desalination systems applicable to developing countries and rural and Native American communities in the Western U.S. The prize competition produced full-scale, promising technologies that were demonstrated in side-by-side competitions at Reclamation's Brackish Groundwater Desalination Research Facility. Each of these competitors have since progressed to additional testing and demonstrations, funded by others, which has put them on a path toward operational implementation. When compared to selecting and funding research demonstration projects through traditional approaches, the Grand-scale prize competition approach allows us to generate more demonstration projects, in less time, and at a lower overall cost.

In 2015 and 2016, we completed two smaller scale ideation prize competitions and have two additional competitions underway, with several more in the planning stages that seek new concepts and ideas. The first completed competition, "New Concepts for Remote Fish Detection," sought new ways to track threatened and endangered fish. The second completed competition, "Quantifying Drift Invertebrates in River and Estuary Systems," sought new ways to measure the food sources available in river systems and estuary habitats critical for threatened and protected fish. The intent of both competitions is to overcome barriers that will help Federal fish recovery

programs be more efficient and effective. We are very impressed with many of the ideas and concepts we have received. Although the concepts will require further development and testing, we believe they hold promising potential to help make improvements in both of these persistent problem areas facing fish recovery programs. Both competitions illustrate how effectively prize competitions reached very smart and creative people in other domains that we would not have been able to reach without the prize competition business model, coupled with online citizen-engagement crowdsourcing.

See the annual Federal Prize Competition Report for more discussion on this topic:
https://www.whitehouse.gov/sites/default/files/microsites/ostp/NSTC/fy14_competes_prizes_-_may_2015.pdf

OPEN WATER DATA INITIATIVE

Subcommittee. The budget request includes $2 million to continue Reclamation's Open Water Data Initiative, which is intended to make Reclamation's water and related data better managed and more accessible.

Can you please discuss Reclamation's efforts and accomplishments to date, as well as what specific improvements will be realized with the fiscal year 2017 funding request?

Commissoner López. We are working towards making Reclamation's water and related data better managed and more comparable across locations. In addition, Reclamation is working towards making such data easily located, and shareable with other agencies, stakeholders, and the public. Ultimately open data will support Reclamation and the American public to better manage water and related resources supporting the economy of the United States. Reclamation plans to continue to accomplish these goals through internal projects and partnerships with Federal, state, local agencies, and academic institutions. These efforts address the requirements of Executive Order 13642 – Making Open and Machine Readable the New Default for Government Information (EO) and an Open Water Data Initiative (OWDI) supported by the Department of Interior, other Federal agencies, and academic institutions.

Reclamation has made early progress towards open data goals. Reclamation and the U.S. Geological Survey (USGS) successfully partnered to develop an open source, interactive web tool using data from Reclamation, USGS, and other partners to illustrate the dramatic effects of the 16-year drought in the Colorado River Basin. The tool, launched December 16, 2015, titled "Droughts in the Colorado River Basin - Insights Using Open Data," shows the interconnected results of a reduced water supply as reservoir levels have declined during the drought. It also provides a visual depiction of the complex nexus between water supply, water demand, and long-term drought in the Colorado River Basin. The web tool is located at: https://www.doi.gov/water/owdi.cr.drought/en/index.html.

Reclamation made the data supporting the 2016 report to Congress required

by Public Law 111-11, Section 9503, SECURE Water Act, open, and will be releasing visualization concurrent with the transmittal of that report in March 2016. This information supports Federal water resource managers and our customers, partners, and stakeholders' efforts to adapt to the risks of changing climate. This builds upon the successes of making open data related to climate change projections of climate and associated hydrology available through a partnership with USGS, National Center for Atmospheric Research, U. S. Army Corps of Engineers, Santa Clara University, Lawrence Livermore National Laboratory, and Climate Central.

Reclamation has launched other efforts under OWDI. The first involves enhancing public access to Reclamation reservoir operations data. Reclamation uses region- specific reservoir data management systems to provide tailored information to regional stakeholders. Under this new effort, Reclamation is developing, testing, and implementing a framework to allow single-point access to information from these systems via multiple request formats (such as map- or query-based requests), making bureau-wide reservoir data more easily accessed and available for integration into national information products and geospatial information platforms.

The $2 million dollar request within the President's 2017 budget is to make additional data sets open and develop associated visualization and analysis tools to make the data as useful as possible to Reclamation, customers, stakeholders, and partners. The identification and prioritization of data sets that should be made open and machine readable will be accomplished through identification of those data sets that will support the goals of the Executive Order and Open Water Data Initiative. This may include data supporting hydropower production and distribution, ecosystem resources, water supply and demand, and climate change, to name a few. The request will build upon the early successes of open data efforts such as the Colorado River visualization, the open data sets of reservoir information, and data supporting the 2016 SECURE Water Act report to Congress.

DEPARTMENT OF ENERGY DESALINATION PROPOSAL

Subcommittee. The Department of Energy (DOE) has proposed $25 million for the creation of a new innovation hub to focus on research and development related to desalination.

What involvement, if any, has Reclamation had to date and what future involvement, if any, is envisioned for Reclamation with respect to DOE's proposal?

Commissoner López. Reclamation attended and participated at the DOE Desalination workshop in San Francisco November of 2015. We are maintaining communication with DOE Headquarters staff and have additional coordination activities planned in the coming months. Reclamation is scheduled to participate at a workshop on test bed facilities to promote water innovation being sponsored by National Science Foundation, in collaboration with Department of Energy, Environmental Protection Agency, Water Environment Research Foundation, and U.S. Department of Agriculture. The workshop is scheduled for June 20-21, 2016 in Denver, CO.

Subcommittee. What steps are being taken to ensure that the two agencies are not duplicating work? For instance, will each agency focus on specific aspects of desalination research?

Commissoner López. Reclamation is coordinating with DOE Headquarters staff as they plan the proposed Desalination Hub to ensure that the two agencies work together in synergistic ways and avoid duplicating work. The two agencies activities will complement each other and will likely be able to leverage research and thus accelerate research and implementation faster than either could do in isolation.

Reclamation has been funding research, pilot scale projects, and demonstration scale research, as well as policies and institutional barriers to advanced water treatment projects since the 1950s through a variety of programs. The Desalination and Water Purification Research (DWPR)

Program funds research in all three above mentioned areas in desalination and treatment of non-traditional water sources, brackish water, seawater, produced water, industrial and municipal water reuse, other water sources in need of treatment for potable and non-potable uses. Reclamation supports two

facilities that serve as test beds for Federal and non-Federal entities to conduct research, and test both pilot and demonstration scale technologies; the Water Quality Improvement Center (WQIC) in Yuma, AZ and the Brackish Groundwater National Desalination Facility (BGNDRF) in Alamogordo, NM. Both facilities have the capability of testing all different water types, however their location grants them unique access to certain non-potable waters. Reclamation also conducts research on water reclamation and reuse through authorities provided within Title XVI – Water Reuse and Reclamation Program. These activities all complement what is proposed within the 2017 President's budget with respect to the DOE Desalination Hub.

QUESTIONS FROM MR. HONDA OF CALIFORNIA

RAINWATER

Mr. Honda. With the likelihood of longer and more frequent periods of drought in the future, does Reclamation have a strategy to increase the ability of our water infrastructure to capture and store rainwater or to recharge depleted groundwater aquifers?

Commissoner López. Reclamation has developed a broad strategy to adapt to the challenges posed by the changing climate, which include potentially longer and more frequent periods of drought. Reclamation's Climate Change Adaptation Strategy, released in November

2014, identifies four goals supporting our continued ability to deliver water and power in a changing climate. Those four goals include: (1) Increasing Water Management Flexibility; (2) Enhancing Climate Adaptation Planning; (3) Improving Infrastructure Resiliency; and (4) Expanding Information Sharing. Within these four goals Reclamation has identified specific actions that will support adaptation, including capturing and storing surface water and potentially recharging depleted groundwater aquifers.

From a research and development standpoint, Reclamation has been actively developing new technology that can increase new water for storage in surface reservoirs, or be utilized to recharge groundwater aquifers, through the Desalination and Water Purification Program, Science and Technology Program, and Title XVI Water Reclamation and Reuse Program. The ability to treat seawater, brackish groundwater, and recycled water that can be used for groundwater recharge or surface water supplies, is critical to adapt to potentially longer and more frequent periods of drought. Additionally, Reclamation has been working with the United States Geologic Survey to improve understanding of surface water and groundwater interactions, as identified within the authorities of the SECURE Water Act (Public Law 111-11, Title IX, Subtitle F).

Reclamation has been working with customers and stakeholders through the Basin Study Program to identify adaptation strategies that could address basin-specific, current and future water supply and demand imbalances. Reclamation and our partners have completed 13 Basin Studies since the beginning of the program in 2009. These studies have identified numerous adaptation strategies within five major categories. Those categories include supply augmentation, demand management, system operations, ecosystem resiliency, and data and information. The category of supply augmentation strategies specifically includes water reuse and desalination, water rights acquisition, imported water, and surface and groundwater storage.

HYDROPOWER

Mr. Honda. Hydropower normally contributes 15-18% of California's energy supply, but in 2015, that level was down to 7%, leading to a 10% increase in carbon dioxide emissions from having to rely on the combustion of fossil fuels to make up the difference.

Does Reclamation have a plan to upgrade existing hydropower facilities more efficiently with less water flow?

Commissoner López. For about a century, Reclamation hydropower has provided the West with a renewable energy resource, spurring development and displacing fossil fuel emissions. As the operating environment has evolved, Reclamation has leveraged new technologies and policies to continue providing this valuable resource. Today, climate change and drought constitute major shifts in the operating environment, impacting our ability to manage water resources and generate hydropower.

To mitigate climate change and drought impacts to hydropower operations, Reclamation has developed two complementary policy documents. Reclamation's Sustainable Energy Strategy (2013) and Climate Change Adaptation Strategy (2014) direct the agency to collaborate with power customers, Power Marketing Administrations (PMAs), and stakeholders to improve capacities and efficiencies through deployment of optimization systems, turbine replacements, and generator uprates. As these improvement projects are funded primarily through our power customers, Reclamation works closely with these groups and PMAs to identify and complete these projects.

For context, Reclamation has replaced 31 turbines since 2009, increasing unit efficiency by 4%, on average, allowing the agency to generate an additional 336,160 MWh/annually, given normal water conditions. In addition, Reclamation has developed and deployed optimization systems that maximize generation per acre foot of water released at several Reclamation facilities. Work is ongoing to deploy optimization systems at all remaining Reclamation facilities. Once our entire fleet is optimized, Reclamation expects to generate

an additional 410,000 – 1,230,000 MWh/annually. Reclamation has also gained approximately 3,000 MW of additional capacity through generator uprates.

FY 2014 and FY 2015 were two of the most challenging generation years on record for Reclamation facilities operating in California. To mitigate this impact, Reclamation has worked with our customers to pursue turbine replacements leveraging new design technologies to achieve efficiency gains. Recent turbine replacements completed at California facilities Trinity and Folsom and scheduled replacements at Spring Creek provide a 4 percent efficiency increase. This efficiency gain will allow Reclamation to maintain our hydroelectric output with 4 percent less water flows.

Looking ahead, Reclamation will continue working with our customers and PMAs to identify and complete capital projects to improve our hydropower operations.

QUESTIONS FROM MR. VALADAO OF CALIFORNIA

WESTLANDS SETTLEMENT

Mr. Valadao. As you are aware, in September 2015, the United States Department of Justice entered into a settlement agreement with the Westlands Water District concerning the U.S.'s obligation to provide drainage services within Westlands' service area. The settlement would resolve litigation that has been pending for years and allow the U.S. to avoid the costs of meeting its statutory and court-ordered drainage obligation, which Reclamation has indicated would cost in excess of $3.5 billion when indexed for inflation. The settlement would also resolve takings litigation pending against the United States concerning its drainage obligation, which Reclamation has indicated its potential liability could exceed $2 billion. In return, Westlands would, among other things, be relieved of its capital repayment obligation to the U.S. in an amount of approximately $375 million. I have introduced legislation to authorize the settlement, H.R. 4366, the San Luis Drainage Resolution Act.

As an initial matter, can you confirm that the numbers I mentioned are consistent with your understanding?

Commissoner López. The settlement would resolve litigation that has been pending for over 25 years in the United States District Court for the Eastern District of California and would relieve the United States of its court-ordered, statutory drainage obligation. Pursuant to a 2000 court order, Reclamation has committed to implementing the San Luis Drainage Feature Reevaluation Record of Decision ("ROD"). Implementing the ROD in its entirety would cost in excess of $3.5 billion. In addition to costs associated with implementation of the ROD, landowners within Westlands have asserted Fifth Amendment takings claims against the United States based on the failure to provide drainage service to their lands, in separate litigation pending in the Court of Federal Claims. Under the terms of the Westlands Settlement, Westlands would intervene for the purpose of participating in a separate settlement of takings claims and agree to pay compensation to affected landowners. Thus, while the Westlands Settlement does not in and of itself resolve the takings litigation pending against the United States, it does provide

a path forward for achieving a takings settlement that would relieve the United States from paying compensation to the affected landowners. Absent a settlement, potential liability in the takings litigation could range from $0 to as high as $2 billion. The Westlands Settlement does relieve Westlands of its capital repayment obligation, which Reclamation estimates would be approximately $375 million.

Mr. Valadao. In light of these figures, in your opinion, doesn't the settlement represent a net benefit to the American taxpayer?

Commissoner López. The Department believes that the Settlement results in a significant savings to the American taxpayers when compared to the costs that could occur without the terms agreed to in the Settlement. The Settlement resolves Westlands Water District v. U.S., provides for the vacatur of the 2000 Order Modifying Partial Judgment in Firebaugh Canal Water Dist. v. U.S., and provides a framework for resolving Michael Etchegoinberry, et al. v. U.S. As noted, complying with the court order and implementing the ROD in its entirety would cost the United States in excess of $3.5 billion, while potential liability in the takings litigation could be as high as $2 billion. However, the currently authorized cost ceiling under the San Luis Act would need to be increased in order for Reclamation to fully implement the $3.5 billion ROD. If Congress did not increase the authorized cost ceiling, it is unclear what Reclamation's fiscal responsibility, if any, could be in excess of that ceiling, although a court could still order Reclamation to comply with the statutory obligation to provide drainage service absent a record that Reclamation tried every means within its authority to satisfy the obligation and was thwarted in doing so. Moreover, if the court were to rule in Reclamation's favor in the takings litigation, liability could be as low as $0. In summary, the Settlement, in combination with the proposed legislation necessary to implement the Settlement, resolves or provides a framework to resolve the three on-going cases against the United States regarding drainage service in the San Luis Unit and relieves the United States of its obligation to provide such drainage service.

Mr. Valadao. Finally, under the underlying settlement agreement,

doesn't the settlement need to be enacted within a year to ensure the settlement proceeds as intended to by the parties?

Commissoner López. Implementation of the Settlement would require the enactment of legislation authorizing Interior to implement a number of the provisions negotiated by the parties. The Settlement envisions relief from statutory obligations, debt relief, title transfer and authority to enter into a new CVP water service contract with Lemoore Naval Air Station, all activities requiring Congressional authorization. Paragraph 10 of the Settlement states, in part, that the Settlement "is contingent upon the enactment of legislation . . . If the Enabling Legislation . . . is not enacted into law by January 15, 2017, unless such date is mutually agreed by Westlands and the United States in writing to be extended, this [Settlement] shall become voidable by any Party to this [Settlement]."

It is important to note that to completely relieve the United States of its obligation to provide drainage service within the San Luis Unit, Reclamation is working on an agreement with the Northerly Districts that is similar to the Settlement. Reclamation expects to complete this agreement soon. Inclusion of the relevant terms of the agreement with the Northerly Districts into proposed legislation is critical. As currently drafted, the Northerly Districts Agreement also envisions several activities requiring Congressional authorization.

CA WATER BOR REGULATORY ROLE IN DELTA OPERATIONS

Mr. Valadao. With approximately 65 water districts serving more than 2 million acres having received no water from the CVP for the last 2 years, all of the rest receiving less than their entitlement, and many likely to again be shorted in 2016, what is

Reclamation's assessment of the financial viability of the CVP today and in the future?

Commissoner López. This drought is the worst in modern history and is comparable to the drought in the late 1970s. However, much has changed since the 1970s; for example, the population of California has almost doubled and the overall demands for water are far greater.

Although the current drought is now in its 5th year, the agriculture economy has not suffered extreme adverse impacts to date due to the ability to pump groundwater and crop shifting. Urban users has been challenged to conserve water and generally have done so. Due largely to these measures, the CVP continues to be viable today.

However, if the drought continues there is no doubt that California's agricultural economy will begin to experience adverse impacts. Some of these impacts have already occurred in some communities in the Central Valley. Throughout the drought, Reclamation's water transfer programs and real-time operational monitoring and studies have ensured that the limited water supplies are used as efficiently as possible which benefits all water users. This is why Reclamation has confidence in the long- term viability of the CVP, in spite of nature's overwhelming challenge. The financial viability of CVP is complicated and depends on a variety of factors including future agricultural prices, water supplies, contract renewal terms, hydropower generation, water pricing methodologies, the ability of water users to enter into water transfer arrangements, and operational considerations.

In addition, Reclamation will be using the drought funding that Congress provided to ensure that we are supporting drought efforts and science that

show promise in improving our immediate and long-term ability to make the best use of the available water supplies. With many potential amelioration projects to choose from, and knowing that unanticipated crises may intervene in our preliminary plans, we will continue to target the funds toward efforts we believe will yield the most cost effective results.

We have also learned that transparent, consistent coordination with all of our contractors regarding our operational and funding decision-making is extremely valuable, especially during times of scarcity. Into the future, Reclamation believes that the CVP key to viability, given the growing pressures on limited water supplies, California-wide, is a full portfolio of tools—for example, facilitating water transfers and leasing arrangement, infrastructure improvements, continuing focus on Delta science, water conservation, water recycling and reuse programs, new conveyance and new storage.

Mr. Valadao. There have been several independent reviews of the efficacy of the Central Valley Project Improvement Act's restoration activities. Almost all have recommended Reclamation restructure its approach toward restoration, diminish study and planning efforts, and focus more on physical activities. What specific changes has Reclamation made to implement these recommendations?

Commissoner López. Department of the Interior delegation for direction of the fish restoration program resides with the U.S. Fish and Wildlife Service (Service), and Reclamation continues to coordinate closely with the Service. In 2009, an Independent Review for implementation of the fish provisions of the CVPIA made several recommendations including: improving coordination with other restoration efforts; improving the scientific basis for decision making; restructuring program implementation; and considering needs within the Sacramento-San Joaquin Delta. In response, Reclamation, in coordination with the Service:

• Revitalized a Core Team with agency representatives from the Service, Reclamation, U.S. National Marine Fisheries Service, and the State of California Department of Fish and Wildlife and Department of Water

Resources to improve coordination of efforts within the Central Valley.

• Developed Decision Support Models (DSMs) to support Adaptive Resource Management in a Structured Decision Making framework for science based establishment of priorities.

• Coordinated a Science Integration Team to welcome participation by stakeholders from water districts, consultants, Nongovernmental Organizations, and others to engage in recommendations for scientific decision making.

• Integrated the selection of activities between fish provisions to develop work plans on a project by project basis rather than an allocation of resources between multiple independent programs.

• Incorporated a representation of fisheries needs within the Sacramento-San Joaquin Delta into the DSMs to allow for the prioritization and funding of projects in that area.

The funding for fish related efforts for Fiscal Year 2017 specifically require study and planning efforts to integrate with the Adaptive Resource Management process. Monitoring and study remain a critical tool for identifying the most critical needs and guiding the most effective means of implementation. Further efforts will require an explicit linkage to decision under a more strictly enforced adaptive resource management approach.

A second Independent Review that focused on the refuge water supply aspects of the CVPIA did not yield actionable recommendations. Reclamation is working with our refuge partners on improving knowledge of the constraints on the program and seeking to develop a strategic plan that can provide a shared vision of opportunities.

Mr. Valadao. How has Reclamation's budget allocations shifted in response?

Commissoner López. The most significant shift in funding occurred in moving away from expensive fish screens lower in the watershed and towards

spawning and rearing habitat in the upper watersheds. Rapid increases in the cost to convey refuge water supplies has also shifted costs towards O&M requirements and away from development of projects, in order to improve our ability to meet ongoing obligations. In addition, budget allocations have shifted to a project by project funding of individual efforts based on the areas with the most likely benefit to fisheries.

Mr. Valadao. Given Reclamation's inability to meet CVP water supply needs in an above average winter, what continuing adverse socio-economic effects beyond the project (e.g., unemployment, healthcare, food production, etc.) affecting national interests and priorities do you see occurring in future years that Congress should begin considering now?

Commissoner López. While overall precipitation indices for the Central Valley of California are tracking above average this year, very low carryover storage at the beginning of the season, below average snowpack, and the effects of four years of drought continue to take their toll on California's water supply. It is not unlikely that continuing adverse socio-economic effects such as the ones enumerated could occur in the future.

That said, Reclamation is doing everything in its power to reduce those effects. This year we intend to operate the Central Valley Project to lessen agricultural impacts due to water shortages, to the extent possible, through Project water deliveries and facilitating voluntary water transfers and exchanges (as the Projects have done throughout this drought). Reclamation is continuing to work with other agencies and water districts to maximize available supplies and the Administration continues to look to the Federal team to employ an "all-in" response and provide the resources needed to manage the limited water supplies and ensure that public health and safety are not compromised.

In addition, Reclamation is currently working on several storage studies in an effort to determine the feasibility of increased water supply reliability in California: Shasta Dam Enlargement, North-of-Delta Offstream Storage (Sites Reservoir), Upper San Joaquin River Basin Storage (Temperance Flat), Los Vaqueros Expansion Phase 2, and the San Luis Lowpoint Improvement

Project with a San Luis Expansion alternative.

RECLAMATION'S SCIENCE AND TECHNOLOGY PROGRAM

Mr. Valadao. Reclamation's Science and Technology Program is to 1) identify technical and scientific problems affecting accomplishment of Reclamation's mission; 2) promote development of cost-effective solutions; and 3) communicate those solutions to Reclamation offices, other water and power management officials and the general public. This program is just a small segment of the tens of millions of dollars Reclamation spends annually on science.

What initiatives does Reclamation currently have underway in the mid-Pacific region to accomplish actions 1 and 2?

Commissoner López. Reclamation's Science and Technology (S&T) Program is the primary research and development program within Reclamation. These activities include research and development of innovative solutions to current and future challenges, and monitoring, observing, and analyzing water resources. To achieve these solutions, the S&T Program actively reaches out across Reclamation to identify technical and scientific problems affecting Reclamation's mission.

One process utilized is an annual solicitation to the Mid-Pacific Regional Director and other Regional Directors asking for identification of high priority needs that the S&T Program would then fund research to help address. Additionally, the S&T Program conducts roadmapping efforts to identify research needs in various high priority subject areas (e.g., advanced water treatment, climate change and variability, invasive mussels, renewable energy, and sustainable infrastructure and safety) that are then highlighted in the annual S&T Program call for proposals.

Within the Mid-Pacific Region, the Bay Delta Office participates in various collaborative efforts to identify technical and scientific problems affecting accomplishment of Reclamation's mission and promote development of cost-effective solutions. The office implements real-time monitoring to support operational decisions and to identify and assess long-term environmental trends, as they relate to water operations. These monitoring programs and

studies assess the effectiveness for various actions and restoration efforts. The Bay Delta Office also implements various actions and studies to comply with the reasonable and prudent alternatives in the 2008 and

2009 Biological Opinions for the Coordinate Long-term Operation of the Central Valley and State Water Projects. These actions are performed through various collaborative forums to include the Interagency Ecological Program (IEP) and the Collaborative Science Adaptive Management Process. These collaborative forums either have direct participation from the local organizations (e.g. public water agencies, environmental groups, County representatives, etc.) and the public or have a process that allows for the local organizations and the public to provide input. At a minimum, final documents are uploaded to publicly accessible websites. Final documents can also be presented at conferences and published in scientific journals.

Mr. Valadao. What is the projected timeframe and deliverable?

Commissoner López. The S&T Program funds projects that may be from 1 to 3 years in length and may be research, development, or demonstration scale projects. Some research needs can be addressed by a single project in a short period of time, while other research needs require sustained effort on a series of projects over a longer timeline.

Mr. Valadao. What is the associated budget?

Commissoner López. The S&T Program budget request for 2017 is $22.765 million. All S&T projects are required to benefit multiple Reclamation Regions. S&T focuses research project funding on several priority areas, all of which are applicable to the Mid-Pacific Region.

Mr. Valadao. Who is engaged in the effort (e.g. public water agencies, environmental organizations, etc.)?

Commissoner López. The S&T Program engages partners including the U.S. Army Corps of Engineers, California Department of Water Resources, National Oceanic and Atmospheric Administration, among other Federal and local agencies. For example, the S&T Program is currently supporting

collaborative research on the effectiveness of using a novel electrical fish barrier in the Sacramento-San Joaquin Delta cross channel, to reduce movement of adult fall-run Chinook salmon from the Mokelumne River into the Sacramento River. Though our Cooperative Research and Development Agreements (CRADA) we also partner with private, or non-profit entities to collaboratively solve water resource challenges. Such partnerships often benefit through use of Reclamation facilities as a venue for applied research. Through our prize competitions, US citizens are invited engage in the effort – an invitation which has already produced several promising technologies.

Mr. Valadao. More specifically, Reclamation is currently operating in an attempt to manage turbidity in the Delta in the hope that this benefits Delta smelt protection and water supply. What scientific data is Reclamation gathering and analyzing to help determine whether these management actions are having any beneficial affect?

Commissoner López. Reclamation and other resources agencies have collaboratively increased the extent, frequency, and duration of monitoring associated with turbidity and Delta Smelt. This includes the additional monitoring at Prisoner and Jersey Point trawls and additional turbidity monitoring in Old and Middle River. This additional monitoring at key locations and times is expected to increase Reclamation's and the U.S. Fish and Wildlife Service's confidence in the actual distribution and abundance of Delta Smelt and improve the understanding of the relationship between turbidity and Delta Smelt movement. This in turn will provide a better assessment as to the risk of entrainment and increase operational flexibility (exports).

FRIDAY, FEBRUARY 26, 2016.

UNITED STATES ARMY CORPS OF ENGINEERS

WITNESSES

JO ELLEN DARCY, ASSISTANT SECRETARY ARMY (CIVIL WORKS), OF THE UNITED STATES ARMY CORPS OF ENGINEERS

LIEUTENANT GENERAL THOMAS P. BOSTICK, CHIEF OF ENGINEERS, UNITED STATES ARMY CORPS OF ENGINEERS

Mr. SIMPSON. I would like to call the hearing to order. Good morning, everyone. I would like to dispense with a little bit of administrative business.

While he is not here right now, I would like to ask unanimous consent to allow one of our full committee members, Mr. Quigley, to join us on the dais and to ask questions of the witnesses once all subcommittee members have had an opportunity. Without objection, we will proceed with the hearing.

We are here today to look at the fiscal year 2017 budget request for the Civil Works Program for the U.S. Army Corps of Engineers.

I would like to welcome our witnesses, Assistant Secretary of the Army for Civil Works, Jo-Ellen Darcy, and Commanding General and Chief of Engineers, Lieutenant General Thomas Bostick. Welcome.

General Bostick, I understand you are set to retire in May.

General BOSTICK. I am.

Mr. SIMPSON. This likely will be the last time we see you as a witness before our committee. I want to thank you for your service to the Corps, and the Army, and specifically, to the Nation as a whole. You have been Chief of Engineers during some challenging times, but throughout you have remained accessible, professional, and focused on finding solutions. I wish you well in your next endeavors.

Secretary Darcy, please do not think your hard work and dedication are not also very much appreciated, they are, but you are not off the hook quite yet, so we may see you again.

With a Presidential and a congressional election coming up this year, who knows if any of us are going to be here next year.

The Corps' Civil Works Program comprises a wide variety of water resource activities essential to the public safety, economic, and environmental goals of our Nation. This committee works hard each year to build an appropriations bill that supports a robust program, and that will strike a good balance across mission areas.

The Fiscal Year 2016 Act provided almost $6 billion to the Corps, including the highest level ever for Harbor Maintenance Trust Fund activities and full use of the estimated annual revenues in the Inland Waterways Trust Funds.

Congress clearly recognizes the importance of the Civil Works Program. Unfortunately, the same cannot be said of the Adminis-

tration. The fiscal year 2017 budget request would slash funding by almost $1.4 billion. This budget is $100 million below even the post-sequestration level in fiscal year 2013, and if enacted, would be the lowest funding level since fiscal year 2004. The President's proposed budget would be the lowest funding levels since fiscal year 2004.

No aspect of the Civil Works Program would be spared. All four main project-based accounts would see cuts ranging from 14 to 41 percent; overall flood control and navigation activities would be cut by 27 percent, and 26 percent, respectively, and even the environmental restoration activities would be reduced by 19 percent.

The irresponsibility of this budget request makes the Committee's job more difficult, but we will continue our efforts to support a strong Civil Works Program, one that will strengthen the economy, enhance public safety, and promote healthy ecosystems.

Again, I would like to welcome our witnesses to the subcommittee. Secretary Darcy, please ensure that the questions for the record and any supporting information requests are submitted to the subcommittee and are delivered in final form to us no later than 4 weeks from the time you receive them. Members who have additional questions for the record will have until close of business Tuesday to provide them to the subcommittee office.

With that, I will turn to Ms. Kaptur for her opening comments.

[The information follows:]

OPENING STATEMENT
The Honorable Mike Simpson
Chairman, Energy and Water Development Subcommittee
House Committee on Appropriations

Hearing on U.S. Army Corps of Engineers, Civil Works
FY 2017 Budget
February 26, 2016

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General Bostick, I understand you are set to retire in May, so this likely will be the last time we see you as a witness. I want to thank you for your service – to the Corps and the Army specifically and to the nation as a whole. You've been Chief of Engineers during some challenging times, but throughout you have remained accessible, professional, and focused on finding solutions. I wish you well in your next endeavors. Secretary Darcy, please don't think your hard work and dedication are not

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Unfortunately, the same cannot be said of the Administration. The fiscal year 2017 budget request would slash funding by almost $1.4 billion dollars. This budget is $100 million below even the post-sequestration level in fiscal year 2013 and, if enacted, would be the lowest funding level since fiscal year 2004. No aspect of the civil works program would be spared – all four main project-based accounts would see cuts ranging from 14 to 41 percent; overall flood control and navigation activities would be cut by 27 percent and 26 percent, respectively, and even environmental restoration activities would be reduced by 19 percent.

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With that, I'll turn to Ms. Kaptur for her opening comments.

Ms. KAPTUR. Thank you, Mr. Chairman. We welcome Assistant Secretary Darcy and General Bostick back to your subcommittee. We appreciate you appearing before our subcommittee this morning.

General, from myself and our side as you prepare to leave the Corps, I really want to take the opportunity to thank you for all you have done in serving our Nation, and wish you the very, very best in the years ahead. It has been a pleasure to work with you.

General BOSTICK. Thank you very much.

Ms. KAPTUR. Thank you. The Corps' Civil Works mission builds a stronger and more secure America, while providing great opportunity for job creation, environmental stewardship, and even recreation across our Nation.

Federal support of water resource projects creates construction jobs meanwhile, and economic benefits that encourage local business, governments, and individuals to cooperate and make investments in their own communities. You have really helped to build a modern America.

This country once aspired to great horizons in the area of civil works and infrastructure. I think of several examples certainly, the Federal highway system, which is not under your jurisdiction, and the dams which provide power in the West, and certainly in my region, the locks and dams that have created the Saint Lawrence Seaway Development Corporation, and has a reciprocal down the Mississippi River corridor. America imagined great in those days.

We now have before us a budget request which really slow walks vital improvements in our water infrastructure, and essentially continues a very troubling trend of infrastructure negligence. This is happening in many arenas in our country, and it is not a development I welcome.

Last year, Congress supported a nearly $1.3 billion increase for the Corps, and in light of shrinking investments in our Nation, whose population is slated to be 500 million people by 2050, this budget request is disappointing to say the least.

We simply have to keep up with a modernizing America.

While the Corps of Engineers does life-saving work, which I very much value, I believe more attention must be paid to the policies of the Corps, some of which have not been substantially changed in the last several decades.

Two areas come to mind immediately. One is the lack of innovative financing in how we as a nation finance projects. Secondly, how we dispose of the football fields of dredge material that the Corps digs up every year.

As a Great Lakes member, I would ask you to address serious and widely held concerns about Great Lakes' dredging needs, which will continue to become more complex in the years ahead with the changing nature of climate, the severe threat of Asian carp to exterminate our freshwater fish populations in the entire Great Lakes system, and a more visionary and sustainable environmental commitment that currently appears to be lacking within the Corps, especially in light of the freshwater crisis due to toxic algal blooms that hit Toledo, Ohio, a year ago. There is a need for innovative cross-agency thinking.

Moreover, Great Lakes' ports are critical to the regional and national economy supporting our critical manufacturing base, and we must keep these ports open for business. However, this need not come at the expense of our water security, the safety and quality of our drinking water, or the environmental integrity of this precious unparalleled freshwater ecosystem.

I expect that you will speak to these concerns, and I look forward to your discussion today. Thank you, and thank you, Mr. Chairman.

Mr. SIMPSON. Thank you. We are fortunate to have our full committee chairman with us today, Mr. Rogers. Mr. Rogers.

The CHAIRMAN. Thank you, Mr. Chairman. Welcome, Ms. Darcy, back to the committee. General Bostick, welcome again, and we wish you all the good luck in the new chapter you are about to write in your life. Thank you for serving your country, and we wish you well.

The projects managed by the Corps, of course, have a crucial economic impact on many communities across the country, repairing dams on Corps' lakes, protecting communities from flooding, and so on. The Corps plays a central role in ensuring the safety of the places we call home.

In my district in Kentucky, the Corps has completed a historic infrastructure repair project on Wolf Creek Dam. You conducted critical flood mitigation projects, enabling tourism and recreational activities on Lake Cumberland.

As we have discussed before, the Corps recently prioritized the town of Martin, Kentucky, which for years has lived under the constant threat of flooding. I appreciate the Corps' attention to that most important project and hope that we can continue to work collaboratively to ensure that the citizens of Martin reside on safe ground.

Unfortunately, in recent years, much of the good work performed by the Corps has been overshadowed by bureaucratic hurdles and regulatory overreach that are not just slowing economic growth, but are killing jobs across the country.

First, you have allowed an overtly partisan White House and the EPA to dictate to you your regulatory agenda, to usurp the authority provided by Congress to the Corps under the Clean Water Act.

This administration has been relentlessly targeting coal operations, kowtowing to and coordinating with extreme environmental organizations, both through burdensome new rules and their arguably unlawful enforcement. The effects have been dramatic and devastating, not as strict as in a disaster zone.

In the years before this President took office, we had over 15,000 coal miners in the eastern part of my district, supporting their families and their communities with stable, higher paying jobs, living where they wanted to live. Now, we have around 5,000 jobs. We have lost 10,000 in my district alone, laid off, trying to find a job at McDonald's, most unsuccessfully, trying to support the kids, family, mortgages, car payments, and the like.

Despite that staggering unemployment and economic depression, this administration continues to march on with its keep-it-in-the-ground strategy with regard to coal. Not only do these policies completely turn these coal communities upside down, they weaken our

national economic energy policies by neglecting our most plentiful and reliable natural resource.

Time and again, I have seen job creators in my district and around the country struggle to do business under this wrong-headed regulatory regime. They have seen their permit applications left to languish and decisions on their lease modifications needlessly delayed. Each new regulation, each delay of an important permit decision threatens much needed jobs and leads to uncertainty for thousands of others.

This is no way to do business. It is no way to grow an economy. As I have said many times before, the Waters of the United States, WOTUS, is a prime example of this backwards, job-killing regulatory overreach strategy.

The Corps and the EPA joined forces—no, that is not the right word—the Corps surrendered to the EPA to expand Federal jurisdiction over every so-called "waterway" that they could get their hands on, and we are feeling the impact of that regulatory overreach in my district and across the country, trying to expand jurisdiction to a so-called "stream" that is neither navigable or running.

They are trying to exert jurisdiction over arid—what do you call those out West—the so-called "former streams"—arroyos? With no possibility of water. The courts rightly have called you down. You are overreaching your authority time and again and it means nothing to your people.

Not only does this rule burden coal companies and farmers and developers and homeowners with hefty compliance costs, but we now know that the administration illegally used taxpayer dollars to try to convince the American people that it was a good idea when it was still under review.

This demonstrates a lack of transparency and accountability on the part of these agencies, and an unwillingness to understand how their actions impact real lives and real communities. Both Congress and the courts have fired back against that rule, and I believe it is time for you to move on as well.

Second, in addition to destroying coal jobs in Appalachia and elsewhere, I fear the Corps has almost lost sight of its role in economic development and its commitment to its recreation mission.

As you know, the local economies in Appalachia are struggling against this onslaught of environmental regulations, people in southern and eastern Kentucky are hard at work trying to replace those jobs, and recreation and tourism is an important part of that effort.

Unfortunately, the Corps has put up roadblock after roadblock every time my constituents want to pursue a job-creating opportunity that requires their involvement. I am continually perplexed at the Corps' reluctance to support tourism and recreation on Corps' lakes and rivers when instead they should be fast-tracking every opportunity for development in this economically depressed region.

These topics are crucial to struggling economies in rural Appalachia and for coal communities across the country.

My hope is that we can set the right priorities in the budget in order to ensure that the Corps is enabling the success of these communities, not holding them back from achieving their potential.

I look forward to hearing your testimony so we can try to understand the Corps' plans to address these important issues. Thank you, Mr. Chairman.

Mr. SIMPSON. Thank you. Secretary Darcy, the floor is yours.

Ms. DARCY. Good morning. Thank you, Chairman Rogers, and thank you, Chairman Simpson, and distinguished members of the subcommittee. Thank you for the opportunity today to present the President's budget for the Civil Works Program of the Army Corps of Engineers for fiscal year 2017.

This year's Civil Works budget reflects the administration's priorities through targeted investments that will reduce the risk of flood impacts in communities, facilitate waterborne transportation, restore significant aquatic ecosystems, generate low-cost renewable hydropower, and support American jobs.

It supports a Civil Works Program that relies on a foundation of strong relationships between the Corps and our local communities, which allows us to work together to meet the water resources needs.

The budget continues ongoing efforts to provide local communities with technical and planning assistance to enable them to reduce their flood risks, including nonstructural approaches. We are promoting the resilience of communities to respond to the impacts of climate change.

We are investing in research, planning, vulnerability assessments, pilot projects and evaluations of the value and performance of nonstructural and natural measures.

The budget provides funding to maintain and improve our efforts on sustainability, ensuring that we are doing what we can to efficiently use our available resources and reduce the Corps' carbon footprint. For example, we are increasing renewable electricity consumption, reducing greenhouse gas emissions, and reducing our non-tactical-vehicle petroleum consumption. We are also advancing our sustainability efforts by using innovative financing techniques such as energy savings performance contracts to improve the sustainability of our facilities and projects.

We are making important investments to promote the sustainable management of the lands around Corps' facilities by providing funds to update the plans that govern how we manage our facilities and to help combat invasive species.

The budget also focuses on maintaining the water resources infrastructure that the Corps owns and manages, and on finding innovative ways to rehabilitate it, hand it over to others, or retire it.

Here are some of the funding highlights. The 2017 Civil Works budget provides $4.62 billion in gross discretionary appropriations for the Army Civil Works Program, focusing on investments that will yield high economic and environmental returns, or address a significant risk to public safety.

The budget focuses funding on our three major mission areas, including 42 percent to commercial navigation, 26 percent to flood and storm management reduction projects, and 8 percent to aquatic ecosystem restoration.

Other practical, effective, and sound investments include allocating $196 million to hydropower, $103 million to clean up sites

contaminated during the early years of the Nation's nuclear weapons program, and $200 million for regulatory activities.

Overall, the budget funds 33 construction projects, six of them to completion. It also funds 49 feasibility studies, 12 of those to completion. The budget also includes one new construction start, Mud Mountain Dam in Washington State, which is addressing biological opinion-related work.

The budget funds inland waterways capital investments at $923 million, of which $33.75 million will be derived from the Inland Waterways Trust Fund.

The budget provides $951 million from the Harbor Maintenance Trust Fund to maintain coastal channels and related work, which is the highest amount ever budgeted.

The budget also provides $35.5 million for the Levee Safety Program, which will help ensure that all Federal levees are safe and in line with the Federal Emergency Management Administration's standards. This initiative will provide non-Federal entities with access to levee data that will inform them of all these safety issues.

The Corps has a diverse set of tools and approaches to working with local communities, whether this means funding projects with our cost-sharing partners or providing planning assistance and technical expertise to help communities make better informed decisions.

The 2017 budget continues to contribute to this Nation's environmental restoration, and provides funding to restore several large ecosystems that have been the focus of interagency collaboration. They include $10 million for the California Bay Delta, $66 million for the Chesapeake Bay, $106 million for the Everglades, $15 million in the Great Lakes, and $13 million in the Gulf Coast.

Other funded Corps efforts include mitigation of impacts to the fish in the Columbia River Basin and priority work in the Upper Mississippi and Missouri Rivers.

Finally, the budget provides $6.5 million for the Corps' Veterans Curation Program, which was started in 2009 with support from the American Recovery and Reinvestment Act. The program offers veterans the opportunity to learn tangible skills and gain experience by rehabilitating and preserving federally owned or administered archeological collections found at Corps' projects.

This program's unique training for future employment has meant that 90 percent of its more than 245 graduates have gone on to find permanent employment or return to universities and colleges to continue their education.

I look forward to working with this committee to advance the Civil Works Program, and I thank you for your attention this morning.

[The information follows:]

DEPARTMENT OF THE ARMY

WRITTEN STATEMENT
OF

THE HONORABLE JO-ELLEN DARCY
ASSISTANT SECRETARY OF THE ARMY (CIVIL WORKS)

BEFORE

COMMITTEE ON APPROPRIATIONS

SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT

UNITED STATES HOUSE OF REPRESENTATIVES

ON

THE FISCAL YEAR 2017 BUDGET
FOR THE ARMY CORPS OF ENGINEERS, CIVIL WORKS

February 26, 2016

Thank you Chairman Simpson and distinguished members of the subcommittee for the opportunity to present the President's Budget for the Civil Works program of the Army Corps of Engineers for fiscal year (FY) 2017. We are pleased to have an opportunity to further expand on the Administration's priorities and goals. Those priorities include promoting resilient communities to address current and future impacts of climate change and sea level rise; fostering and maintaining strong partnerships with local communities; and practicing sustainability and sound stewardship across all our missions. I also want to take this opportunity to touch on points that this Committee has raised in the past.

This year's Civil Works Budget reflects the Administration's priorities through targeted investments in the Nation's water resources infrastructure that will reduce flood risk to communities; facilitate commercial navigation; and restore degraded aquatic ecosystems.

The 2017 Civil Works Budget provides $4.62 billion in discretionary appropriations for the Army Civil Works program, focusing on investments that will yield high economic and environmental returns or address a significant risk to safety.

The Budget focuses on funding our three major mission areas:

- 42 percent of funding is allocated to commercial navigation,
- 26 percent to flood and storm damage reduction,
- And 8 percent to aquatic ecosystem restoration.

Other practical, effective, sound investments include allocating $196 million of the Budget to hydropower, $200 million to regulatory activities, and $103 million to the clean-up of sites contaminated during the early years of the Nation's nuclear weapons program.

The Civil Works program, which this Budget supports, relies on the strong relationships between the Corps and local communities; these strong relationships allow us to work together to meet their water resources needs across all of our missions, as well as to address broader water resources challenges that are of concern at the national or regional level.

The Budget supports a Civil Works program that has a diverse set of tools and approaches to working with local communities, whether this means funding studies and projects with our cost-sharing partners, or providing planning assistance and technical expertise to help communities make better-informed decisions.

PLANNING MODERNIZATION

The Budget supports the continued implementation of Corps efforts to modernize its planning process. The Budget provides funding in the Investigations account for 49 feasibility studies, and funds 12 of them to completion.

The Budget reflects full implementation of the SMART (Specific, Measurable, Attainable, Risk Informed, Timely) planning initiative, under which each feasibility study is to have a scope, cost, and schedule that have been agreed upon by the District, Division, and Corps Headquarters. The Budget supports efficient funding of these studies.

Studies generally are funded with the presumption that they will complete in three years and for $3 million ($1.5 million Federal). In the first year, the Corps will work to identify the problem, develop an array of alternatives, and begin the initial formulation. The bulk of the study costs are anticipated to be incurred during year two, as the alternatives are narrowed down and a Tentatively Selected Plan is identified, which requires more detailed feasibility analysis and formulation. During the third year, the focus is on completing the detailed feasibility analysis, state and agency review, and finalizing the Chief's Report. There are some exceptions to this funding stream, such as where an increase in the study cost or an extension in the study schedule is appropriate based on factors such technical complexity, public controversy, the need for more detailed work to address a specific issue, or the overall cost of a proposed solution.

Over the past three years, the Corps began 29 new studies and resumed 10 studies. The FY 2017 Budget focuses on managing these and other ongoing studies and bringing them to a conclusion. It includes funding for 14 studies and three preconstruction engineering and design efforts previously funded only through the annual Corps work plans. Among the studies budgeted for the first time this year are two of the feasibility studies that were recommended as focus areas in the North Atlantic Coast Comprehensive Study, nine studies that are starting in FY 2016, and three disposition studies under the Disposition of Completed Projects remaining item.

The Water Resources Priorities Study is one of the 10 studies started in the FY 2016 work plan. This study will address the critical need to develop a baseline assessment of the Nation's vulnerability to flood damages on both a national and regional scale. First, a baseline assessment will identify and analyze the key drivers of flood risks, including the ways in which some of those risks are changing or expected to change over time. The study will then examine the effectiveness of existing Federal, State, and local programs, and develop recommendations to improve these programs to reduce the economic and life safety risk associated with large-scale flood and storm events in ways that will also promote the long-term sustainability of communities and ecosystems.

The Budget also helps to further combat the spread of invasive species by its proposals for funding work associated with the Great Lakes and Mississippi River Interbasin Study (GLMRIS). The Budget supports efforts to reduce the risk of interbasin transfer of aquatic nuisance species through the Chicago Area Waterway System (CAWS) in the vicinity of Brandon Road Lock and Dam. The Brandon Road effort will assess the viability of establishing a single point to control the one-way, upstream transfer of aquatic nuisance species from the Mississippi River basin into the Great Lakes basin

near the Brandon Road Lock and Dam located in Joliet, Illinois. The Budget includes funding to continue this effort.

Among the 12 feasibility studies funded to completion is the Mississippi River Hydrodynamic Model – Delta Management Study under the Louisiana Coastal Area Ecosystem Restoration Program. This greater than $25 million study effort will identify options to address the long-term sustainability of the lower Mississippi River Deltaic Plain and provide a model to assess the effects on navigation and sediment dynamics along the Mississippi River main stem associated with combinations of Mississippi River diversions.

Investigation funds are also provided to continue to support State and local flood risk mitigation priorities through the "Silver Jackets" program. The Corps currently supports participation on "Silver Jackets" team in 44 states and the District of Columbia through which technical assistance activities are being implemented that support State and local community flood risk and floodplain management priorities.

CONSTRUCTION

The Budget for the construction program includes funds to complete six construction projects, continue 27 ongoing projects, and start one new project. The one new construction project, Mud Mountain Dam in Washington State, involves construction of a fish passage facility to address a Biological Opinion.

Flood and Storm Damage Reduction

The Budget includes $404 million for flood and storm damage reduction projects and remaining items, and funds the American River Watershed (Folsom Dam Modification), CA project and the Topeka, KS project to completion.

Over the last several years, Congress has funded the dam safety program at a lower level than the Budget, based on revisions of capabilities that the Corps has provided to Congress subsequent to the Budget submission. These revisions - often but not always showing a lower capability than requested in the Budget - are caused by a variety of factors, including savings from contract awards, process efficiencies, and changed conditions. The Budget includes $239 million (not including $21 million for the Dam Safety remaining item) for the dam safety program that, when coupled with anticipated unobligated carryover balances on these important projects, will ensure that each of the Dam Safety Action Classification (DSAC) I and DSAC II projects funded in the Budget is able to progress efficiently and effectively to implement a risk reduction strategy for these structures.

Coastal Navigation

The Budget includes $105 million for coastal navigation and remaining items and funds the Oakland Harbor, CA (50-foot Deepening) project and the Delaware River

Deepening, NJ, PA, & DE project to completion. The Savannah Harbor Expansion Project, GA project is funded at $42.7 million, which is over a 100% increase from the FY 2016 Budget. The Columbia River at the Mouth, OR & WA project is funded at a level that will enable efficient progress toward mitigating the life safety risk that is presented by the deteriorated jetties.

Inland Navigation

The Budget funds inland waterways construction and remaining items at $246 million, of which $33.75 million will be financed through the Inland Waterways Trust Fund (IWTF) for the Olmsted Locks and Dams, IL & KY project, which at $225 million is funded at the highest amount ever budgeted for this project. With the passage of the Water Resources Reform and Development Act of 2014 (WRRDA 2014), the Olmsted Locks and Dam, Ohio River, Illinois and Kentucky project is now cost-shared 85 percent General funds and 15 percent IWTF. This change reduced the cost of this project to the navigation users by around $500 million, and increased the amount that Federal taxpayers will have to pay by an equivalent amount. In the ABLE Act, the Congress also increased the tax on diesel fuel used in commercial transportation on certain of the inland waterways. As a result of both of these changes, over the next few years there will be somewhat more money in the IWTF to support the user-financed share of inland waterways capital investments.

The Administration – as it has in recent years – will propose legislation to reform the way that we finance capital investments for navigation on the inland waterways. The Administration's proposal includes a new user fee to produce additional revenue to help finance long-term future investments in these waterways to support economic growth. We would like to work with the Congress to enact this legislation.

The Corps is also finalizing a Capital Investment Strategy for the inland waterways. The Corps has coordinated this effort with stakeholders and the Inland Waterways Users Board to provide an opportunity for their input. The process will include an estimate of the investment need over the next 20 years and objective nationwide criteria to provide a framework for deciding which capital investments should have priority for funding from a national perspective. While this Strategy will provide a benchmark, it is a conceptual plan and does not take the place of normal Budget processes or commit the Government to future actions.

Aquatic Ecosystem Restoration

The Corps continues to contribute to the Nation's efforts to restore degraded environments; to that end, the Budget for the Corps funds restoration of several large aquatic ecosystems that have been a focus of interagency collaboration, including the California Bay-Delta, the Chesapeake Bay, the Everglades, the Great Lakes, and the Gulf Coast. Other funded efforts include the Columbia River, and priority work in the Upper Mississippi and Missouri Rivers.

OPERATION AND MAINTENANCE

The Budget provides $2.705 billion for Operation and Maintenance, with $1.122 billion for operation and $1.414 billion for maintenance, and an additional $169 million for remaining items. This encompasses a wide range of activities, from operating and maintaining our locks and dams to monitoring the condition of dunes and berms that reduce the risk of flooding in a hurricane from wave action and storm surges, running the Corps recreation facilities that are visited by millions of Americans each year, and helping us be responsible stewards of the lands associated with Corps projects and operate them in an increasingly sustainable fashion.

For example, the Budget helps us maintain and improve our efforts on sustainability. We are reducing the Corps' carbon footprint by:

- increasing renewable electricity consumption,
- reducing greenhouse gas emissions, and
- reducing non-tactical vehicle petroleum consumption.

We are also making important investments to promote the sustainable management of Corps-owned lands, waters and cultural resources. The Budget provides $9.6 million to update 24 Master Plans and initiate work on 26 others that govern how we manage our facilities, which will helps us make better decisions about how to use the land and keep it healthy; $12 million to address impacts from invasive plants and animals at Corps facilities; and $6.9 million for enhancements and protections for habitat in support of the National Strategy to Promote the Health of Honey Bees and other Pollinators.

The Budget also provides $35.5 million for the levee safety program, which will help ensure that Federal levees are safe and in line with the Federal Emergency Management Administration standards.

The overall condition of the inland waterways has continued to improve over the last few years. The number of lock closures due to preventable mechanical breakdowns and failures lasting longer than one day and lasting longer than one week has decreased significantly since FY 2010. However, the lock closures that do occur result in additional costs to shippers, carriers, and users. That is why the Budget continues to provide a high level of funding to operate and maintain the inland waterways, with emphasis on those that together carry 90 percent of the commercial traffic.

Harbor Maintenance Trust Fund

The Budget provides $951 million from the Harbor Maintenance Trust Fund (HMTF) to maintain coastal channels and related work, which is the highest amount ever budgeted. This includes almost 11 percent for Great Lakes harbors, 10 percent for emerging harbors, $856 million from the O&M Account, $2 million from the Mississippi River & Tributaries account, and $65 million from the Construction account.

RESEARCH AND DEVELOPMENT

Research, Development, and Technology is a component of the Science and Technology portfolio of the Corps and continues to address key strategic technology needs to inform policy-making and business processes. The FY 2017 Budget includes $18.1 million for research and development. This funding will be used to extend the service life of water resources infrastructure through research, use of novel materials, and technology transfer. The Research, Development, and Technology program enhances our capabilities to facilitate marine transportation, assist flood and coastal storm preparation and recovery efforts, restore aquatic ecosystems, pursue sustainable environmental management, and respond to changing environmental conditions.

REMAINING ITEMS

The Budget includes $276 million for remaining items, including $55 million in the Investigations account, $44 million in the Construction account, $169 million in the Operation and Maintenance account, and $8 million in the Mississippi River and Tributaries Account.

Annual funding for these remaining items is determined based on current needs, such as the increased focus on technical assistance to States and local communities to improve resilience to climate change.

REGULATORY PROGRAM

The Budget includes $200 million for the Regulatory program.

ALTERNATIVE FINANCING AND PUBLIC-PRIVATE PARTNERSHIPS

As part of looking to the future of the Army's Civil Works program, we continue to consider potential tools to expand and strengthen our already strong partnerships, especially in the area of Alternative Financing. As part of this effort, we are actively talking with potential non-Federal partners about their ideas for how we can work together and soliciting suggestions and best practices from others in the Federal government with experience in this area.

Increasingly, some non-Federal sponsors have been contributing or advancing funds for work that is authorized to be funded at Federal expense. In such cases, the project beneficiaries assume more (or all) of the cost. Before entering into an agreement to accept such funds, the Corps carefully evaluates its overall workload to ensure that execution of the proposed work will not adversely affect our directly-funded programs, projects and activities.

VETERANS CURATION PROGRAM

Finally, this Budget provides $6.5 million for the Veterans Curation Program, which was started in 2009 with support from the American Recovery and Reinvestment Act. This program offers veterans the opportunity to learn tangible work skills and gain experience by rehabilitating and preserving federally owned or administered archaeological collections found at Corps projects.

Thank you all for attending today. General Bostick will provide further remarks on the Army Corps of Engineers 2017 Budget.

Mr. SIMPSON. Thank you, Secretary. General Bostick.

General BOSTICK. Chairman Rogers and Chairman Simpson, Ranking Member Kaptur, members of this subcommittee, thank you for the opportunity to testify today.

I love the Corps of Engineers and the Army, and it has been my great honor and privilege to serve the Nation these past 38 years.

First, I would like to thank you for your great support of the Civil Works Program. This subcommittee has been essential to the progress we have made over the years.

The details of the 2017 Civil Works' budget are outlined in my written testimony. We also recently submitted the work plan that allocates all of the additional funds that Congress appropriated for the Civil Works Program.

The Corps has done its very best to utilize the additional funding in the most responsible and efficient manner to address the outstanding water resource needs of the Nation.

Today, I would like to provide an update on our campaign plan and our four goals, and some of my perspectives on the water resource challenges facing our Nation.

First, we support national security. We like to talk about the investment in Civil Works' projects, not the costs. It is an investment in the work we do, our economy, and the protections provided to the American people. It is also an investment in our people, and whether they serve in Iraq, Afghanistan, Pakistan, India, or in over 100 countries around the globe, our people are making a difference.

As part of our Civil Works' transformation, we continue to improve and modernize the project planning process. Our planning modernization's objective is to manage a risk-informed planning program that delivers timely, cost-effective, and high-quality water resources investment recommendations.

Since the inception of Civil Works' transformation in 2008, 59 Chiefs' Reports have been completed with recommendations of over $30 billion in water resource investments. During the first 4 years of Civil Works' transformation, 19 Chiefs' Reports were completed. In the last 4 years, that number is 40, more than doubling our progress. We are on schedule to complete another 12 reports by the end of the fiscal year.

While we have made great progress, we can and must continue to improve.

Our third campaign goal is reduce disaster risks. The Corps continues to perform extremely well in this area. We had historic floods in 2011, 2015, and continued again in 2016. Because the systems performed as designed, many Americans do not even realize the magnitude of these floods.

In addition to the fact that no one died in these events, the return on investment is $45 to every $1 invested in the Mississippi River and Tributaries system. Approximately $234 billion of damages have been prevented because of these investments.

Despite these investments, our Nation's infrastructure is aging. The American Society of Civil Engineers rates the Nation's infrastructure at an overall grade of D+. The Corps is managing over $225 billion worth of that infrastructure.

Funding across the Federal Government remains very challenging. In order to complete the construction projects that we are

currently budgeting, we would require an additional $19.7 billion. With construction funding at just over $1 billion a year, it will take nearly 20 years to complete the current projects.

As a nation, we must continue to think creatively and innovatively about how we gain support beyond the Federal Government so that we can complete these projects in a more reasonable time.

Finally, our last goal is prepare for tomorrow. This is about our people. In the nearly 4 years I have been in command, I have traveled to all 43 districts and 9 divisions to see the vital work that the Corps is doing at home and abroad.

I remain convinced that we have exceptionally skilled and talented people in our organization. I am very proud of the people who serve in the Army Corps of Engineers and our fellow teammates, including the military, civilian, local, Federal, and, of course, our contractors.

As we have done for over 240 years, the U.S. Army Corps of Engineers remains focused on engineering solutions for the Nation's toughest challenges.

Thank you again for the opportunity today. I look forward to your questions.

[The information follows:]

DEPARTMENT OF THE ARMY CORPS OF ENGINEERS

COMPLETE STATEMENT OF

LIEUTENANT GENERAL THOMAS P. BOSTICK
CHIEF OF ENGINEERS
U.S. ARMY CORPS OF ENGINEERS

BEFORE

COMMITTEE ON APPROPRIATIONS
SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT
UNITED STATES HOUSE OF REPRESENTATIVES

ON

THE FISCAL YEAR 2017 BUDGET
FOR THE ARMY CORPS OF ENGINEERS, CIVIL WORKS

FEBRUARY 26, 2016

Mr. Chairman and Members of the Subcommittee:

I am honored to testify before your committee today, along with the Assistant Secretary of the Army for Civil Works, the Honorable Jo-Ellen Darcy, on the President's Fiscal Year 2017 (FY 2017) Budget for the United States Army Corps of Engineers (Corps) Civil Works Program. This is my fourth and final time before this Subcommittee to testify on the Civil Works budget; thank you for your support in the past, and I look forward to continuing to work together during the remainder of my tenure as Chief of Engineers.

I have been in command of the Corps for nearly four years, and I want to briefly update you on the four Campaign Plan Goals for the Corps.

First, **Support National Security.** The Corps supports the National Security efforts of the United States. We continue working across the globe with presence in more than 110 countries, using our Civil Works, Military Missions, and Water Resources Research and Development expertise to support our Nation's Combatant Commanders. We are proud to serve this great Nation and our fellow citizens, and we are proud of the work the Corps does to support America's foreign policy. Civilian Army Corps employees from across the Nation have volunteered – and continue to volunteer – to work, in a civilian capacity, to provide critical support to our military missions abroad and humanitarian support to the citizens of those nations. Many of these volunteers have served on multiple deployments.

Second, **Transform Civil Works.** The four elements of the Civil Works Transformation strategy will make the Corps more efficient and effective while continuing to support the Nation by addressing some of our greatest infrastructure needs. Civil Works Transformation focuses on modernizing the project planning process; enhancing the budget development process through a more streamlined process and the use of a systems approach, to identify and deliver more holistic outcomes to the Nation; evaluating the portfolio of existing water resources projects to support risk-informed investment decisions, identify priorities, and develop better solutions to water resources problems; and improving methods of delivery to produce and deliver quality products and services.

Since the inception of Civil Works Transformation efforts in 2008, 58 Chief's reports have been completed, with 45 Chief's Reports completed in the last four years alone; we are learning and continue to become more efficient in our processes.

Third, we must continue to be proactive and develop better strategies to **Reduce Disaster Risks,** as well as respond to natural disasters when they do occur, under the National Response Framework, National Disaster Recovery Framework, P.L. 84-99 as amended, and Corps project authorities for flood risk management. I continue to be amazed at the work the Army Corps does in this arena. For example, the Corps provided technical expertise to the State of South Carolina during its historic flooding last year by assisting in inspecting over 600 locally owned dams to assess dam safety

vulnerability. More recently, the Corps teamed with local communities and State-led Army National Guard units during the Mississippi River floodfight to help impacted communities in the flood's aftermath. Additionally, I am pleased to report to you that all of the Federal flood risk reduction systems along the Mississippi performed as designed, demonstrating the effectiveness of the investments made.

Fourth, **Prepare for Tomorrow**. This is about our people – ensuring we have a pipeline of the best Science, Technology, Engineering and Mathematics personnel, as well as strong Workforce Development and Talent Management programs. Efforts to tailor development programs to employee aspirations is helping to maximize talent retention and is instilling a career of service culture. We take seriously the importance of engaging and retaining our talented workforce and have significantly improved our agency ranking in the Federal Employee Viewpoint Survey over the past year, on the list of best places to work in the Federal government. Equally important is helping the Nation's Wounded Warriors and transition out of active duty to find fulfilling careers. Last year, we set a goal to assist 150 transitioning Wounded Warriors. I am proud that we achieved more than double that goal. We assisted over 300 Wounded Warriors in finding permanent positions within the Corps and other organizations. Over the past three years, we have helped 631 Wounded Warriors find meaningful careers.

We are equally focused on Research and Development efforts to help solve a host of the toughest challenges facing the Army and the Nation. Our Civil Works Program research and development efforts provide the Nation with innovative engineering products, some of which can have applications in both civil and military infrastructure spheres. By creating products that improve the efficiency of the Nation's engineering and construction industry, and through providing more cost-effective ways to operate and maintain public infrastructure, Civil Works program research and development contributes directly to the national economy.

SUMMARY OF FY 2017 BUDGET

The FY 2017 Civil Works Budget is a performance-based budget, and reflects a focus on the work that will provide the highest net economic and environmental returns on the Nation's investment or address a significant risk to safety. Investments by the Civil Works program will reduce the risks of flood impacts in communities throughout the Nation, facilitate comercial navigation, restore and protect significant aquatic ecosystems, generate low-cost renewable hydropower, and support American jobs. Continued investment in critical Civil Works infrastructure projects is an investment in the Nation's economy, security, and quality of life – now and in the future.

The Budget focuses on high-performing projects and programs within the three main water resources missions of the Corps: commercial navigation, flood and storm damage reduction, and aquatic ecosystem restoration. The FY 2017 Budget includes $4.62 billion in gross discretionary funding for Civil Works activities throughout the Nation, including the construction of water resources projects that will provide high economic, environmental and public safety returns on the Nation's investment.

The Budget also proposes the necessary level of funding for the Regulatory program to protect and preserve water-related resources of the Nation.

INVESTIGATIONS PROGRAM

The FY 2017 Budget provides $85 million in the Investigations account, and $7 million in the Mississippi River and Tributaries account to evaluate and design projects within the Corps three main mission areas, with emphasis on those that are potentially the most promising on a performance basis; and for related work, inlcuding some research and development. The Budget also supports the Corps planning and technical assistance programs, including using its expertise to help local communities increase their resilience to, and preparedness for, flood risks such as the flood risks in coastal communities associated with hurricanes and sea-level rise.

CONSTRUCTION PROGRAM

The Budget provides $1.09 billion for the construction program in the Construction account, and $64 million in the Mississippi River and Tributaries account, prioritizing projects with the greatest net economic and environmental returns per dollar invested, as well as projects that address a significant risk to safety. The Budget includes funds for one high-priority construction new start: Mud Mountain Dam, Washington. In keeping with our Civil Works transformation strategy, the Budget provides construction funding to complete six projects, and deliver their benefits to the Nation.

The goal of the construction program is to produce as much value as possible for the Nation from the available funds. The Corps uses objective performance measures to allocate this funding. For projects that are being funded primarily due to their economic return, these include benefit-to-cost ratios. For projects funded on the basis of their environmental return, prority is given to those projects that are highly effective at restoring degraded structures, functions or processes of significant aquatic ecosystems on a cost-effective basis. The selection process also prioritizes dam safety assurance, seepage control, static instability correction projects, and those that address a significant risk to safety.

OPERATION AND MAINTENANCE (O&M) PROGRAM

All structures age and, over time can deteriorate, causing a potential decline in reliability. With proper maintenance and periodic rehabilitation, however, we can extend the effective life of most of the facilities owned or operated by, or on behalf of, the Corps for many years. As stewards of this infrastructure, we are working to ensure that key features continue to provide appropriate levels of service to the American people.

The Corps is working to improve the efficiency and effectiveness of its operation and maintenance program. The Budget focuses on investments that address infrastructure maintenance needs on a risk assessment basis. In FY 2017, the Corps will further expand the implementation of a modern asset management program, dedicating an increased amount of its O&M funding to the key features of its infrastructure and for work that will reduce long-term O&M costs in real terms. The Budget also supports an energy sustainability program and pursues efficiencies in the acquisition and operation of our information technology.

The Budget for the operation and maintenance program provides $2.705 billion in the O&M account, and $151 million in the Mississippi River and Tributaries account, with a focus on the operation and maintenance of key commercial navigation, flood risk management, hydropower and other facilities. The Budget gives priority to coastal ports and inland waterways with high levels of commercial traffic, and includes $951 million for work financed through the Harbor Maintenance Trust Fund. The Budget also funds some small ports, with emphasis on those that support significant commercial fishing, subsistence, or public transportation benefits. The Budget provides O&M funding for safety improvements at Federal dams and levees based on the risk and consequence of a failure. According to our analyses, 297 of the 709 dams in our current inventory have required some form of modification or interim risk reduction measure, or may require them over the next 50 years, if they are to continue to serve their authorized purposes. Many interim risk reduction measures have been implemented already and additional measures are considered and evaluated as new and existing issues are identified.

Generally, the O&M program supports completed works owned or operated by the Corps, including administrative buildings and laboratories. Work to be accomplished includes: operation of locks and dams along the inland waterways; dredging of inland and coastal Federal channels; operating multi-purpose dams and reservoirs for flood risk reduction, hydropower, recreation, and related purposes; maintenance and repair of facilities; monitoring of completed projects; and general management of Corps facilities and the land associated with these purposes including work to serve as a responsible steward of the resources on Corps lands.

The FY 2017 Budget provides $194 million in the O&M account for hydropower activities in order to maintain basic power components such as generators, turbines, transformers and circuit breakers at Corps hydropower facilities to keep them operating efficiently and effectively. The Corps is the largest hydropower producer in the U.S., operating 24 percent of the Nation's hydropower capacity.

REIMBURSABLE PROGRAM

Through the Interagency and International Services (IIS) Reimbursable Program, the Civil Works program assists other Federal agencies, state, local, tribal governments, and those of other countries with timely, cost-effective solutions to support their

programs. These agencies can turn to the Corps, which already has these capabilities, rather than develop their own internal workforce and expertise to oversee project design and construction. Such intergovernmental cooperation is effective for agencies and the taxpayer, and uses the skills and talents that we bring from our Civil Works and Military Missions programs. The work is principally technical oversight and management of engineering, environmental, and construction projects – the work itself is typically performed by private sector firms – is financed by the agencies we service. IIS Reimbursable Program activities in support of our domestic stakeholders totaled $657 million in FY 2015. We only accept agency requests that are consistent with our core technical expertise, in the national interest, and that can be executed without impacting our primary mission areas.

EMERGENCY MANAGEMENT

The FY 2017 Budget provides $30 million in funding for the Flood Control and Coastal Emergencies account to enable the Corps to prepare for emergency operations in response to natural disasters. The Budget for the emergency management program also includes $4.5 million for the National Emergency Preparedness Program.

An additional $3 million is included in the Investigations account for the Corps participation in the development and expansion of intergovernmental teams, known as Silver Jackets, which collaboratively reduce the risks associated with flooding and other natural hazards. The Silver Jackets program is an innovative program, which provides a national forum to address State and local flood risk management priorities. Each team is developed at the state level. The teams share lessons learned at the state level with each other, and each team works to apply the available Federal and State resources effectively to meet its State's flood risk management priorities. There are now 45 active teams (44 States and the District of Columbia); our goal is to have a Silver Jackets team for every State. The flooplain management program of the Corps complements this effort by providing technical assistance.

CONCLUSION

The FY 2017 Budget represents a continuing, fiscally prudent investment in the Nation's water resources infrastructure and restoration of its aquatic ecosystems. The U.S. Army Corps of Engineers is committed to a performance-based Civil Works Program, based on innovative, resilient, and sustainable risk-informed solutions.

Thank you, Mr. Chairman and Members of Subcommittee. This concludes my statement. I look forward to answering any questions you or other Members of the Subcommittee may have.

Mr. SIMPSON. Thank you for your testimony. General, you pointed out some of the backlog problems that we face in this country and why this committee is so concerned about the budget request that was submitted. I am almost tempted to ask what the original request you submitted to OMB was, but I know you fully support the President's budget, so I will not ask that.

Mr. Rogers.

The CHAIRMAN. The Corps holds the primary authority to issue what is called Section 404 permits under the Clean Water Act, which authorize the discharge of dredge material in mining operations. That so-called "Section 404 permit application process" has gone crazy. I do not know whether it is incompetence or an intent to completely shut down mining of coal, whichever, you have done it.

Most of it has to do with getting a permit to mine. Now, you are requiring applicants to provide additional copies of the application at a cost of around $500 or so per application. Then you are requiring the applicant to provide multiple copies of their application so they can be sent out by you to environmental groups who are trying to stop the operation, at the expense of the applicant.

That is not the America I thought I used to know. You are forcing a person with an economic decision to finance his enemies. How can you do that?

Ms. DARCY. Chairman Rogers, the Corps does not require additional copies of permit applications. They require one. I am not sure of the requirement of which you are referring, but it is my understanding that our permit requirements are for one copy of an application.

General BOSTICK. They are also able to submit their permit on email or on a CD. A paper copy is not required.

The CHAIRMAN. Here is an email from Darvin Messer, Team Leader, U.S. Army Corps of Engineers, Fort Worth District, to a Philip saying "We need two additional copies of the application for the continuation of the EC FOIA." Who is telling the truth, this person or you?

General BOSTICK. I do not know the context of that, but I would be happy to take a look at it and follow up with you.

The CHAIRMAN. Here is another one from Jim to "All" saying the same thing. There is a deadline when people can object to an application, but you have told your people even if the objection comes in after the deadline, we are going to go ahead and honor it anyway. How can you defend that?

Ms. DARCY. When there is additional information that is submitted during the consideration of granting of a permit, the information that is submitted is considered. We have a public comment period of 30 days for the initial public comment period of an application.

The CHAIRMAN. That means nothing. If you file a protest on it 45 days after it has been submitted, well past the deadline, you still honor that, at the expense of the applicant.

A letter from Jennifer Walker, Huntington District, to Philip, whoever that is. "Although the comments came in a bit late, we still have to respond to them," it says.

It is plain the thing you are working on with the EPA has completely shut down the mining of coal, and, boy, have you been spectacularly successful. I have 10,000 miners in my district alone laid off. They have kids. They have car payments. They have house payments. They have food bills to pay and the like.

Now, that is the 404 permit process. Can you look into these issues and get back with us? I really want answers to these questions that I have raised. This is not for TV. This is for real. I am shooting real bullets here.

Ms. DARCY. Congressman, we will get back to you on both the duplication for the request for the applications as well as the reviewing of comments that come in after the deadline.

The CHAIRMAN. Also, add to that list interminable delays in reviewing and issuing permits. It is practically impossible to get a permit to mine through your agency and EPA. I am just very chagrined that the Corps of Engineers has kowtowed to the EPA. You are so afraid of a lawsuit that you let the EPA bully you into doing whatever they want to do. You are welcome to comment.

Ms. DARCY. I think your reference is to the Clean Water Act rule that we jointly developed with the Environmental Protection Agency. It was a jointly developed rule with the Army Corps of Engineers, with the Army, EPA and the Administration.

The CHAIRMAN. I do not have other questions, Mr. Chairman. I yield back.

General BOSTICK. I just wanted to comment on the permits, Chairman. This is a very challenging process. We have been working it very hard, hiring more people and training our folks. We have seen median processing times come down from about 1,500 days to about 70 days between 2014 and 2015.

Granted, there are a lot less permits being proposed because of the situation with the coal industry, but we are working vigorously to try to be as efficient as we can in getting those out.

The CHAIRMAN. Well, there are so few coal companies left. You should have a ball getting them out on time because there are so few of them to review. Thank you.

Mr. SIMPSON. Ms. Kaptur.

Ms. KAPTUR. I thank you, Mr. Chairman. Let me thank the General and Secretary Darcy for meeting the deadline of the 2015 appropriations bill and producing the report through the Corps of Engineers to Congress on the Western Lake Erie Basin challenge, which is a challenge to the entirety of Lake Erie, the shallowest of the Great Lakes and the southern most of the Great Lakes. I find the report excellent.

What I am wondering, General, is based on your current authority, if I were to ask you to come and find a way through the Corps to chair a tristate meeting, perhaps even involving Canada because of the importance of Ontario Province to what is happening in Lake Erie with nutrient runoffs, would you be able to help us pull together a meeting of stakeholders in all three states and including the Province of Ontario? Could you lead that discussion in our part of the country?

General BOSTICK. We would be happy to do that.

Ms. KAPTUR. I really, really appreciate that. We face quite a complex challenge out there. I thank you very much, and I thank your

staff for producing the report, and thank you, Secretary Darcy, also. I know how hard you have pushed to try to help us on this.

I wanted to move to the topic of Asian carp that continues to knock on the door of our Great Lakes, threatening our $7 billion fishery. Recently, juvenile fish were found in the U.S. river system, primarily the Mississippi, but not only the Mississippi. They are in the Ohio River now, too. In the Mississippi River systems, some 40 miles upstream of their previous location as they head to Chicago.

I am very concerned about the implications of this movement. I personally favor hydrologic separation at the Brandon Road Lock and Dam. I am wondering if you could update us on the status of that project, and your own view of what is happening with this invasion by the Asian carp coming north to literally the largest Great Lakes freshwater fishery that exists. It is quite a deep concern for people in our part of the country.

Ms. DARCY. The juvenile carp that you mentioned is a concern, but what we are continuing to do in working with the U.S. Fish and Wildlife Service, as well as jointly with the Illinois DNR and the Michigan DNR, is to continue to monitor for the juveniles.

The adult population of the Asian carp have not moved in about 8 years, which is good news. There is a larger amount of juveniles this year. I think part of the reason is because the conditions this past year have been favorable for propagation of the juveniles, which is why we are seeing more this year. We are continuing to especially monitor their movement and their growth.

Ms. KAPTUR. What do you think is the most significant action the Federal Government in any department or agency has taken to date in order to get rid of them?

I was talking to somebody from the Fish and Wildlife Service this week at the Great Lakes meeting that occurred here, and he said, Marcy, that river is tested more, you know, we sample there more. I said sampling is not enough. All you are doing is finding that they are moving further and further north.

What department or agency is doing the most to get rid of them?

Ms. DARCY. Collaboratively we are doing a lot of research on ways to get rid of them, including complex noise. Is that the right term? Complex noise research means how the fish react to certain noises, whether they will retreat. Our barriers are up and running, and we are researching what other kinds of pesticides and chemicals that could be used and developed to target just Asian carp as opposed to other fishes in the river.

The Fish and Wildlife Service has the expertise on the fish, so we are working closely with them as far as monitoring and whether monitoring will continue to show where the fish are.

We are also doing research at ERDC Lab in Vicksburg on other ways to combat the fish, whether it is through chemicals or other kinds of barriers, or other kinds of alteration of habitat. All these things are being looked at, in conjunction with the USGS, Fish and Wildlife Service, and, again, our ERDC Lab in Vicksburg.

Ms. KAPTUR. How many years would it take to have an operational barrier at Brandon Road?

Ms. DARCY. We are currently studying that as a result of our GLMRIS report. If it is determined that a barrier at Brandon Road

would be a viable alternative, I am not quite sure how long the actual construction would take.

General BOSTICK. The Brandon Road study itself was approved in April 2015, and that is a 46-month study. This is a long-term process. In fiscal 2017, we would look at identifying a tentative selected plan.

I think some of the success that has occurred is we have reduced the large adult Asian carp population by 68 percent in the Dresden Pool, the closest pool to the Great Lakes.

There are means that we can use to reduce the population, but we cannot eliminate it. We are also concerned about the juvenile fish because they have a greater opportunity to get through the barriers that we have set up. Getting the permanent barrier completed is very important to us.

Ms. KAPTUR. I am just so upset about this issue. It is hard for those of us from our part of the country to wait. Could I ask, when you said the adults have been gotten rid of, 68 percent, how was that done? Were they fished out? What happened?

General BOSTICK. I do not have the details on that. I can follow up with you on the details. I suspect it was a combination of electrical usage, some fished out, and possibly some were taken out by other means. I will get the specifics on that. I do know it was reduced by 68 percent.

Ms. KAPTUR. I would appreciate that. Thank you, General, very much. Do I have time for another question?

Mr. SIMPSON. Second round.

Ms. KAPTUR. Second round. OK.

Mr. SIMPSON. Mr. Frelinghuysen.

Mr. FRELINGHUYSEN. Thank you, Mr. Chairman. Welcome, Madam Secretary and General. The decorations on your chest, and may I say the other uniforms in the room, are testimony to some remarkable service, and it is not only here, but it is abroad and it continues, both military and civilian.

There was no mention of the Northeast in your remarks. I am not sure who wrote them. I would like to express the fact that I am grateful for the good work of the New York District in light of what happened by Hurricane Sandy, some of the things that were done.

My primary focus has been, of course, on the New York-New Jersey Harbor deepening, and may I thank Chairman Simpson for being front and center. The waters were not particularly rough that day, but we had a good time. It is an amazing project. I would like to know very briefly, we are about to cross the finish line, would you affirm that?

Ms. DARCY. The project will be completed this summer.

Mr. FRELINGHUYSEN. Good. Appreciate it. I think it has been a substantial investment. I am also interested in continuing issues that relate to the Passaic River Mainstem study. Specifically, I would like to focus just for a couple of minutes—as you know, in my congressional district, Madam Secretary, it continues to be subject to dangerous flooding from the Peckman River, a tributary of the Passaic River. The Passaic River in and of itself has all sorts of issues.

This study has been on hold for some time. The project was authorized in 2000 with over $5 million spent to date, was marked as a legacy project for further review in 2015. It has been pending before the Corps' leadership for approval to proceed with a locally preferred plan, which has the backing of the state and the local municipalities. The project is critical to those communities.

May I say I picked up the project from Congressman Pascrell, and I am just as keenly interested in making sure we proceed. I understand the initial locally preferred plan waiver package was submitted to the New York District in March of last year. Of course, when you are considering a project like this, more information is needed, and there is a lot of back and forth.

I know Colonel Caldwell and his predecessors and the staff of the New York District worked with the locals to try to provide answers, but I think an expedited timetable at this point is a reasonable request. Can you tell me where we stand here, since a lot of people in my congressional district want to see this study proceed.

Ms. DARCY. Congressman, the Peckman?

Mr. FRELINGHUYSEN. Yes.

Ms. DARCY. Peckman, not Passaic.

Mr. FRELINGHUYSEN. The Peckman is part of the Passaic.

Ms. DARCY. I am told that the New York District has some carryover funding on hand to begin the study and develop the LPP.

Mr. FRELINGHUYSEN. It will be part of the fiscal year 2017 work plan?

Ms. DARCY. It was not included in the 2017 budget because they had carryover funds to be able to begin the study.

Mr. FRELINGHUYSEN. It is my understanding that you are here to endorse moving ahead with this locally preferred plan.

Ms. DARCY. A request from the Corps needs to come to my office to be reviewed and approved.

Mr. FRELINGHUYSEN. Consider it being there.

Ms. DARCY. OK. A waiver request will be coming.

Mr. FRELINGHUYSEN. I would like to hear favorably. Thank you very much. Thank you, Mr. Chairman.

Mr. SIMPSON. Ms. Roybal-Allard.

Ms. ROYBAL-ALLARD. Lieutenant General Bostick, let me join my other colleagues in wishing you the very best in your retirement.

General BOSTICK. Thank you.

Ms. ROYBAL-ALLARD. Secretary Darcy, as you know, the lack of proper operations and maintenance funding for flood control infrastructure in the greater Los Angeles area poses a significant threat to lives and property in the region.

Earlier this week, I, along with the rest of the Los Angeles delegation, received a letter from Los Angeles County that discussed these risks at length. What is the current estimated cost for the backlog of deferred maintenance in the Los Angeles County drainage area? Is the level of your current budget request sufficient to eliminate the backlog, and how long would it take to eliminate it?

Ms. DARCY. What I can tell you, Congresswoman, is that we have allotted $11.97 million for the L.A. County Drainage District Area Operation and Maintenance in 2016. We also allocated $3.1 million for emergency response to construct the HESCO barriers that were

put on the L.A. River in advance of some of the anticipated flooding that was related to El Nino.

Ms. ROYBAL-ALLARD. Do you believe the amounts that you are quoting are sufficient to eliminate the backlogs?

Ms. DARCY. I do not know the backlog number, but I think these numbers as well as the additional $17.447 million in the President's budget for 2017 would be sufficient for the O&M of this project.

Ms. ROYBAL-ALLARD. The Los Angeles River Project was one of three projects that received pre-construction engineering and design funding in this year's budget request. While I was pleased to see this, I did notice the project only received a $400,000 funding request in spite of being a $1.3 billion project.

How did the Corps arrive at this budget request? For example, did the Corps consider total project costs when determining the amount of pre-construction engineering and design funding? Also, is the $400,000 amount sufficient to complete all that is necessary and doable in the first year of pre-construction engineering and design, and if not, how much would be needed?

Ms. DARCY. As you say, there is pre-construction engineering and design money for this project in 2016 and 2017. This project is not yet authorized. It needs to be authorized in order to go to construction. The amounts provided here will be efficiently and sufficiently spent in both 2016 and 2017 to do the pre-construction engineering and design.

General BOSTICK. This is just to initiate the design this year, and it would just be the design on the first phase. That is why it is a small amount. As Secretary Darcy said, the project must be authorized to get construction funds.

Ms. ROYBAL-ALLARD. Do I have time for another question?

Mr. SIMPSON. Yes.

Ms. ROYBAL-ALLARD. Along with many other drought-stricken communities, my home city of Los Angeles relies on storm water capture use and storage as a critical part of its water supply. For example, the Los Angeles County Department of Public Works, which manages the majority of the Los Angeles County Drainage Area System, has prioritized capturing storm water as an important local water source.

During this year's El Nino event, the Corps adjusted operations for southern California projects to maximize capture and storage of storm water for water supply.

General BOSTICK. Yes. We worked very hard throughout California and other States. We learned a couple of years ago in working with our South Pacific Division and working with Whittier Narrows and Prado Dam that we could execute deviations fairly quickly from our water control manuals to maintain more water, and we have continued to look at each of our districts, including the Los Angeles District, to continue the success we have had in that.

What we are trying to do now is make sure we operationalize our planning so that the decisions are more routine and very quickly processed. I think we are in a pretty good place as far as what the Corps can do in terms of El Nino support.

Ms. ROYBAL-ALLARD. Are there any other additional authorities or direction that Congress could provide to give the Corps more operational flexibility to achieve these goals?

General BOSTICK. For the Corps, it is always a balance between flood risk management, water supply, and many other purposes for the water storage. I do not think it is something for which we need additional laws or guidance. It is a question of balancing the needs in the local area to the best that we can.

The other area that Secretary Darcy talked about is the research on atmospheric rivers, trying to see if there are better methods for us working with NOAA, Scripps, and other experts on how we identify, early on, the rainfall and then work quickly to try to capture it.

The science is part of the future, and then beyond, the balancing of the water control manual needs is the other solution we are working.

Ms. ROYBAL-ALLARD. Thank you, Mr. Chairman.

Mr. SIMPSON. Mr. Calvert.

Mr. CALVERT. Thank you, Mr. Chairman. I would just like to add to what Ms. Roybal-Allard said. In Northern California, you all are managing some of the dams. I am going to talk about Folsom Dam really quickly. You are doing releases right now out of Folsom Dam.

As you know, we have a significant drought in the State of California, and there are a lot of people that are questioning why the amount of releases that are going on at the present time—we have long-term weather forecasts from Scripps that claim this El Nino is fizzling out. We all pray for a March miracle, but it does not seem that is going to occur.

Any drop of water that we can retain, we need. Already reclamation is allowing—just for the record, Mr. Chairman, there has been two to three times more rainfall this year than last year, and yet we have pumped less water this year than last year. I know that is not in your wheelhouse, but I just want to bring that up.

These dams that the Corps are operating, we need to make sure no unnecessary releases take place. We understand your flood control is your primary concern, but we need to make sure that water is used and saved as much as possible. We will be keeping a close look on it.

Back in my district, Murrieta Creek is a project that is underway. Assistant Secretary Darcy and General, I was happy to see the fiscal year 2016 work plan for the Corps included $200,000 to complete the critical limited re-evaluation report for Murrieta Creek flood protection and ecosystem restoration in my district.

As you know, Murrieta Creek is back under construction. We intend to keep it moving through completion. We are currently working with General Toy and Colonel Gibbs back in our area to ensure funding is provided to the Murrieta Creek project to complete the LRR and capture the cost reductions recently identified in the value engineering exercise conducted by the Corps District and the local sponsor.

They have said they hope to complete the LRR by October. Can you help ensure that this schedule is met?

Ms. DARCY. We will do everything we can to meet that schedule, sir.

Mr. CALVERT. Ms. Darcy and General, the last significant flood in the project was in 1993, which caused over $21 million in damages to Old Town Temecula and over $75 million in destroyed helicopters over at Camp Pendleton. Those damages could be much greater if the event happend today.

We have recently jumped back to construction for our communities with the Corps on the project, which will provide 100-year flood protection for the cities of Murrieta and Temecula, and obviously downstream into San Diego, and Camp Pendleton specifically, whose populations have quadrupled since the project's feasibility study.

There are significant numbers of homeowners, businesses, infrastructure which remain vulnerable to flooding, and we need to address this. I would like to do so sooner rather than later, to continue construction and keep the project on schedule.

To reduce the threat of flooding, we will need fiscal year 2017 continuing construction funds toward the second reach of the phase two project, and initiate phase three design.

Ms. Darcy and General Bostick, can you commit to me that you will work closely with me on the funding to ensure that we stay on schedule in fiscal year 2017?

General BOSTICK. Absolutely, we will work closely with you, and we are working closely with our Los Angeles District.

Mr. CALVERT. Appreciate it. One last comment. As you know, on the Santa Ana Mainstem, we are coming to the end after, how many years, 30 years, and billions of dollars of expenditure where I think we can see light at the end of the tunnel, and I hope that we continue to work to get the funding that is necessary to finally bring that project to conclusion, and save our friends downstream in Orange County.

I appreciate your concern on that, and I yield back. Thank you, Mr. Chairman.

Mr. SIMPSON. Thank you. Mr. Fleischmann.

Mr. FLEISCHMANN. Thank you, Mr. Chairman. General Bostick, congratulations on 38 wonderful years of service to the Army Corps of Engineers, to our great Nation. I thank you, sir, very much.

General BOSTICK. Thank you.

Mr. FLEISCHMANN. Secretary Darcy, it is great to see you again. For both of you, I remember vividly our very first hearing together, and for the benefit of all, I wanted to talk about what was then my number one legislative priority and what is still today my number one legislative priority. I do not mean to be rhetorical but it is the Chickamauga Lock, the new Chickamauga Lock in Chattanooga.

We have worked together. When I first came to Congress, the Inland Waterways Trust Fund was a broken trust fund, with all the funds going to the Olmsted Locks. We worked together, Republicans, Democrats, senators, congressmen, the Corps, to reform that. It is fixed. The Inland Waterways Trust Fund was fixed. After we reformed it, it was underfunded, so we worked to raise diesel user fees to infuse much needed new capital, more revenue into the trust fund.

Problems persisted, as you all know. Chickamauga was then fourth after Olmsted and Lower Monongahela, Kentucky, then it was Chickamauga Lock. Fortunately, Congress acted to lock in that priority.

Secretary Darcy, last year, after my pleading for funds, our great city of Chattanooga needed some good news, and when you called me and said we were going to get $3 million to restart construction on the new Chickamauga Lock, that was a great day, not only for me, but for our city, which desperately needed some good news.

This year in fiscal 2016, we are going to get close to $30 million for the new lock. So that everyone knows, the old existing lock, and the Corps has done a good job in terms of maintenance, but this is an older lock, it is an antiquated lock, a New Deal era lock which has about 300 monitoring devices on it. It is functional, but it has to be replaced. A newer lock was started. It has been about a $185 million investment, then it just stopped. It has been mothballed for about 5 years.

I am very excited that we have gotten this process started again. Work is going on at the new Chickamauga Lock. It is much needed. I am a committed advocate for the inland waterways of this Nation. It is a great way to move goods, keep trucks off the road. It is efficient and it is much needed in my region and really all over the country.

My concern is that once again the President has not put the Chickamauga Lock, new Chick, in the budget. I know you are going to talk about a funding formula, benefit-cost analysis a little bit, but I want to make my request abundantly clear, that we realize that the new Chickamauga Lock needs to be funded and we have to realize we are going to have workers on the ground, progress being made, and we need to keep this going forward.

With that, Madam Secretary, I would like a response to that request.

Ms. DARCY. Would we request to continue to work with you on getting funding for this lock?

Mr. FLEISCHMANN. Yes.

Ms. DARCY. We will continue to work with you to try to get funding for this lock.

Mr. FLEISCHMANN. Thank you. With that, I will yield back. General, if you want to add that, but it is so critically important. We can use all types of formulas and we can look at all that. Bottom line, new Chick needs to be built, constructed, and funded.

General BOSTICK. The only thing I would add, and we have talked about it before, is we do manage these priorities on a risk-based, performance-based analysis, which is the benefit-cost ratio.

The benefit-cost ratio for Chick lock has decreased. We talked about doing an economic analysis to see if there were changes that might happen. That report is going to be done in July of this year. Initial indications are that there could be more traffic in that particular area, traffic to the degree we had back in the 2000s.

It had dropped down. There could be a number of reasons for that. The state of the lock and the unreliability of the lock could be a big factor. We will finish that study in July, and we hope the benefit-cost ratio will be in a better place.

Mr. FLEISCHMANN. Thank you. I yield back.

Mr. SIMPSON. Ms. Granger.

Ms. GRANGER. Thank you. Thank you both for being here and for the work you have done. Secretary Darcy, we would love to see you back in Ft. Worth. Thank you for all your help.

Specifically, General Bostick, you talked about this in your opening remarks, but we understand that the funds are not there to do some of the things that we have heard today that are so important.

Would you identify what you consider the most critical unaddressed water resources requirements that are there but not addressed because of funds, and what priorities have you not been able to address due to the funding constraints?

If you said this is what I see as I am leaving all these years of work, what are we not addressing?

General BOSTICK. Thank you for that question. I think overall I would say we need to address this aging infrastructure, and we need to take it on as a Nation. Whether it is a D+, D-, or D, it is still not a good grade. Much of the infrastructure we have, as Representative Fleischmann and others have said, are New Deal era projects, when FDR decided they needed to put America back to work again. Those projects were once the envy of the world. People from all over the world looked at these projects and were amazed at what America did.

I was just in China. They spoke about the American progress and wanted to know more. In China, they have a strategy, and you can talk about their economics and how they are funding things, but they have a plan, and their plan is to spend $600 billion on 172 water projects and finish in 7 years.

I think, one, we need a strategy, and we are working on a capital investment strategy. We have a levee safety strategy. We have a dam safety strategy. Part of the strategy must be based on time and it has to be based on efficient funding. If you do not have time and efficient funding, then that is not really a strategy.

Where we have been successful is in disasters, for example in the area of hurricane storm damage risk reduction after Katrina, after Sandy. We finished those projects in 7 years. We finish things that normally take many years in 7 years.

I would say look at our aging infrastructure, set priorities and then fund those priorities. Right now, we have a collection of projects, many, many projects, that we try to sprinkle dollars all across, and not until a crisis do we actually execute as a program.

I think part of that process is probably going to continue, but if we could say, "here are the priorities that this Nation wants to finish" and then fund those, it might be something like a BRAC—base realignment and closure—for infrastructure, but focused on a small amount of projects that we say we are going to get done. Those are the projects that involve life safety, navigation, and help our economy.

Ms. GRANGER. Thank you very much. Mr. Chairman.

Mr. SIMPSON. Thank you. Mr. Honda.

Mr. HONDA. Thank you, Mr. Chairman. Welcome, Madam Secretary and General Bostick. I came in late so I just picked up on the information that you are retiring in May, so I just want to congratulate you on your long years of service.

General BOSTICK. Thank you.

Mr. HONDA. Please understand we all understand the kind of work that the Corps does and how it goes about doing its work.

I just heard two words, "time" and "efficient funding." I think that is what we have to think about as appropriators, that we have to be able to put out the funding in anticipation of the future.

The things that we want, things that we desire for our public safety and for our future, we cannot expect that without appropriate funding and investments for the kinds of things that we dream about for our country and our communities. I just wanted to make that comment.

I would like to start with the Upper Berryessa Creek project in my home district. As you know, this project has been a high priority for me, and I have been following very closely. This is one of the two projects that must be completed in order for the BART System, the Bay Area Rapid Transit System, the station to begin operations on time in 2017.

I understand the Corps has been working with the State Regional Water Quality Control Board and local partners on the final permitting and issuing a project partnership agreement for the project, but this has not always come smoothly.

Can you share with us about the expected time for the issuance of the PPA for this particular project?

General BOSTICK. I do not have the details on that, Congressman, but I can follow up later today.

Mr. HONDA. It is kind of critical for the opening and the timely opening of the BART station. I know the Corps had to streamline and has been very flexible in looking at the permitting time and everything else. It will be critical.

Ms. DARCY. Congressman, I think we are on track with the local sponsor to address the issues with the certification and keep the PPA on track. This project is an important one. It is also one that is funded to completion in the budget.

Mr. HONDA. Our work with the Regional Water Quality Control Board is being addressed and it is being resolved?

Ms. DARCY. Yes, it is.

Mr. HONDA. That is great. Also, about the South San Francisco Bay shorelines, that study, and I want to also again thank the Corps for your hard work in keeping the shoreline study on schedule and submitting the chiefs' report to Congress on time. Completing that study was a vital step towards managing flood risk and restoring of the ecosystems along the Bay line that borders the cities of Palo Alto, Monte Vista, Santa Clara, San Jose, and up the Bay towards Oakland.

I will be working with my colleagues to see that the project is authorized in the next WRDA bill. I wanted to understand that the Corps can initiate pre-construction design while it awaits authorization. Can you share a little bit about that, please?

Ms. DARCY. Yes. I think this is one of three projects that received PED funding in the 2016 work plan.

Mr. HONDA. So?

Ms. DARCY. In anticipation of it being authorized soon.

Mr. HONDA. Great. I guess I can assume our 2016 funding amount will be sufficient resources for the pre-construction activities there.

Ms. DARCY. That is what is provided in the 2016 work plan, sir.

Mr. HONDA. Thank you.

General BOSTICK. The funding is for the completion of the first reach of that project.

Mr. HONDA. Let me just take a moment and respond to one of your comments, General Bostick. You said atmospheric streams, atmospheric rivers, as it relates to anticipating planning, rainfall and water conservation, and management.

Is there a way where your agency and other agencies can get together and write a short paper on how you go about tracking and identifying atmospheric rivers and streams, and the different agencies that need to work together to be able to achieve this information and knowledge so that at the end, the end users, the communities, you have enough information to be able to anticipate what you need to do with the communities and with the Corps.

I think a lot of times we isolate different activities as if they were entities unto their own and do not incorporate the different works so that people, policymakers, will understand the interaction of all these things so that we will be able to say we should be spending money in these areas, the research and supporting NOAA, supporting NASA, supporting other entities, so that this information will be at hand and available to be able to work on the issues of water, water storage, management, and research.

Is this something where different agencies could get together so we have some instructional paper before us so we can make good fiscal decisions while we sit here?

General BOSTICK. We can absolutely provide that. The research that we are doing is an interagency effort, so we can summarize what that research is and provide it to you.

The White House does have an interagency task force that is looking at drought. I visited California and met with their drought experts. It was refreshing to me to hear that they felt like they were working with all the right folks in Washington and obtaining the support they needed.

There is still a lot of science that needs to be done on atmospheric rivers. It certainly is not going to be a panacea, but I can provide you the information and demonstrate that we are certainly working together.

Mr. HONDA. The important part is that it is very plain and very clear who is working together, how much money it costs, the kind of funding that would be necessary for the research and the work that is required in order for us to have that kind of a conclusion. I appreciate that.

Thank you. Thank you, Mr. Chairman.

Mr. SIMPSON. Mr. Valadao.

Mr. VALADAO. Thank you, Chairman. Thank you, Secretary and Lieutenant General. Appreciate your service to our country and hope you enjoy your retirement. Thanks for everything you have done.

My question, I would like to echo a little bit of what my colleague, Mr. Calvert, said earlier about water in California and the role that the Corps can play in hopefully conserving as much water as we can to help the communities that desperately need it.

In the community I represent, we have seen unemployment numbers in the last few years actually get up to the point of hitting 50 percent. If you saw the San Francisco Chronicle, over the last few months they had a story of folks living in shanty towns, something you would see in a Third World country is happening right here in the United States of America. A lot of that has to do with the resources that are being wasted currently.

With these storms that we have gotten over the last few months, we see water continuing to flow into the ocean, and I know again it is not specifically due to the way the agency or the Corps is managing, but you guys do play a role in the overall usage of water, and I hope that you take that into account when you are making decisions.

My question is although throughout the year the El Nino weather pattern has brought some much needed rain and snow, drought conditions persist across much of the West and the Southwest, with California seeing the most extreme conditions. What kind of impacts on the Corps' facilities or operations are you seeing as a result of this drought, and will funding requirements of fiscal year 2016 and 2017 be affected? And third, how is the Corps handling requests from local interests to modify the operating procedures of projects with water storage?

General BOSTICK. First, I am also a California resident, so I have family, relatives and a lot of friends that are out there I visit regularly, so I understand some of what you are saying in terms of the impact, and we have seen that in other parts of the country as well.

My specific purpose in my last visit was to take a look at drought conditions and what we have done. One of the things we did was grant an emergency permit to the California Department of Water Resources, where they installed an emergency salinity barrier at the Sacramento and San Joaquin Rivers.

That was extremely helpful, I think, in keeping freshwater available.

Mr. VALADAO. That has been installed and in place?

General BOSTICK. Right.

Mr. VALADAO. This year, and I forget the exact numbers, but I saw a graph yesterday, I think it is triple the amount of water has flown through the delta, yet we've actually pumped less water this year than last. Triple the amount of water moved through the delta and we have been able to capture less than we did last year.

The graph is a pretty dramatic example of nothing seems to change and it has not helped. I do not know if this project was supposed to help or could have helped, but right now, it does not look good.

General BOSTICK. Part of what it was doing was to keep the saltwater out, and that was the initiative. They did not keep it up long. They kept it up long enough to protect the salinity content in the water.

The other thing we did very quickly was the work on Whittier Narrows and the Prado Dam, and we were able to capture a significant amount of water in both of those events, which led to a significant amount of supply.

Beyond that, we are working very closely with the drought experts in California and here in the United States in an interagency way. This is a very, very difficult challenge, as you know. We are doing the best that we can working together.

Ms. DARCY. I would just add that we are also looking at our operations, ensuring that we have drought contingency plans for the operations of our projects, not only in California, but around the country.

Mr. VALADAO. Under Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers can issue general permits that authorize activities that have minimal, individual, and cumulative adverse environmental effects.

There are currently 50 different types of these nationwide permits that enable a wide variety of activities, such as residential and industrial developments, utility lines, road crossings, mining activities, wetland, stream restoration activities, among other things.

According to the recent Corps and EPA report, there were 32,864 nationwide permits issued in 2014. That means nationwide permits represent nearly two-thirds of all Clean Water Act permits issued by the Corps.

How important is the nationwide permit program to the smooth functioning of the Corps' regulatory program, and do individual permits take more time for the Corps to process or require any additional steps?

Ms. DARCY. Congressman, I would say that the nationwide permit program is invaluable to the Corps of Engineers. As you say, 33,000 permits last year. Because those permits are for smaller projects, they do take less time than individual permits. We are in the process to re-propose our nationwide permit program by 2017 because it is only a 5-year program.

Mr. VALADAO. Given the importance of the nationwide program, what are the changes you are considering to make it easier for people to qualify for these permits and avoid costly individual permits?

Ms. DARCY. We are currently looking at the next round of these, and we have public comment periods ongoing and we are receiving comments as to either new permits or modifications to the existing requirements of nationwide permits, which would be more valuable for different kinds of operations that, currently, we may not have a nationwide permit for.

Mr. VALADAO. Next, the National Oceanic and Atmospheric Administration says on the average about 30 to 50 percent annual precipitation on the West Coast occurs in just a few atmospheric river events. Many people believe that better understanding and forecasting can lead to improved operations of our water infrastructure for the purposes of both flood risk reduction and water supply.

For the past years, Congress has provided the Corps with additional funding to cooperate with other Federal, State, and local entities on research into atmospheric rivers.

Could you please describe for us what the Corps' role is in the ongoing work?

General BOSTICK. In 2015, we received about $2 million to look at atmospheric rivers, and we have worked with NOAA, Scripps, and other entities, within the interagency family, with academia,

and with local experts to ensure that we are moving in the right direction.

It is really too early to say what these studies are going to produce, as I said before. We have all the right people and the funding is being put to good use.

Mr. VALADAO. Thank you, and I yield back.

Mr. SIMPSON. Mr. Visclosky.

Mr. VISCLOSKY. Thank you very much, Mr. Chairman. Secretary and General, the first thing I would like to do because I think too often we do not thank people who do a very good job in public service.

Besides yourself and others in the Corps, in the Chicago District Office that encompasses our portion of the State of Indiana, we just want to draw people's attention to the good work that the District Office does in Chicago under its leadership of Colonel Christopher Drew. Also, we have the deputy project manager, Roy Deda, who will be retiring later this year after—he would hate me for saying this—four decades of public service. Again, I think he just epitomizes the dedication of the people. We have had some very intractable, tough problems.

As I describe my district, we do everything but desalinization. The Corps and people like Roy, the Colonel and his past predecessors, have done a very good job, and I am very grateful for that.

What I would like to do is turn to P3—the Public-Private Partnership Act. The Congress included in its fiscal year 2016 act specific direction to develop a policy on how proposals for the Public-Private Partnership Act will be considered and how they will be incorporated into the budget.

Secretary, what is the status of that policy?

Ms. DARCY. Congressman, with our budget, we submitted a report on public-private partnerships policy, and we are currently looking at many different possible projects to be able to come under the umbrella of public-private partnerships. One is in Illinois on the Illinois Waterway. There are others throughout the country.

As you know, in the 2016 work plan we proposed funding for the Fargo-Moorhead project for $5 million as an example of a public-private partnership. We continue to look for other opportunities within the program. I do not know if the Chief wants to add anything.

Mr. VISCLOSKY. I do understand you had the Fargo-Moorhead project in the budget. I am not sure there is a funding line attached to it. I know it was in the report.

I am more concerned about policy, and certainly there was a congressional directive to pick one. The concern I have is we have affluent communities in the United States who have problems, and when you come to P3 partnerships, for example, they potentially have the resources to move up and get coins, if you would, and consideration.

I have some communities in the First Congressional District that have huge needs and are poor, but would want to do something to help themselves. My sense is as far as Federal policy is we want to help people across a spectrum. There ought to be some delineated policy that people know in advance if we are going to pursue

a public-private partnership, here is the criteria we are going to have to meet.

My sense is there is not a clearly delineated policy. I know it is not a simple matter. Every levee the Corps builds is different, but there is a policy as to what generally these levees have to do and what their composition has to be.

I am just wondering where we are going during this fiscal year on that policy. I am concerned.

Ms. DARCY. Pardon?

Mr. VISCLOSKY. I am concerned.

General BOSTICK. If I could just say a little bit here. You would always like to have the policy before you start moving forward in any type of P3 work. This area is so new for the Corps and the Nation that we are going to have to develop the policy almost as we are moving along and learning.

We have a number of constraints that keep us from doing public-private partnerships, but we are trying to work with the locals that have aggressively moved forward as in the case of Fargo-Moorhead. We are trying to take that and learn from it, and then work with the Administration and the Congress to decide what really should be the way forward.

For example, we have to monetize projects. If we were to monetize levee work, for example, and we were able to garnish those funds, however we cannot keep them at this point. We are not able to ring fence those funds. We could not put out a policy that says this is how we are going to do it. A lot of folks do not even know if this is going to work.

I think we are kind of putting our foot in the water with Fargo-Moorhead. We are going to learn a lot from this. We have given some broad guidelines on what to do. I think we will learn a lot from this and we will be able to develop a more clear policy in the way ahead.

Mr. VISCLOSKY. I assume the Corps is communicating with other agencies in the Federal Government who may have some experience with these types of projects, understanding again you are in a very unique situation and each project is different.

Again, I do think there ought to be some delineation, and I do have great reservations about these projects just because there are communities that have needs and, in many cases, the greatest needs in this country, and they do not have those private resources. And I do not want as we go down this road as you have a policy to have them left behind because we have not clearly delineated there are ways you can still meet the criteria. I would encourage you in that regard.

General BOSTICK. We are working closely with other organizations. I think one great example is Department of Transportation. You can easily see how they monetize a highway and collect taxes and then fund the project.

We are having a bit more of a challenge on the inland waterways. We actually do better with hydropower, where you can see there is a monetization of the electricity. I understand your point, Congressman. We have a team that does nothing but public-private partnership work each day. They are aggressively moving out to

try to better understand this so we can get guidance out to our team.

Ms. DARCY. In developing any policy, I think your point about the ability to pay, for our local sponsors, is something that we need to consider when we develop this policy. They may not have the means and should not be disadvantaged in the P3.

Mr. VISCLOSKY. Thank you very much. Thank you, Mr. Chairman.

Mr. SIMPSON. Following up a little bit on Mr. Visclosky's comments or questions, one of the big challenges we face, and I think both of you mentioned it in your opening statements, is the backlog maintenance that we have in this country, and not just on waterways and harbors.

If you look at the water and sewer programs within the United States that the EPA funds through STAG grants, we are at about a $700 billion backlog. If you look at the backlog in highways and other things, the backlog maintenance is a real problem.

I think you mentioned it would be about 20 years at the rate we are going to address the backlog maintenance that exists today in the Army Corps.

General BOSTICK. This is for the construction projects.

Mr. SIMPSON. Which means we will never address the backlog because it would have gone over the 20 years more than we are paying it down probably.

One of the things the committee has struggled with is how do we address that? How do we get to where we are actually reducing the backlog in a variety of different areas? We have held hearings for the P3 program on different ways of financing. The public-private partnerships has a real possibility of being beneficial.

The question is, as you do your projects and you list your projects on a cost-benefit analysis, how do P3s fit in with that cost-benefit analysis? Are there special challenges that they have that put them at a disadvantage in fitting in that project or advantage them in fitting in those projects or should there be a separate list of projects that you do and P3 projects that you do?

We certainly want to encourage local communities and private partnerships to be involved in this. I think that is a healthy outcome. The private sector has to know that the government is committed to it as well before they are going to commit funds.

Are there special challenges to this?

General BOSTICK. There are clearly special challenges that exist. In fact, many of these public-private partnerships probably would not fit into our business rules. In order to understand and create policy in a direction and even a desire to pursue public-private partnerships, we almost have to handle them offline and we have to say there is great benefit in doing these, even though they might not fit in the current business rules that we have. The ability to learn from them would be significant.

We could come back to the Congress and the Administration and see if this is something we want to do. I think there are many investors out there that believe they can help, but we have not set the right parameters which would allow them to do that.

One area where the Congress has helped in reducing the backlog is de-authorization. We recently turned in about $14 billion of

projects recommended for de-authorization, as we were directed to do. That is going to take away some of the backlog.

To address the other ones, it is like I said earlier when Representative Granger asked the question, I think part of what we need to do is prioritize some of that backlog and push it all the way to completion. It may be a small handful of projects, but prioritize those, fund them, and get them done in a short period of time, and then work on the next group while we continue with the business rules for the rest of the projects.

Ms. DARCY. I think there are some challenges with P3, but I think it is one that we have to look to as far as your question about whether we should look at P3 projects through a different lens than we do when we prioritize the others. Maybe we should. Maybe the benefit that is not traditionally captured from that project might be enhanced by having either a P3 or some other alternative financing mechanism that we do not usually evaluate for.

I think being open to the opportunities that private capital can bring into our projects is something that we should embrace and, in my view, have a wider lens on what qualifies.

Mr. SIMPSON. Is there a reason why in following the congressional directive to select a P3 this year, you selected Fargo-Moorhead but did not request anything in the budget request for it?

Ms. DARCY. That is true. I think as General Bostick pointed out, this is our first toe in the water on P3, and we want to look forward to what it is we can learn from this one. And hopefully, we will reach success in the initial stages of the $5 million that we put in 2016 and we will be able to see that going forward, and perhaps in a future budgets, we will be able to budget for it.

Mr. SIMPSON. The fiscal year 2017 budget request estimates total annual receipts for the Harbor Maintenance Trust Fund at $1.662 billion, down significantly from the estimated fiscal year 2016 budget of $1.887 billion.

Could you please tell us which agency is responsible for developing the estimates of the Harbor Maintenance Trust Fund receipts? How are the estimates developed? What information is used? And could you please discuss why the estimates are so much lower this year than last year, and what factors are the primary drivers of that decrease? Has traffic at our ports dropped or are there specific circumstances at individual ports that have influenced the reduction?

I think when they did water, they anticipated a slow and steady increase in the Harbor Maintenance Trust Fund and, of course, all of the advocates for the Harbor Maintenance Trust Fund are apoplectic now, it has gone down this year, the estimate.

Ms. DARCY. The estimates are done by Treasury, and they are based on projections as well as the past year's receipts as well as projections for the coming year. As you say, the projections for this year are down, which brings the estimate, I think, back down to $1.5 billion or something like that.

Again, Treasury does the estimates, and that is what we base our decisions on. I think part of the reason for the decrease is what is coming in and probably the price of oil.

I do not know if you want to add anything, General.

Mr. SIMPSON. You do not really know what the factors are, just decrease in traffic through the ports?

Ms. DARCY. Yes, and the reasons for that are partly due to traffic. The Harbor Maintenance Trust Fund is an ad valorem tax. It is based on the value of what is coming in and this has decreased, and part of the reason is the price of oil.

Mr. SIMPSON. Mr. Fortenberry.

Mr. FORTENBERRY. Thank you, Mr. Chairman. I apologize, I am splitting time between two hearings, but thank you all. Good to see you again, Secretary Darcy. I remember fondly our first meeting along the Platte River in an airboat. Thanks for bringing that project to successful completion.

I wanted to ask you about the Missouri River Fish and Wildlife Recovery Program. You have a significantly reduced budget request. What does that mean? You are nearing completion of the program or is there some shift in priorities?

Ms. DARCY. This year the number is reduced. It is not that we have reached the end of the program. We had always put Intake Dam in Yellowstone, Montana, in that budget line item. I think there was usually $20 million, and currently we are not able to go forward with that project, so that is one of the reasons that line item is decreased.

Mr. FORTENBERRY. You mean just in terms of capacity or delivery of the——

Ms. DARCY. We are unable to go forward with that project because it is currently in litigation.

Mr. FORTENBERRY. I see. OK. I want to follow up on what the chairman was talking about as well. In the testimony you provide alternative financing for public and private partnerships. Would you unpack that a little further?

We are actually trying to deal with this in a situation with the VA. There has been some constraints that come out of OMB in terms of the way in which they score private contributions to certain public outcomes, which then become ironically cost prohibitive. It is just a strange and unusual thing. Have you encountered this?

Ms. DARCY. Scoring is one of the challenges I should have mentioned, Mr. Chairman, when you were talking about it.

Mr. FORTENBERRY. Is that your nice way of saying you have already talked about this?

Ms. DARCY. No. I should have raised it when you asked about challenges. The scoring part of it is a challenge because if the scoring shows a different——

Mr. FORTENBERRY. OK. How do we fix this? This is really silly. Somebody wants to give you money to help with a project that has some nice benefit-cost ratio, is a public good, and we cannot score it because score is a cost? I do not understand.

Ms. DARCY. Sometimes I do not either. When Congressman Visclosky talked about the policy that we need to develop for P3s and alternative financing, that is something that I think we need to address because we have to recognize the value that is brought by the private capital market.

Mr. FORTENBERRY. Who is working on this? Are you working on it?

Ms. DARCY. We are working on it within the administration.

Mr. FORTENBERRY. But whom? Again, we have the same problem with the VA. Maybe we ought to put an interagency process together quickly to get with OMB and fix this or tell us what empowering language you need to fix this. This is really an unnecessary holdup of some innovation.

General BOSTICK. I think the challenge that always comes for the country and the administration, and probably for the Congress as well, is that you are committing the United States to a long-term mortgage. The more you do that, the more of these long-term——

Mr. FORTENBERRY. You can figure out a formula on that, on leasebacks and all that, that have some current value, that has a budget. You can constrain it for a certain period of time unlike traditional financing over 30 years. I get that.

In terms of just pure gift, that people want to help fund something because it obviously is going to have some benefit in proximity to them, are you getting entangled up with the inability to accept that?

General BOSTICK. For example, for Miami Harbor, it is one of the five ports that we wanted to dredge in preparation for the Panama Canal expansion. It was part of the "we-cannot-wait" strategy, and Miami said we cannot wait either, so they gave us all the money up front in order to dredge that, and it was completed.

Mr. FORTENBERRY. That is a public agency. That is a public entity. I think that is a little different. Anyway, the broader point being we have to figure out some mechanism by which this is made seamless, whereby the scoring, the commitment time perhaps is narrowed, the value, the present value of that expense, if you will, of that commitment to the government is formulated in a consistent manner based upon some hard infrastructure.

General BOSTICK. There are specific areas where I have seen success in my career, the Residential Communities Initiative.

Mr. FORTENBERRY. This is already being done.

General BOSTICK. Public-private partnerships. The other ongoing area is the energy savings performance contracts. Again, that was written in law. We were hugely successful. It is easy to monetize. It is electricity. Whether it is hydropower or whether it is energy savings, solar panels, we are doing that on our installations, and it is public-private partnerships committed for 30 or 40 years.

Mr. FORTENBERRY. These valuation methods have parallels to the projects that you are referencing in terms of alternative financing?

General BOSTICK. They do, except in some cases it is hard to monetize investment in a levee or investment in a lock. We have to figure out how to monetize these projects. We are close on Fargo-Moorhead. I think they have used the tax base in order to monetize the benefits to building better levees, and that is a way to do it. Generally, in the inland waterways and the kind of structure that we normally deal with, it is harder to monetize.

Mr. FORTENBERRY. I am bumping up against this problem, and I am not a public finance expert to be able to help determine formulas that would appropriately address the obligation that is being committed to by the U.S. Government in terms of a present value cost.

But to forego these options, we are not calculating the opportunity lost cost, if you will, which is seriously large.

General BOSTICK. We believe we ought to look at it. There is no question we are aggressively moving.

Mr. FORTENBERRY. All right. Thank you, Mr. Chairman.

Mr. SIMPSON. I think the problem that Mr. Fortenberry talks about is because of economists, and the reason we have economists is to make astrology look respectable.

Mr. Quigley. Welcome to the committee.

Mr. QUIGLEY. Thank you so much for letting me sit in. I appreciate that. I want to join Mr. Visclosky in recognizing the Chicago office for their good work. Obviously, my colleagues in the Chicagoland area, including Senator Durbin and I, are deeply disappointed, a mild expression, in discussion with the McCook Reservoir and the funding there.

The history in the Chicagoland area of very damaging flooding was addressed with Deep Tunnel, which is only minor compared to how important McCook-Thornton Reservoirs are. If we want to compare this to projects across the country, I do not know how many states have 5 million people, but there are 5 million people impacted by this not getting done.

This was supported by the administration after an extraordinary number of years. One of the Corps' most competitive flood protection projects, and there is no funding for it to continue construction on the McCook Reservoir and the Chicagoland under flow plan in 2017.

I have been doing this 7 years, and I have never addressed anyone in committee like this. It is inconceivable how such a top-tier, fully authorized flood protection project, 65 percent complete, and an active Federal construction, a 3-to-1 benefit-cost ratio, it is not just a Democratic project in Chicago, this is bipartisan support and people who are getting flooded really do not care at that point what party they are.

It benefits Chicago and 36 suburbs; 1.5 million structures and 5 million people dropped from the budget after years.

We are told there is some extraordinary misunderstanding that this is under the mistaken belief that stage two is related to water pollution control. It has been documented by your agency, nationally and locally, that this is about flood protection. It is fully authorized and documented in the Corps' system as such. Again, recommended by the Corps for flood protection.

What the heck? Where do we go from here?

Ms. DARCY. Congressman, phase one of this project, as you know, has been funded to completion, and in doing so, that will meet the requirements of the consent decree that the city has to meet by December 2017.

The second phase of the project, you are correct, is not included in the 2017 budget. The purpose of that second phase of the project is being looked at as possibly being environmental infrastructure, but I will commit to you today that we will relook at this budget request.

Mr. QUIGLEY. Is it possible that this could be included in the work plan for the continuation of this construction? I know that takes place in the second phase this year.

Ms. DARCY. A 2017 work plan will depend on what the outcome is of this committee's appropriations bill. If there is a 2017 work plan——

Mr. QUIGLEY. Are there any other means that we can look at this again and still not stop this project? There is not a lot of other choices, unfortunately, and it is not anybody in this room's fault that Illinois has not passed a budget, but we brought this to the dance and we are not taking it home. There is virtually no likelihood that there is going to be any local opportunities to pick up the final costs of this.

I have been to these projects. They are massive holes in the ground, but we have been lucky so far. We have not had our annual 100-year flood in the Chicagoland area.

There is a race to get this done. Looking at this again, what is the time frame in terms of options?

Ms. DARCY. I will commit to you that I will look at a time frame that can deliver some options for us to consider.

Mr. QUIGLEY. We would appreciate it if you would let us know, as well as the other members from the region, as well as the senators.

Ms. DARCY. I will.

Mr. QUIGLEY. Again, Mr. Chairman, I want to thank the full committee for giving me this opportunity.

Mr. SIMPSON. Thank you. We are going to have votes here relatively quickly. I think they are doing the Motion to Recommit right now. We will have another round of questions if everybody could keep it short. Ms. Kaptur.

Ms. KAPTUR. Thank you, Mr. Chairman. I would like to ask Ms. Darcy and the General about the status of the Cleveland dredging situation, both short and long term.

The Ohio EPA has done core sediment samples now from the Cleveland ship channel showing the average bulk phosphorous content is 1.54 times higher in the Cleveland ship channel, sediment in Toledo, and also the state EPA has dredge material that shows the PCB levels in fish in Lake Erie could increase by 10 to 20 percent because of the contaminant levels of the sediment that they have been drawing up.

My question is what is the status of port dredging and the dredge disposal in that region, please.

Ms. DARCY. In Cleveland Harbor, we will be dredging as much as we can under the Federal standard. As you may be aware, the Federal standard allows for open lake disposal of the sediment for the last mile and a half of the Cuyahoga River in Cleveland. However, the State EPA has not, to my knowledge, to date issued a water quality certification for us to be able to do that.

Therefore, the cost of putting those dredged spoils into a CDF, because that is not the Federal standard, would need to be paid for by the local sponsor.

Ms. KAPTUR. Are there any instances in the country where the Corps has not disposed of dredge material in open water, either fresh or saltwater, due to environmental considerations?

Ms. DARCY. That we have not put it in because of environment?

Ms. KAPTUR. Right.

General BOSTICK. We will have to follow up on that. I really do not know.

Ms. KAPTUR. All right. Thank you very much. I think this story will continue. We provided over $1.3 billion in additional dollars in last year's budget for the Corps. Do you have any way of assisting local communities that are stretched for local funds? Do you have any examples of that in your prior work?

Ms. DARCY. For dredging?

Ms. KAPTUR. Yes, for dredge disposal.

Ms. DARCY. Using Federal dollars to help the local community meet their obligations?

Ms. KAPTUR. Yes.

Ms. DARCY. I do not believe so, but we can check to see if we did. I do not believe that we have.

Ms. KAPTUR. All right. Do you have any idea on the backlog for authorized Corps' projects in the Great Lakes? And how are you interpreting the language in the authorization bill recently that not less than 10 percent of all navigation funds should be directed to projects located within the Great Lakes Navigation System? Are you meeting the 10 percent requirement?

Ms. DARCY. In the Harbor Maintenance Fund? Yes, we are.

General BOSTICK. Yes.

Ms. KAPTUR. Very good. Thank you. I know Congresswoman Roybal-Allard wishes to ask questions, so I will restrain at this point.

Mr. SIMPSON. Mr. Fleischmann.

Mr. FLEISCHMANN. Thank you, Mr. Chairman. In the interest of time, Secretary Darcy, I will go through this, and then I have some follow-up questions.

The budget materials make brief mention of a forthcoming proposal to use Inland Waterway Trust Fund dollars to cover a portion of operational and maintenance costs. Can you provide any additional details for us today?

Ms. DARCY. Congressman, as you mentioned, that proposal is forthcoming. You are correct, there is a portion of what is being proposed that would be set aside or come out of a vessel fee that would be proposed. This, in my view, is a starting point of a conversation.

This committee, the Congress and the American people increased the tax to help with the balance in the trust fund. I think we all know the needs are still great, and we would like to work with this committee in order to come up with a vessel fee or proposal that can help to meet that increased need. This, in my view, is a starting point.

Mr. FLEISCHMANN. What cost share is the administration proposing?

Ms. DARCY. In the 50–50 cost share? No cost share change. I am hoping we are going to propose to add some additional waterways to those that are currently taxed. I think currently there are 27 waterways, and we might increase that to the 40 in the Inland Waterways System.

Mr. FLEISCHMANN. Madam Secretary, would this proposal cover all inland navigation operation and maintenance or just O&M on those projects for which capital improvements are also cost-shared with the trust fund?

Ms. DARCY. The details, are forthcoming. I expect it to be on the entire fund, but we can provide you those details and hopefully work with you on trying to enact this proposal this year.

Mr. FLEISCHMANN. When can we expect to see the final proposal?

Ms. DARCY. Within weeks.

Mr. FLEISCHMANN. We look forward to getting that proposal. And with that, Mr. Chairman, I yield back.

Mr. SIMPSON. Ms. Roybal-Allard.

Ms. ROYBAL-ALLARD. Secretary Darcy, I would like to go back to the point on the backlog and follow up on Chairman Simpson's question.

But quite frankly, I was disappointed that you do not know what the backlog and costs are for operations and maintenance for flood control infrastructure in the Los Angeles region, given that it is one of the most densely populated areas and could put a significant number of lives and property at serious risk.

Is there any data available to tell us what percentage of L.A. County Drainage Area assets are graded at an acceptable level?

Ms. DARCY. I can answer your first question now.

Ms. ROYBAL-ALLARD. OK. Good.

Ms. DARCY. Fifty-five million is the backlog number. I am sorry, the second part of your question was?

Ms. ROYBAL-ALLARD. It had to do with the costs, if you had any estimate on what the costs would be to complete the backlog. We can wait on that.

Let me go back to my other question, and that was if there was data available to tell us what percent of the L.A. County Drainage Area assets are graded at an acceptable level.

Ms. DARCY. That is a number that we do not have. You want to know if they are acceptable for flood control?

Ms. ROYBAL-ALLARD. Yes. One of the reasons for asking this question is it was my understanding or I have been told that there is not even a mechanism for collecting that kind of data. Is that true or not true? If my information is correct, I would urge the Corps to conduct a single comprehensive assessment to measure the acceptable levels of the Los Angeles County Drainage Area System, which I would think would be an important step to address the funding needs of the Los Angeles County Drainage Area.

Do you happen to know if there is such a mechanism for collecting that data?

Ms. DARCY. I am looking to my experts. Yes. We have operational condition assessments that are done. I assume we have one for L.A., for everything.

Ms. ROYBAL-ALLARD. You then would be able to give me that information?

Ms. DARCY. Yes.

Ms. ROYBAL-ALLARD. OK. Thank you.

Mr. SIMPSON. Mr. Honda.

Mr. HONDA. Thank you, Mr. Chairman. There is a project called Upper Guadalupe Flood Protection Project, which is just adjacent to my district. Can you explain to me what the reason is for the delay in that project is? It has been authorized since 1999, I guess. There does not seem to be much progress in that section.

General BOSTICK. We will have to follow up with you on that. We have a number of projects that are authorized, but they are not funded. Generally, that is because of the benefit-cost ratio affecting how it competes. We will follow up specifically on that project.

Mr. HONDA. In that light, I guess I need to know what role does the water district play and the local cities and counties in that calculation, too?

General BOSTICK. We will provide it to you.

Mr. HONDA. Thank you.

Ms. DARCY. Congressman, could I just add that we will follow up on that part, but I am told that for that project, there is no funding needed for this fiscal year.

Mr. HONDA. No funding needed?

Ms. DARCY. Needed for this fiscal year. I do not know the answer to the second part of your question, so we will follow up.

Mr. HONDA. It is not needed because there are no funds or it is not needed because you are progressing on that project and moving forward?

Ms. DARCY. They have sufficient carryover to be able to continue. It is not that they are not funded, it is they do not need additional funding this year because they have carryover funding from last year.

Mr. HONDA. Perhaps I can get the answer to the second part, but also more details on the carryover and what part of the project is being worked on.

Ms. DARCY. OK.

Mr. HONDA. Thank you, Mr. Chairman.

Mr. SIMPSON. Mr. Visclosky.

Mr. VISCLOSKY. Thank you, Mr. Chairman. General, I was remiss. I have been reminded that this will be your final testimony before the subcommittee. You are lucky. I do congratulate you on your life of service as well very much.

General BOSTICK. I have always enjoyed these hearings.

Mr. HONDA. Is that a smile or grimace?

Mr. VISCLOSKY. A question I have is on what I guess is now called "emerging harbors." And in the water bill of 2014, there was a direction to set aside 10 percent of harbor maintenance in the Great Lakes region, but I think on the coasts as well. There are a lot of communities that have harbors, may not have huge commercial business, from what people expect out of places like Long Beach, for example, but are nevertheless critical economically.

There was a 10 percent set-aside, as I am understanding, and since the request for this year is $951 million, I would be correct that $95 million has been set aside for that purpose?

General BOSTICK. Actually, it is a little bit more.

Ms. DARCY. It is 10.8 percent this year. Emerging and Great Lakes both had 10 percent, and one of them, I think, emerging harbors, got 10.8 percent or Great Lakes got 10, or vice versa. At least 10.

Mr. VISCLOSKY. That has been carved out from the budget request?

General BOSTICK. Yes.

Mr. VISCLOSKY. Thank you very much, Mr. Chairman.

Mr. SIMPSON. We have talked a lot about invasive species here, and generally, it is invasive species where the species have been invasive so far. We are trying to do a lot of preventative work in invasive species also, particularly in the Pacific Northwest with the zebra mussels and quagga mussels.

There was money put in the budget last year to establish the boat checks, the boat washes and the watercraft inspection stations. How are we coming with that? If the zebra mussels and the quagga mussels get in the Columbia Basin River System, it is going to be a huge economic impact on the Pacific Northwest, and we are trying to keep those out. How are we doing with that directive?

Ms. DARCY. We have $10 million in for invasive species in our stewardship program. It is for over 200 projects Corps-wide, and not just for invasive species in the water, but also on land. I do not have a whole lot more detail.

General BOSTICK. We are drafting the implementation guidance now, and it will be completed shortly.

Mr. SIMPSON. The States and Fish and Wildlife Service do some watercraft inspections. It is kind of interesting that Fish and Wildlife a few years ago, or the State of Idaho, found quagga mussels during an inspection on a boat that was coming in. Unfortunately, it was a Fish and Wildlife boat. That was problematic.

Ms. DARCY. Oops.

Mr. SIMPSON. It is something that we have to be really careful about, because once they get in, they are there. Ms. Kaptur.

Ms. KAPTUR. Thank you, Mr. Chairman. I just had a final question, if I could, on the Soo Locks situation. General Bostick, can you give us an update on the status of any actions the Corps is taking on the Soo Locks?

And Secretary Darcy, how would you take into account the destination of a given lock as a Homeland Security critical infrastructure presence in your budgeting process? Would the Corps be constrained by looking at only a national economic development to cost-ratio when you look at projects like the Soo?

General BOSTICK. In November, funding was provided to initiate an economic reevaluation report. That report will help adjust or maintain the current benefit-cost ratio. That is the challenge that we have with this project, the benefit-cost ratio is not where it needs to be. This economic reevaluation will help us better identify the benefits. It is going to take us about 2 years to complete the report.

Mr. VISCLOSKY. If the gentlelady will yield, it is going to take 2 more years to complete the review, and you are having problems with the cost-benefit ratio?

General BOSTICK. Benefit-cost ratio.

Mr. VISCLOSKY. I had a meeting with a steel executive in the First Congressional District within the last 14 days. If that lock goes—and more steel is produced in my congressional district than any state in the United States of America—there will be no steel produced from my district.

I have to tell you, I just find it incredulous that it would take 2 years to determine cost-benefit on a lock that would just close steel manufacturing in the United States of America.

General BOSTICK. It is a very detailed review, but we will go back and see if we can accelerate it. I know the importance of this area. I have visited it myself.

Mr. VISCLOSKY. I would encourage all deliberate speed.

Ms. KAPTUR. I thank the gentleman for his important critical comments here, and that is why I asked in my question how perhaps, Secretary Darcy, you can look at critical Homeland Security infrastructure in this review, in your budgeting process.

Ms. DARCY. The Department of Homeland Security has done an evaluation of the lock, I think that is what you are referring to. The calculations used in this economic analysis is not within the usual scope of a Corps of Engineers' analysis. But given the fact of what we have learned from the Department of Homeland Security's assessment, it is something that we need to take a look at and incorporate into the analysis, especially from the side of Homeland Security, in addition to the economics that need to be taken into consideration.

Ms. KAPTUR. Thank you very much, and I hope that if you need additional legislation, I am sure the steel caucus and other members here would be very interested in securing the proper evaluative guidelines as you move forward.

Ms. DARCY. Thank you.

Ms. KAPTUR. Thank you, Mr. Chairman.

Mr. SIMPSON. Thank you. I thank the members for their attendance and interest in the Army Corps and their budget. As was mentioned during the opening, I have watched this process for years, both here in Congress and in the State house that I served in, and almost every other State house.

It seems it is a matter of the way the chief executive is doing business, that they always can mark down budget requests in things that they know Congress is going to plus out because they will not go along with that, so they can fund other things. That happens all the time.

It seems like the Army Corps of Engineers and the administration's budget always gets marked down, knowing that Congress is going to plus it back up to where we think it is adequate. We will work very hard on that this year to make sure we have an adequate budget to address the infrastructure needs of this country.

Again, I want to thank both of you for your work. You have been exceptionally good to me to work with. When I have brought concerns of other members that come to me to your attention, you both have been more than willing to address those concerns. I appreciate that very much. It makes it much easier for me, and in the long run, it makes it easier for you, also.

I appreciate it, and thank you for your work and we look forward to working with you on this year's budget.

Ms. DARCY. Mr. Chairman, could I just thank the person to my left here, who I have had the pleasure to serve with for the last 4 years? I am going to miss not having him next to me next time.

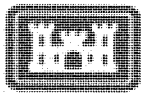
Mr. SIMPSON. Yes.

Ms. DARCY. He has been a great asset not only to the Corps of Engineers, but to the United States of America. His service has been unprecedented not only for the Corps, but in his 38 years of service.

Also, I appreciate having a bigger room, but Angie did not bring the treats today. I am a little disappointed.

Mr. SIMPSON. We kept the treats in the other room.

I could not have said it better. Thank you and thank you. The hearing is adjourned.



US Army Corps
of Engineers

FY 2017 Budget
Status Report on Civil Works Activities
In the Great Lakes and Ohio River Division

February 2016

Brigadier General Richard G. Kaiser
Division Commander

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AREA OF RESPONSIBILITY

The Great Lakes and Ohio River Division (LRD) serves the water resources needs of all or parts of 17 states, covering approximately 335,000 square miles, with a population of 70 million. In addition, through water management of upstream flows, LRD projects enhance Lower Mississippi Valley flood control protection and preservation of the Mississippi River levee system. Implementation of the Civil Works program is conducted through seven district offices, located in Buffalo, New York; Chicago, Illinois; Detroit, Michigan; Huntington, West Virginia; Louisville, Kentucky; Nashville, Tennessee and Pittsburgh, Pennsylvania. The Great Lakes and Ohio River Division Headquarters office is located in Cincinnati, Ohio and provides management, oversight and the Ohio River Reservoir Control Center, including lower Ohio and Mississippi River flood control.

LRD includes the U.S. portion of the Great Lakes watershed and the St. Lawrence River and the Ohio River basin, including all tributaries. Flood Risk Management projects have prevented an estimated $39.2 billion through 2012 in cumulative basin-wide flood damages. Over 900 megawatts of hydroelectric power capacity exist at 10 Corps hydroelectric power plants. In 2014, an estimated 81 million recreation visits were made to the lakes and visitor centers throughout the Great Lakes and Ohio River Division. The Corps and its partners manage natural resources on nearly 1.5 million acres of land and water. Annually, an average of over 239 million tons of commodities were shipped through Corps operated lock facilities on the Ohio River and its navigable tributaries, the Allegheny, Monongahela, Kanawha, Big Sandy, Green, Cumberland and Tennessee Rivers. Annual commerce at the Great Lakes ports averages 127 million tons. Opportunities are being explored to restore aquatic and riparian ecosystems from the adverse impacts of acid mine drainage, untreated sewage contamination, water pollution of urban streams and other human activities that modify the environment.

SUMMARY OF FY 2017 CIVIL WORKS PROGRAM

The FY 2017 Budget includes $837.4 million for two studies, five construction projects, continued operation and maintenance of projects, inspection of completed works and protection of navigation activities. Additionally, eight projects will be funded in the Formerly Utilized Site Remedial Action Program.

The FY 2017 program will enable the Great Lakes and Ohio River Division to continue the Investigations and Construction programs and priorities for Operation and Maintenance activities. The FY 2017 President's Budget is a decrease of $73.2 million from the FY 2016 President's Budget.

The budget comparison is detailed in the table below (Table 1). Each appropriation category will be addressed in turn.

Table 1

President's Budget
Request FY 2015, FY 2016, FY 2017

APPROPRIATION CATEGORY	FY 2015 PRESIDENT'S BUDGET ($ millions)	FY2016 PRESIDENT'S BUDGET ($ millions)	FY 2017 PRESIDENT'S BUDGET ($ millions)
Investigations	$3.2	$1.3	$3.0
Construction/Inland Waterways Trust Funds	$355.0	$377.5	$330.2
Operation and Maintenance	$474.9	$507.8	$476.4
Formerly Utilized Sites Remedial Action Program	$23.3	$30.7	$27.8
TOTAL	**$837.2**	**$910.6**	**$837.4**

The Great Lakes and Ohio River Division's civil works funding is received in multiple appropriations across the following business lines: Navigation, Flood Risk Management, Hydropower, Recreation, Environmental (Environmental Stewardship, Aquatic Ecosystem Restoration), Formerly Utilized Sites Remedial Action Program (FUSRAP) and Water Supply.

INVESTIGATIONS

BUDGET FOR FY 2017

The FY 2017 Budget includes $3.0 million for the Investigation program across two business lines: Flood Risk Management and Aquatic Ecosystem Restoration (Table 2).

Table 2

	START	CONTINUE	COMPLETE	FY 2017 Budget Request ($ millions)
FLOOD RISK MANAGEMENT				
Survey	0	1	0	$0.4
AQUATIC ECOSYSTEM RESTORATION				
Survey	0	1	0	$2.6
TOTAL	**0**	**2**	**0**	**$3.0**

Flood Risk Management

Du Page River, IL

The DuPage River and tributaries drain approximately 353 square miles in suburban Cook, DuPage and Will Counties in Metropolitan Chicago. The study area has experienced rapid development over the past two decades, and currently includes 40 communities and approximately 900,000 residents. Major storm events occurred in the basin in 1996, 2008, 2009, and most recently in April 2013 resulting in significant overbank flooding to at least 20 communities and caused significant damage to residential and non-residential structures, critical infrastructure and the closure of two major interstate highways (I-80 and I-55) for several days. Average annual flood damages are currently estimated at $30 million. The FY 2017 Budget includes $400,000 to continue the feasibility study.

Aquatic Ecosystem Restoration

Inter-basin Control of Great Lakes Mississippi River Aquatic Nuisance Species, IL, IN, OH & WI

The Chicago Sanitary and Ship Canal (CSSC) is a man-made waterway that connects the Chicago River and the Des Plaines River to the Illinois River, which creates a waterway connection between the Lake Michigan Basin and the Mississippi River Basin. The CSSC connects the Great Lakes and their 121 tributaries to the Mississippi River and its 852 tributaries, thereby providing a potential pathway for aquatic nuisance species (ANS) to spread across over 30 states and two Canadian provinces. The Great Lakes and Mississippi River Interbasin Study (GLMRIS) is a collaborative effort with other Federal agencies and stakeholders addressing all potential ANS and pathways between the Great Lakes and the Mississippi and Ohio River Basins. The Moving Ahead for Progress in the 21st Century Act, (MAP-21) directed the Secretary to expedite the completion of the report for the study authorized by Section 3061(d) of Water Resources Development Act (WRDA) 2007 and, if the Secretary determines a project is justified in the completed report, to proceed directly to project preconstruction

engineering and design (PED). The report was submitted to Congress by December 2013. The GLMRIS Report included conceptual design of alternatives and identifies mitigation requirements associated with each alternative, if any. Cost estimates were prepared for each alternative and a Cost-Schedule-Risk Analysis was developed for each estimate to set the level of cost contingency. The FY 2017 Budget includes $2,600,000 to continue the study at the Brandon Road site on the Illinois River. FY 2017 activities include identification of the Tentatively Selected Plan, complete analysis and conceptual design, conduct Agency Technical Review (ATR), Independent External Peer Review (IEPR), Policy Review, NEPA review, and initiate concept design on the Recommended Plan.

CONSTRUCTION

BUDGET FOR FY 2017

The FY 2017 Budget includes $330.2 million to continue ten construction projects in Navigation, and Flood Risk Management business lines. Construction efforts will focus on capital improvements, dam safety, and local flood protection projects (Table 3).

Table 3

	NUMBER OF FY 2017 BUDGETED PROJECTS	FY 2017 BUDGET ($ millions)
NAVIGATION		
Capital Improvements	1	$225.0
FLOOD RISK MANAGEMENT		
Dam Safety	4	$105.2
TOTAL	**5**	**$330.2**

Navigation

FY 2017 budgeted funds will be used to continue construction on one navigation project.

Olmsted Locks and Dam, IL and KY

Construction is continuing on the Olmsted Locks and Dam, which will replace Locks and Dams Nos. 52 and 53 on the Lower Ohio River, which have been in service since 1929. The $3.1 billion project (fully funded cost estimate), located near Olmsted, Illinois, will provide twin 110 x 1,200-foot locks and a dam with a navigable pass. The FY 2017 Budget includes $225.0 million (including IWTF cost-sharing funds @ 85% Federal &

15% IWTF) to continue dam construction, mussel monitoring, engineering and design and construction management, along with lock operation and maintenance during construction. The project is 67 percent complete as of 1 January 2016

Flood Risk Management

FY 2017 Budget funds will be used to continue construction of four dam safety modification flood risk management projects.

Center Hill Dam, Caney Fork River, TN
(Dam Safety Modification)

Center Hill Dam is located at mile 26.6 on the Caney Fork River in DeKalb County, Tennessee, 55 miles east of Nashville, TN. The dam has been in service since 1948, providing flood control, hydropower, recreation, water supply, and water quality benefits. In recent years the dam has incurred increasing seepage, resulting from the karst limestone dam foundation. Foundation conditions continue deteriorating because of erosion along open and clay-filled joints and solution features in the rock within the rims and dam foundation. Erosion further jeopardizes the left abutment and the integrity of the left rim, both of which are earthen embankments. Center Hill Dam is rated **Dam Safety Action Classification (DSAC) I** in the Corps' Screening Portfolio Risk Analysis (SPRA), which is an "Urgent" safety classification. Features of the dam safety modifications include placement of a 3,000 foot-long grout curtain into the main embankment foundation, construction of a concrete barrier wall into the foundation of the main dam embankment and a stability berm below the Saddle Dam Embankment to control seepage. The FY 2017 Budget includes $40.0 million to begin construction of the saddle dam seepage rehab, construction management and site restoration. The project is 72 percent complete as of 1 April 2015.

DSAC classifications:

DSAC Class I (Very High Urgency)

DSAC Class II (High Urgency)

DSAC Class III (Moderate Urgency)

DSAC Class IV (Low Urgency)

DSAC Class V (Normal)

East Branch, Clarion River, PA
(Dam Safety Modification)

East Branch Dam is rated DSAC II and is located on the East Branch of the Clarion River, 7.5 miles upstream from the junction with the West Branch of the Clarion River at Johnsonburg, PA, 14 miles upstream of Ridgeway, PA. The reservoir is located entirely in Elk County, PA. The dam was constructed in 1947-1952 and has been in continuous operation since December 1952. The modification project consists of constructing a full length, full depth cut-off wall preceded by a phase of site development to correct a seepage issue. The components of the cut-off consist of grouting of the bedrock, deep soil mixing around the 1957 void repair, and a lean concrete hydro-mill panel wall approximately 2,145 feet long with an approximate maximum width of 39 inches and approximate maximum depth of 250 feet. The FY 2017 Budget includes $56.3 million to

continue cutoff wall construction contract, engineering and design during construction and construction management. The project is 13 percent complete as of 15 May 2015.

Bolivar Dam, Muskingum River, OH
(Dam Safety Modification)

Bolivar Dam is rated DSAC II and is located on Sandy Creek of the Tuscarawas River, a tributary of the Muskingum River, in Stark and Tuscarawas Counties, Ohio. The dam is located 183.4 miles above the mouth of the Muskingum River. Dam construction was completed in September 1938 as one of a system of dams designed to provide flood risk management and water conservation in the Muskingum Watershed in Ohio. Bolivar Dam has a history of excessive seepage with a potential of under seepage instability at higher pools. The project experienced significant seepage during the Jan 2005 flood event and emergency repairs were made to the project during that period. To maintain the safety of the project and safeguard the public, major rehabilitation of the dam is necessary, and will include construction of a concrete seepage barrier, augmentation of the existing seepage blanket, automation of existing and installation of additional instrumentation, rehabilitation of six sluice gates and gate slots, electrical and mechanical repairs to gate operating equipment and the overhead crane, and abutment grouting. The FY 2017 Budget includes $5.0 million to continue the sluice gate/machinery rehab and concrete seepage barrier construction, engineering and design during construction and construction management. The project is 30 percent complete as of 1 May 2015.

Bluestone Lake, WV
(Dam Safety Modification)

Bluestone Lake is rated DSAC II and is located on the New River in Summers County in southern West Virginia. The dam is located 2.5 miles downstream from the confluence of the New and Bluestone Rivers, and 0.8 miles upstream from the confluence of the New and Greenbrier Rivers. The Dam Safety modification project will remedy a hydrologic deference of probable maximum flood that would overtop the dam. The project includes adding of a floodgate closure across a state highway. Existing hydropower penstocks will be extended and retrofitted with gates to supplement the discharge capacity of the spillway and outlet works. The project was categorized as a Dam Safety Action Classification (DSAC) II project in the Corps' Screening Portfolio Risk Analysis (SPRA) in 2005, which is an "Urgent" safety classification. Failure would cause catastrophic flooding along the Greenbrier, New, Gauley, Kanawha, and Elk Rivers and at the heavily industrialized state capital of Charleston, WV, putting 175,000 people at risk with property damages in excess of $21.0 billion. The FY 2017 Budget includes $4.0 million to continue phase 3&4 engineering and design, construction management, data management, and risk communications. Project modifications are 50 percent complete as of 1 January 2016.

OPERATION AND MAINTENANCE

BUDGET FOR FY 2017

The FY 2017 Budget includes $476.4 million for the Great Lakes and Ohio River Division's Operation and Maintenance Program. The FY 2017 Budget separates the Great Lakes and Ohio River Division's projects across six Business Lines (Table 4) and nine watershed systems (Table 5). The FY 2017 Budget separates the Great Lakes and Ohio River Division's projects across five geographical regions determined by watershed: Region 02 - Mid-Atlantic, Region 04 - Great Lakes, Region 05 - Ohio, Region 06 - Tennessee and Region 07 - Upper Mississippi. The extent of Operation and Maintenance budgeted activities for FY 2017 are shown below.

Table 4

GREAT LAKES AND OHIO RIVER DIVISION	FY 2017 BUDGET ($ millions)
NAVIGATION	$274.3
FLOOD RISK MANAGEMENT	$101.1
HYDROPOWER	$26.2
RECREATION	$32.8
ENVIRONMENTAL STEWARDSHIP	$11.3
AQUATIC ECOSYSTEM RESTORATION	$12.0
WATER SUPPLY	$.9
JOINT (Costs for Multipurpose Projects Across Various Business Lines)	$17.8
TOTAL	$476.4

Table 5
($ thousands By Watershed)

Great Lakes and Ohio River Division	AMS = Allegheny & Monongahela Rivers	GLS = Great Lakes	GRB = Green and Barren Rivers	ILW = Illinois Waterway	KAW = Kanawha River	MUS = Muskingum River	OHI = Ohio River	TCR = Tennessee and Cumberland Rivers	WAB = Wabash River
Aquatic Ecosystem Restoration				$12,000.0					
Environmental Stewardship	$1,159.0	$287.0	$1,446.0		$411.0	$144.0	$2,761.0	$4,557.0	$545.0
Flood Risk Management	$15,768.0	$12,970.0	$7,177.0	$324.0	$4,491.0	$12,723.0	$38,855.0	$1,376.0	$7,412.0
Hydropower		$2,277.8						$23,883.0	
Joint		$2,245.0						$15,518.0	
Navigation	$22,914.0	$100,709.0	$2,179.8		$8,875.0		$106,904.3	$32,768.0	
Recreation	$2,381.0	$1,194.0	$2,487.0		$2,295.0	$571.0	$10,560.0	$13,061.0	$298.0
Water Supply	$24.0		$44.0		$33.0		$360.0	$431.0	$16.0
Totals	$42,246.0	$119,682.8	$13,333.8	$12,324.0	$16,105.0	$13,438.0	$159,440.3	$91,594.0	$8,271.0

Navigation

The FY 2017 Budget includes $274.3 million for operation and maintenance of the highest priority navigation projects. These funds will provide for continued maintenance and operation on the Great Lakes and the Ohio River and tributaries inland navigation system.

The overall navigation responsibilities include: 96 lock facilities with 136 lock chambers; a total of 3,400 miles of commercial waterways and 102 harbors in the Great Lakes Region, of which 47 are deep draft harbors and 55 are shallow draft harbors. On average, over 239 million tons of commodities were shipped through Corps operated lock facilities on the Ohio River and its navigable tributaries, the Allegheny, Monongahela, Kanawha, Big Sandy, Green, Barren, Cumberland and Tennessee Rivers. Average annual commerce at the Great Lakes ports is over 127 million net-tons. Ohio River Lock 52, which moved approximately 91 million tons in 2012, is the nation's busiest lock.

Flood Risk Management

The FY 2017 Budget includes $101.1 million for the operation and maintenance flood risk management projects. The components are comprised of 84 reservoirs of which 78 are wet and 5 dry bed type. Additionally, there are nearly 100 Local Protection projects to include floodwalls, levees, pump stations, gates, etc. The Muskingum River Lakes in Ohio include 14 of these flood risk management reservoir projects of which four, Bolivar, Dover, Mohawk and Mohicanville Dams, are used to impound water only when downstream flooding conditions are anticipated. Mt. Morris Dam is also a dry dam. Seven of the Cumberland River multiple purpose projects and the Tygart Lake project in West Virginia include storage of water which provides flood risk management benefits. The Ohio River watershed flood risk management protects not only serve to protect the Ohio Valley, but also serve to protect the Mississippi River levee system. During Ohio and Mississippi River floods, the Great Lakes and Ohio River Division directs the operation of Barkley Lake on the Cumberland River and Kentucky Lake (a TVA project) on the Tennessee River to reduce Ohio and Mississippi River flood crests.

Hydropower

The renewable nature of water resources makes hydropower an ideal supplemental energy resource. The FY 2017 Budget includes $26.2 million for the operation and maintenance requirements of ten multiple purpose power projects. These projects encompass the major Corps hydropower generation facilities in our area of responsibility, and consist of nine projects in the Cumberland River Basin plus the St. Mary's River project at Sault Ste. Marie, MI. The nine Cumberland River plants have over 914 megawatts of total generating capacity and the Soo Locks plant at Sault Ste. Marie has 21 megawatts of capacity. In addition, the Corps owns a small 300 kilowatt electric power plant at the Stonewall Jackson Lake Flood Risk Management project in West Virginia. This unit was taken out of service in 2004. Non-Federal entities also

operate hydropower facilities at Corps project sites on the Allegheny, Kanawha and Ohio Rivers, and at Mahoning and Youghiogheny Lake in Pennsylvania.

Aging facilities and increasing demands are combining to create a significant and growing need to rehabilitate all of the hydropower facilities. Appropriated O&M funds are no longer sufficient to finance these critical projects. To remedy this situation, there are ongoing efforts within the Administration, Corps of Engineers, Power Marketing Agencies (PMAs) and the power users to procure additional funds. One effort is to obtain direct O&M funding through Memorandum of Agreement using WRDA 2000 Customer Funding authority. In addition, the Department of Energy is seeking Legislative Authority for Power Marketing Agency Direct Funding of critical maintenance and rehabilitation.

Multi-purpose Projects with Hydropower (also called Joint)

The FY 2017 Budget includes $17.8 million for the operation and maintenance requirements of ten multiple purpose power projects. This amount will be distributed to the other Business Lines as follows: $5.2M to Navigation, $4.4M to Flood Risk Management, $5.7M to Hydropower, and $2.5M to Recreation. These projects encompass the major Corps hydropower generation facilities within LRD, and consist of nine projects in the Cumberland River Basin plus the St. Mary's River project at Sault Ste. Marie, MI. Aging facilities and increasing demands are combining to create a significant and growing need to rehabilitate all of the joint facilities. Appropriated O&M funds are no longer sufficient to finance these critical projects.

Recreation

The FY 2017 Budget includes $32.8 million for Recreation. Corps projects in the Great Lakes and Ohio River Division provide recreational opportunities for people residing in the division's 17-state area of responsibility. Corps lakes, recreational boat harbors, harbors of refuge, locks and navigation structures located both inland and on the Great Lakes, and associated navigation pools have provided recreational opportunities for millions of Americans and foreign visitors for many years and continue to do so today.

In 2014, approximately 80 Million people visited areas operated by the Great Lakes and Ohio River Division. Visitors expended nearly $2 billion in local trip spending while engaged in recreational activities and more than 30,000 jobs were supported by this activity. Aging facilities, changing visitor preferences and increased recreational demand creates a challenge to be more efficient and to make greater use of cooperative efforts and volunteers. Any decreases in the operating budget for FY 2017 will result in decreased levels of services provided to the public.

Environmental Stewardship

The FY 2017 Budget includes $11.3 million for Environmental Stewardship. The Corps and its partners jointly manage approximately 1.5 million acres of land and water at 102 lakes and pools throughout the division's area of responsibility. Project lands and

waters support state wildlife management areas, state parks, state natural areas, federal wildlife refuges, and federal fish hatcheries. The protection and sustainable management of the valuable natural resources at these lakes provides the foundation for the division's recreation management program as well as protection of significant water supplies in the Midwest and East Central portions of the United States. Project lands and waters are home to numerous Federal special-status species. Additionally, the Corps manages 6,717 miles of shoreline and administers more than 14,000 shoreline use permits through its Shoreline Management Program. For many urban centers, Corps lakes provide some of the only natural outdoor recreational opportunities available. Any decreases in the operating budget for FY2017 could result in fewer shoreline use permits processed, less invasive species control, fewer Master Plan updates, fewer miles of boundary marked, and fewer encroachments resolved.

Water Supply

The FY 2017 Budget includes $0.9 million to continue management of water supply agreements with local entities at 30 lake projects throughout the division.

Aquatic Ecosystem Restoration

The FY 2017 Budget includes $12.0 million to operate and maintain the Chicago Sanitary and Ship Canal Dispersal Barrier systems. The dispersal barrier system was developed to deter the spread of invasive fish species between the Great Lakes and Mississippi River watersheds. The potential movement of Asian carp into the Great Lakes and the establishment of these non-native fish species is a significant concern in the region. The White House Council on Environmental Quality has identified the barriers as one of its highest priorities in the Great Lakes region.

FORMERLY UTILIZED SITES REMEDIAL ACTION PROGRAM (FUSRAP)

BUDGET FOR FY 2017

The FY 2017 Budget includes $27.8 million to continue executing hazardous, toxic, and radiological waste (HTRW) investigations and cleanup actions at the Great Lakes and Ohio River Division's Formerly Utilized Sites Remedial Action Program (FUSRAP) sites including the following eight active projects.

Guterl Steel, Lockport, NY

The FY 2017 Budget includes $0.4M to complete the proposed plan and conduct annual groundwater sampling, testing, and reporting activities. The proposed plan identifies the Corps of Engineers' preferred alternative to address FUSRAP-related contamination at the site, for public review and comment.

Harshaw Site, Cleveland, OH

The FY 2017 Budget includes $0.5M to complete the feasibility study addendum and proposed plan, conduct a public meeting to present the proposed plan and preferred alternative to the public, initiate preparation of a record of decision to document the selected site remedy, and conduct annual groundwater sampling, testing and reporting activities.

Luckey, OH

The FY 2017 Budget includes $3.65M to obligate funding to the single award task order contract for soils remediation activities, conduct fieldwork oversight, and perform annual groundwater sampling, testing and reporting activities.

Niagara Falls Storage Site, Lewiston, NY

The FY 2017 Budget includes $3.6M to complete and publicly release the record of decision for the Interim Waste Containment Structure, continue development of the feasibility study for the Balance of Plant Operable Unit, execute public information sessions and outreach activities, and perform annual environmental surveillance, security, and maintenance activities. Funds will also be used to begin development of a scope of work to obtain feasibility study support services for the Groundwater Operable Unit and remedial investigation services for the Off-Site Vicinity Properties.

Seaway Site, Tonawanda, NY

The FY 2017 Budget includes $0.4M to close out the contract for excavation and disposal of contaminated soils in the Seaway Southside area; and provide project management, stakeholder coordination and outreach services.

Shallow Land Disposal Area, PA

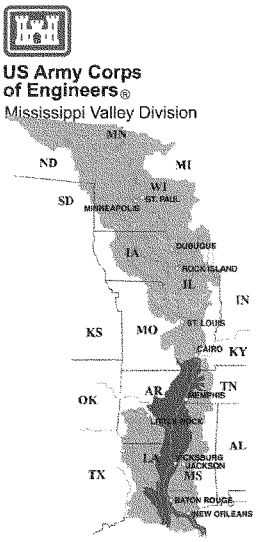
The FY 2017 Budget includes $18.0M to award the remediation contract, prepare remedial work plans, and begin site mobilization and infrastructure improvements.

Tonawanda Landfill, Tonawanda, NY

The FY 2017 Budget includes $0.4M to complete the record of decision and provide project management, stakeholder coordination, and outreach activities.

Superior Steel, Scott Township, PA

The FY 2017 Budget includes $0.8M to complete the remedial investigation, and initiate a feasibility study based on the findings of the remedial investigation. The feasibility study develops and evaluates potential remedial alternatives to address FUSRAP-related contamination at the site.

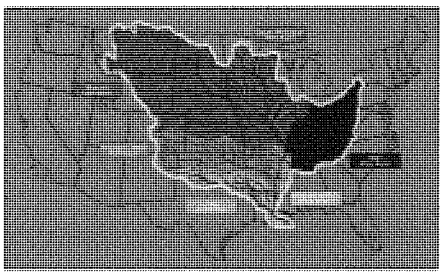


DEPARTMENT OF THE ARMY

CORPS OF ENGINEERS

MISSISSIPPI VALLEY DIVISION

MISSISSIPPI RIVER COMMISSION



STATUS REPORT

OF

MAJOR GENERAL MICHAEL C. WEHR

COMMANDER, MISSISSIPPI VALLEY DIVISION

PRESIDENT, MISSISSIPPI RIVER COMMISSION

BEFORE THE

SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT

COMMITTEE ON APPROPRIATIONS

UNITED STATES HOUSE OF REPRESENTATIVES

ON THE

FISCAL YEAR 2017 CIVIL WORKS BUDGET

26 FEBRUARY 2016

STATUS REPORT

Report of Major General Michael C. Wehr, Commander, Mississippi Valley Division, and President, Mississippi River Commission.

AREA OF RESPONSIBILITY

The Mississippi Valley Division area of responsibility encompasses 370,000 square miles along the Mississippi River from Canada to the Gulf of Mexico. This area includes all or portions of twelve states, 60 Congressional districts, and a population of 28 million people. Included are six district offices headquartered in St. Paul, Minnesota; Rock Island, Illinois; St. Louis, Missouri; Memphis, Tennessee; Vicksburg, Mississippi; and New Orleans, Louisiana. In addition to being Division Commander of the Mississippi Valley Division, I am also the President of the Mississippi River Commission, which has civil works responsibility for the comprehensive and massive Mississippi River and Tributaries Project located in the alluvial valley of the Mississippi River from near Cape Girardeau, Missouri, to the Gulf of Mexico. Headquarters of the Mississippi Valley Division and the Mississippi River Commission are co-located in Vicksburg, Mississippi.

The Mississippi River and Tributaries Project provides a comprehensive flood control and navigation system consisting of 3,727 miles of authorized levees and floodwalls (including tributary levees), as well as floodways, reservoirs, dikes, revetments, and other features. This system is interstate in character. For example, flood protection in Louisiana is directly dependent on the integrity of the system in Arkansas. Since 1928, the nation has invested approximately $14.8 billion in this monumental undertaking. The return to the American people has been approximately $666 billion for flood damages prevented alone. This relates to $44.9 of protection for every Federal dollar invested. Additionally, the Mississippi River and Tributaries project provides approximately $5.6 billion in navigation savings on the Mississippi River each year.

FISCAL YEAR 2015 PROGRAM PERFORMANCE

For Fiscal Year 2015, major emphasis continued on the development and execution of realistic and achievable schedules. In the Investigations and Construction appropriations, 100 percent and 90 percent, respectively, of our scheduled funds were obligated. In the Operations and Maintenance appropriation, 99 percent of scheduled funds were obligated. Of the Mississippi River and Tributaries funds, 96 percent of scheduled funds were obligated.

FISCAL YEAR 2016 PROGRAM MANAGEMENT

For Fiscal Year 2016, our intent is to meet or exceed performance goals in all appropriations, meeting the commitments to local sponsors of our projects.

FISCAL YEAR 2017 PROGRAM SUMMARY

The Fiscal Year 2017 total program for the Mississippi Valley Division and the Mississippi River Commission is $822 million in new budget authority. The Construction program accounts for $100 million, or about 13 cents of each dollar; Operations and Maintenance of existing projects account for $659 million, or about 86 cents of each dollar; and Investigations for potential projects account for $11 million, or about 1 cent of each dollar.

FLOOD AND COASTAL STORM DAMAGE REDUCTION INVESTIGATIONS

Des Moines Levees System, Des Moines and Raccoon Rivers, Iowa

The results of the 2010 Des Moines River Regulated Flow Frequency Study (DMRRFFS) show that the flows used in the 2005/2006 Feasibility effort were not indicative of current conditions. The original Des Moines Local Flood Protection Project (LFPP) constructed in the 1960's and 1970's was believed to provide approximately 200-year flood protection; however, the DMRRFFS data indicates that the project does not provide even 100-year (1% Annual Chance Exceedance) protection. The existing flood risk management measures do not provide 100-year protection to portions of the City, including businesses, residences, and numerous public buildings. This area also includes critical infrastructure such as both the water and wastewater treatment plants for the Des Moines metropolitan area and a key jet fuel storage facility. The total area subject to flooding is nearly 4,800 acres and the total population at risk is estimated at 600,000. The study will use the DMRRFFS data to determine if modifications or improvements to the Des Moines levee systems, including the Lake Red Rock Remedial Works levee, are in the Federal interest. These modifications or improvements may include channel improvements, removal or raising of impediments to flow such as bridges, new or higher levees, or some combination of these measures. Fiscal Year 2016 funds are being used to complete the Tentatively Selected Plan, Agency Technical Review, Independent External Peer Review, and Public Policy Review. Fiscal Year 2017 funds will be used to respond to review comments, execute the Agency Decision Milestone, prepare and deliver the Final Report.

Souris River Basin, ND

The Souris River, a part of the Red River drainage basin, flows from Canada into North Dakota and passes through the cities of Burlington, Minot, Sawyer and Velva, then flows back into Canada. The Souris River Basin experienced a catastrophic flood event in 2011. The 2011 flood damaged or destroyed more than 5,000 structures and directly impacted more than 11,000 people. The transportation networks were severely disrupted and emergency facilities, medical care, and critical infrastructure were cut off to nearly half of the residents. Total damages exceeded $1 billion.

Based on updated hydrology the area is at significant risk. The total population at risk behind the two Minot levee systems is approximately 10,000. The population in the urban area surrounding Minot, ND is nearly 70,000. Since the 1970's the U.S. Army Corps of Engineers (USACE) has constructed a number of projects in the Souris River Basin, including 10 separate levees systems, a 5,000 cfs channel improvement project, reservoir modifications at Lake Darling Dam, and flood storage purchased from three Canadian reservoirs (Rafferty, Alameda, and Boundary dams). In the 1980's Lake Darling Dam (owned by US Fish and Wildlife Service and operated by USACE during flood events) was modified to add gates and raise pool levels. Although there are a number of existing projects, the level of risk reduction is significantly less than the 1-percent event. Current hydrology for the basin has increased the 100-yr event from 5,000 cfs to 10,000 cfs. Operations of all four reservoirs are governed by an international agreement with Canada. Any flood risk management alternative that considers modifications to the reservoir operations either within Canada or the US will require international coordination. The feasibility study will holistically examine modifications to existing reservoirs, channels, and levees within the project area, focused primarily on the Minot metropolitan area, and any possible new structural or nonstructural measures to address flood risk management. Fiscal Year 2016 funds will be used to initiate the study, execute the FCSA, develop a Project

Management Plan, and identify alternatives. Fiscal Year 2017 funds will be used to continue the study and select the tentatively selected plan.

CONSTRUCTION

Monarch-Chesterfield, Missouri

The Monarch-Chesterfield, Missouri, project is located along the right bank of the Missouri River between river miles 46.0 and 38.5. The existing private levee system is 11.5 miles long and protects approximately 4,700 acres from the one percent annual occurrence flood event (100-year). The project consists of raising the existing levees on the Missouri River and Bonhomme Creek to provide protection from a 0.2 percent annual occurrence flood event (500-year) along with relief wells, a sheet pile cutoff, and berms to control underseepage. Other features include roadways, railroad and roadway closure structures, retaining walls, relocations, pumping stations with gravity structures, and environmental mitigation features. Fiscal Year 2016 funds are being used to design and construct pump station (phase 1). Fiscal Year 2017 funds will be used to design and award seepage controls (phase 2), levee safety evaluation report activities, planning, engineering, design, and construction management.

OPERATION AND MAINTENANCE

Continued investment into the routine Inspection, Operation and Maintenance of MVDs extensive and highly successful Flood Risk Management structures and facilities ensures they can reliably provide their authorized flood damage reduction benefits and life safety. MVDs FRM O&M portfolio includes 36 tributary flood control reservoirs, 59 pumping stations, 400 drainage structures, 6400 miles of levees, 700 miles of wingdams, 1144 miles of revetment, 326 miles of rock dikes, and 143 miles of foreshore protection. With an annual FRM investment level of some $300 million the cumulative flood damages prevented across the 1.25 million-square-mile Mississippi River drainage basin is now approaching one trillion dollars, not to mention the countless life loss prevented. The MR&T system alone has prevented roughly $700 billion in damages across the heavily populated southern half of the valley. The $14 billion investment in the greater New Orleans Hurricane and Storm Damage Reduction System is expected to require a $3.5 million annual O&M cost, not currently accounted for in our O&M budget. Much of our FRM portfolio is several decades old requiring careful inspection, O&M and long overdue rehabilitations to ensure continued operational performance. MVD has a regionally ranked listing of 224 major maintenance items valued at nearly $250 million that are annually deferred pending funding opportunities. The recurrent nature and devastating consequences of flooding requires constant vigilance and wise investments to inspect, construct, operate and maintain our invaluable FRM infrastructure. The nations' FRM investments within MVD have proven to be some of the most successful and productive, with benefit returns as high as $44 for every $1 invested.

NAVIGATION
INVESTIGATIONS

Inner Harbor Navigation Canal Lock Replacement, Louisiana

The project is located within the City of New Orleans, Louisiana, in Orleans Parish. The corridor is a combined deep and shallow draft canal extending northward from the Mississippi River to Lake Pontchartrain. The existing Inner Harbor Navigation Canal (IHNC) Lock passes

barge traffic between the Mississippi River and the Gulf Intracoastal Waterway at New Orleans and is a vital link in the Gulf Intracoastal Waterway (GIWW) system. The existing Lock is antiquated and well beyond its design life. Extended delays to navigation are common as a result of the high volume of traffic relative to the lock's capacity and the effects of the three existing local bridges crossing the IHNC in the vicinity of the lock. In 2007, the Federal District Court, Eastern New Orleans District, enjoined the project and required the preparation of a Supplemental EIS (completed in 2009) to describe changes in existing conditions after Hurricane Katrina and to analyze impacts from the recommended plan and alternatives under updated existing conditions. Following the District Court decision, the Port of New Orleans made a formal notification that it was no longer willing to support a deep draft lock increment for the IHNC lock replacement project as the non-Federal sponsor. A general reevaluation (GRR) study will evaluate the benefits and costs of options for a shallow draft or deep draft lock replacement alternative for traffic traveling from the GIWW and the Mississippi River via the IHNC lock. Fiscal Year 2016 funds are being used to identify the Tentatively Selected Plan, Agency Technical Review, Independent External Peer Review, Public and Policy Review. Fiscal Year 2017 funds will be used to complete the GRR with a Chief's Report in December 2017.

Mississippi River Ship Channel, Gulf to Baton Rouge, Louisiana

The Mississippi River Ship Channel, Gulf to Baton Rouge, Louisiana project was authorized for construction by the Supplemental Appropriations Act (PL 99-88). The Water Resources Development Act of 1986 (PL 99-662) provided additional authorization by formalizing the cost-sharing provisions of the project. Construction of the project was organized into three phases. Phase I was completed in December 1987 providing for a depth of 45 feet from Donaldsonville, Louisiana (Mile 181.0) to the Gulf of Mexico. Phase II was completed in December 1994 and involved deepening of the Mississippi River navigation channel from Donaldsonville, Louisiana (Mile 181.0) to Baton Rouge, LA and included dredging eight river crossings. Phase III, which has not been constructed, provides authority to deepen the Mississippi River navigation channel from a depth of 45 feet to a depth of up to 55 feet. Due to the change in conditions and the passage of time since the 1986 authorizations, the Corps is conducting a General Reevaluation Report (GRR). At the request of the local sponsor, the Louisiana Department of Transportation and Development (LaDOTD), this study will only evaluate options for a channel depth of up to 50 feet. The potential transportation cost savings of using post-Panamax size vessels to ship agricultural products to Asia, through the Panama Canal, may lead to an increase in grain traffic on the Mississippi River for export at Gulf ports. A deeper channel would enable the Port of New Orleans, which is now the dominant port for the export of grains from the U.S., to accommodate larger post-Panamax size vessels for these exports. Fiscal Year 2016 funds are being used to continue the GRR. Fiscal Year 2017 funds will be used to complete the study.

OPERATION AND MAINTENANCE

The Mississippi Valley Division is responsible for providing reliable commercial navigation along 5,685 miles of rivers, over 20 ports/harbors, to include 5 major ports in South Louisiana, operating and maintaining 68 locks and navigation control structures. The MVD FY17 Navigation budget is $450 million. This funding will provide the baseline requirements necessary to provide acceptable levels of service to include operation and maintenance of our navigable channels and control structures.

ENVIRONMENT
INVESTIGATIONS

Kaskaskia River Basin, Illinois

The Kaskaskia River Basin, Illinois, located within the Upper Mississippi River Basin, consists of the Kaskaskia River from the headwaters at Champaign, Illinois, to the confluence with the Mississippi River. The basin contains three U.S. Army Corps of Engineers projects: Lake Shelbyville, Carlyle Lake, and the Kaskaskia Navigation Project and faces a number of threats including significant ecosystem degradation to the mainstem river, backwaters, side channels, creeks, tributaries and the State's largest bottomland hardwood forest. The purpose of the study is to identify the threats that pose significant ecosystem degradation in the basin and opportunities for restoration. The goals and outcomes of the Kaskaskia River Basin study will complement and contribute to the ecosystem restoration goals and objectives of the Upper Mississippi River Basin. The nonfederal sponsor for the project is the Lewis and Clark Community College - National Great Rivers Research and Education Center. The study will also be developed in consultation with the Kaskaskia Watershed Association, which represents the entire watershed and is composed of eight different coalition groups. Fiscal Year 2016 funds are being used to initiate the study and identify alternatives. Fiscal Year 2017 funds will be used to select the tentatively selected plan (TSP), get to the agency decision and finalize the report.

Louisiana Coastal Area - Ecosystem Restoration, Louisiana

The Water Resources Development Act of 2007 authorized fifteen near-term features aimed at addressing the critical restoration needs of coastal Louisiana. In addition, it authorized demonstration projects, a beneficial use of dredged material program, project modifications, and a science and technology program.

The State of Louisiana is moving to reduce its partnership with the Corps and to pursue restoration efforts independently or with other agencies or partners. As a result of the 2010 Deepwater Horizon Oil Spill and the subsequent enactment of the Resources and Ecosystems Sustainability, Tourist Opportunities and Revived Economies of the Gulf Coast States Act (RESTORE Act), implementation of the LCA program could be significantly impacted as potential funding directed to the State in the near future presents the State with the opportunity to advance implementation of certain LCA features outside of the LCA program. Under the RESTORE Act, the majority of Clean Water Act fines will be delegated via trust fund to the Gulf Coast States. The States will have control of the RESTORE funds that are allocated to them. The process for how Natural Resources Damage Assessment (NRDA) funds are allocated will be determined by the language approved by the courts in the settlement. LCA projects could be completed using NRDA funds. Although the State currently desires to advance these projects outside of the LCA program, the State desires the ability to request future efforts on these projects be advanced under the LCA Program. The Corps has informed the State of the implications of advancing LCA elements outside of the LCA program, including the impact on credit for in-kind services, and of other risks associated with terminating or revising existing cost share agreements.

Investigations: The LCA Program once a billion dollar/comprehensive program has been reduced to three active projects in FY 2016, Mississippi River Hydrodynamic Model/Delta Management Study, the Beneficial Use of Dredged Material Program, and the Demonstration Program. The State of Louisiana has requested we suspend all work on the LCA 4 projects, 5 of the LCA 6 projects, and Medium Diversion at Myrtle Grove. Negotiations continue to re-engage

on the Barataria Basin Barrier Shoreline and the Small Diversion at Convent Blind River with the State of Louisiana.

Minnesota River Watershed Study, Minnesota and South Dakota (Minnesota River Authority)

The Minnesota River in southwestern Minnesota originates at the Minnesota-South Dakota border, flows 335 miles through some of the richest agricultural land in Minnesota and joins the Mississippi River at Minneapolis and St. Paul, Minnesota. The river drains 16,770 square miles of which 14,840 are in Minnesota, 1,610 in South Dakota, and the remainder in North Dakota and Iowa. One of the recommendations from the Minnesota River reconnaissance study included an integrated watershed, water quality management, and ecosystem restoration analysis that would produce a watershed management plan to facilitate better watershed management and identify specific opportunities for the Corps of Engineers and other stakeholders. As a result, an interagency technical team was formed with expertise in hydrology, geomorphology, limnology, ecology, agriculture, and economics, planning and modeling. The study will take advantage of advanced watershed modeling techniques to understand the relationship of hydrologic and water quality parameters and the relative impacts and benefits of alternative measures for flood damage risk reduction and ecosystem restoration and would integrate the efforts of a wide range of agencies currently working independently, leading to more cost-effective use of existing government programs. Fiscal Year 2016 funds are being used to complete simulations for existing hydrology and materials transport of small watersheds, to initiate the development of a decision support system, and for continuing the feasibility study and modeling. Fiscal Year 2017 funds will be used to complete the Subwatershed Model Development and the decision support system.

Red River of the North Basin, North Dakota, Minnesota, South Dakota and Manitoba, Canada

The Red River of the North, a northward flowing stream, originates at the convergence of the Ottertail, Minnesota and Bois de Sioux Rivers, Minnesota and North Dakota and ends at Lake Winnipeg in Manitoba, Canada. Within the United States, the Red River drains portions of South Dakota, Minnesota, and North Dakota and forms the border between the latter two. The basin has lost much of the natural environment that existed in early settlement times, and flooding has repeatedly caused economic and human hardship. Major flood events totaling billions of dollars in damages have occurred in 1826, 1852, 1893, 1897, 1914, 1919, 1950, 1974, 1975, 1978, 1979, 1985, 1989, 1996, 1997, 2001, 2006, 2009, 2010 and 2011. Additional floods with substantial documented damages occurred on tributaries in other years. Drainage, river modifications, and land use changes, including those for enhancement of agriculture, adversely affected the natural ecosystems. The basin's water resources issues have been the focus of several watershed planning and management initiatives. The major outputs of the basin-wide watershed study include development of a digital elevation model using Light Detection and Ranging data. Fiscal Year 2016 funds are being used to continue progress on the hydrologic model development, and the comprehensive watershed management plan. Fiscal Year 2017 funding will be used to complete the comprehensive watershed management plan and the hydrologic models used to assess the effectiveness of flood damage reduction alternatives.

St. Louis Riverfront, Missouri and Illinois
(Meramec River)

The St. Louis Riverfront study area is approximately 3,011 square miles, encompassing St. Louis City, and St. Louis and Jefferson Counties in Missouri, and St. Clair, Madison, and Monroe Counties in Illinois. A 2004 reconnaissance study investigated problems and opportunities for flood damage reduction, aquatic habitat restoration, and harbor safety issues in the entire study area. The study recommended proceeding with a feasibility study for aquatic habitat restoration in the Meramec River. Several mill dams prevent upstream migration of fish, and specifically host fish for federally endangered mussel species, from the Meramec into the upper portions of the Big River, a tributary of the Meramec River. Additionally, the Big River is listed as impaired with over 55 river miles adversely affected by sediment containing cadmium, lead, and zinc. The Environmental Protection Agency (EPA) is actively working on a superfund site that includes the Big River and the floodplain within Jefferson County. Five federally endangered mussel species are found in the Meramec and Big Rivers. The purpose of the feasibility study, which will be coordinated with the EPA, the U.S. Fish and Wildlife Service and the Agency for Toxic Substances and Disease Registry, is to comprehensively address loss of aquatic habitat due to excessive downstream transport of sediments. Fiscal Year 2016 funds are being used to begin Feasibility Study/Scoping and identify and refine problems, opportunities, objectives and constraints and contract a sediment model that is needed to identify measures during the Feasibility Study. Fiscal Year 2017 funds will be used to continue the feasibility study.

CONSTRUCTION

Louisiana Coastal Area - Ecosystem Restoration, Louisiana

The project's primary purpose is to restore the Louisiana wetland coastal area through the beneficial use of dredged material, river diversion of sediment and water, head land and barrier island restoration, and coastal protection efforts. The Louisiana coastal plain contains one of the largest expanses of coastal wetlands in the contiguous United States (U.S.), and has experienced 90 percent of the total coastal marsh loss in the Nation. The coastal wetlands, built by the deltaic processes of the Mississippi River, contain diverse coastal habitats that range from narrow natural levee and beach ridges to expanses of forested swamps and freshwater, intermediate, brackish, and saline marshes. These unique habitats are hydrologically connected to each other, upland areas, the Gulf of Mexico, and migratory routes of species, including birds and fish. Taken as a whole, these habitats combine to make Louisiana's wetlands among the Nation's most productive and ecologically-significant natural assets.

Fiscal Year 2016 funds are being used to initiate construction on the Beneficial Use of Dredged Material (BUDMat) program Tiger Pass. Fiscal Year 2017 funds will be used for the BUDMat program to initiate construction of Cat Island.

Upper Mississippi River Restoration,
Illinois, Iowa, Minnesota, Missouri, and Wisconsin

The project is authorized for those river reaches having commercial navigation channels on the Upper Mississippi River, Illinois River, Minnesota River, St. Croix River, and Kaskaskia River in the states of Illinois, Iowa, Minnesota, Missouri, and Wisconsin, covering three Corps Districts. The purpose of the Upper Mississippi River Restoration program is to address adverse impacts to the aquatic ecosystem of the Upper Mississippi River. The program consists of two

primary components: (1) Habitat Rehabilitation and Enhancement projects and (2) Long-Term Resource Monitoring. Habitat Rehabilitation and Enhancement projects are effectively preserving and improving fish and wildlife habitat on the Upper Mississippi River System. Projects completed to date have been designed to counteract the effects of backwater sedimentation, provide water level control for waterfowl, create islands to decrease wind generated disturbances; alter flow to increase dissolved oxygen levels during low water, and increase the diversity and abundance of mast (nut) producing trees and native grasslands to benefit wildlife and protect cultural resource sites. Long-Term Resource Monitoring provides scientific information for more informed management of the Upper Mississippi River System ecosystem. Fiscal Year 2016 funds are being used to continue design and/or construction of 16 projects, continue monitoring and other restoration-related activities and finalize the Report to Congress. Fiscal Year 2017 funds will be used for continuation of design and/or construction of 10 projects, collection and analysis of data that monitors the environmental status and trends of the Upper Mississippi River.

OPERATION AND MAINTENANCE

The US Army Corps of Engineers, Mississippi Valley Division is the steward of nearly 2.4 million acres of public lands and waters, 3,744 miles of boundary line and 9,043 miles of shoreline. The mission of the program is to manage and conserve natural resources consistent with ecosystem management principles, while providing quality public outdoor recreation experiences to serve the needs of present and future generations. The management of natural resources by utilizing a stewardship concept ensures the conservation, preservation, or protection of Corps land and water resources. The MVD FY17 O&M Environmental Stewardship budget is $16 million including $4.3 million for MR&T.

RECREATION
OPERATION AND MAINTENANCE

The U.S. Army Corps of Engineers is the largest provider of water-based outdoor recreation in the nation. The Mississippi Valley Division has 43 lake and river projects that contain 853 recreation areas, 3,482 picnic sites, 12,194 camping sites and 422 boat ramps to just name a few of the available amenities. The MVD FY17 O&M Recreation budget is $47 million including $12 million for MR&T. This funding will provide the baseline requirements necessary to provide acceptable levels of service to include operation and maintenance of our recreation areas, visitor centers, local law enforcement agreements, real estate management of our out granted areas, and environmental compliance requirements.

WATER SUPPLY
OPERATION AND MAINTENANCE

Mississippi Valley Division currently has six lakes that provide water supply under contract. The FY17 budget for Water Supply is $234 thousand which will provide funding to administer the existing water supply contracts and calculate and collect the annual fees.

HYDROPOWER
OPERATION AND MAINTENANCE

The Fiscal Year 2017 Program includes $9 million for operation and maintenance of the four Corps owned and operated hydroelectric power plants within the Mississippi Valley Division. This amount includes $2 million at Clarence Cannon Dam Power Plant, $4 million at Blakely Mountain Dam Power Plant, $2 million at DeGray Power Plant, and $2 million at Narrows Dam Power Plant. This funding provides for the basic operation and maintenance of these four power plants and also includes funding for a limited number of non-routine maintenance and repair items at the four power plants. These four power plants generate electric power, which is marketed by the U.S. Department of Energy's Southwestern Power Administration to regional preference customer utilities. The cost of generation of this electric power is recovered and returned to the U.S. Treasury.

HURRICANE and STORM DAMAGE RISK REDUCTION PROJECT,
New Orleans Area, Louisiana

This year marks the eleventh hurricane season, since Hurricane Katrina occurred in August 2005. In close collaboration with partners and sponsors, significant progress has been made on Corps of Engineers' ongoing re-construction, restoration and improvement efforts on the Hurricane and Storm Damage Risk Reduction System (HSDRRS) for the Greater New Orleans (GNO) area. As of September 2011, the GNO HSDRRS was capable of defending against a 100-year storm surge.

The system is stronger and more resilient than prior to Katrina and at any time in history. The planning, design, construction and contracting effort to accomplish this massive construction project in such a short time frame has been immense. The Fiscal Year 2016 program includes over $230 million in prior year appropriations to continue execution of projects to improve internal drainage and to reduce the risk to the greater New Orleans, Louisiana, area from storm surges that have a one percent annual chance of occurring. This work includes restoring and completing construction of hurricane and storm damage reduction features in surrounding areas to previously authorized levels of protection and the incorporation of certain non-Federal levees into the Federal system. Approximately 30 construction contracts are scheduled to be awarded in Fiscal Year 2016. The State of Louisiana is the cost-sharing partner and will operate and maintain the projects after construction. It is estimated that $1.24 billion in supplemental appropriations will be carried over into Fiscal Year 2017 for use on the hurricane risk reduction program. These funds will be used to award remaining construction contracts. This work will also include continuing construction of permanent canal closures and pumps and continuing construction in the New Orleans to Venice project in Plaquemines Parish as well as interior storm drainage.

MISSISSIPPI RIVER AND TRIBUTARIES PROGRAM

The system was tested during the 2016 Winter Flood event. The repairs from the 2011 flood proved to be effective, although, approximately 68 items remain to be completed from the 2011 post flood repairs at an approximate value of $110M. Approximately $584M in damages have been incurred from this event and must be repaired.

The Fiscal Year 2017 Mississippi River and Tributaries budget is $222 million with no assignment of savings and slippage.

LOWER MISSISSIPPI RIVER MAIN STEM (COMMERCIAL NAVIGATION)

The Channel Improvement feature of the project is located in the Mississippi River and along its banks from the vicinity of Cairo, Illinois, to the Head of Passes, Louisiana, which is a distance of approximately 966 miles. The Channel Improvement feature involves both flood control and navigation work. The navigation work involves obtaining the most efficient flow characteristics for commercial navigation by means of dikes and dredging in Arkansas, Illinois, Kentucky, Louisiana, Mississippi, Missouri and Tennessee. All work is programmed. Work planned for the Mississippi River during the 2016 season includes engineering design and construction of stone dikes and channel dredging. Fiscal Year 2017 funds will be used to construct a dike at one location.

LOWER MISSISSIPPI RIVER MAIN STEM (FLOOD DAMAGE REDUCTION)

Construction of four flood damage reduction features of the LMRMS project is ongoing. These are four integrated elements of a single project which operate together (along with other, completed features) as a single system:

Atchafalaya Basin, Louisiana

There are 449 miles of authorized levees in the Atchafalaya Basin project. All of these levees are in place, however as a result of the 2010 Refine Flow Line, most levees below the latitude of I-10 require raising. Fiscal Year 2016 funds are being used to support all required engineering and design and construction management, and to complete the economic evaluation of the MR&T Lower Mississippi River Main Stem (LMRMS) project features. Fiscal Year 2017 funds will be used to support all required engineering and design and construction management.

Channel Improvement

Under the Channel Improvement project, another component of the LMRMS Main Stem system, about 1,054 miles of the 1,097 miles of authorized bank protection have been completed. Work planned for the Mississippi River during the 2016 season includes placing articulated concrete mat revetment, and completion of the economic evaluation of the MR&T Lower Mississippi River Main Stem (LMRMS) project features. Remaining supplemental funds are being used for design and construction of the regional priority repairs during the 2016 revetment season. Fiscal Year 2017 funds will be used to place approximately 3.5 miles of revetment.

Mississippi River Levees

The Mississippi River Levees project is a component of the MR&T Lower Mississippi River Main Stem (LMRMS) project feature for the control of floods on the Mississippi River. The Mississippi River Levee System provides protection for 23,620 square miles and partial protection for an additional 3,780 square miles of land in the alluvial valley subject to flooding by the project design flood. The value of lands and improvements protected by the Main Stem System authorized works against the project design flood is $532.3 billion in 2015 dollars. Work continues on raising deficient levees to the authorized grade as well as constructing seepage

control. Some reaches of the mainline Mississippi River Levees are inadequate to safely convey project design flood flows. Correction of these inadequacies in levee grade and/or section as well as construction of seepage control measures is given a funding priority within the Mississippi River and Tributaries program. Critical levee enlargements are now underway in Louisiana and Mississippi. Fiscal Year 2016 funds are being used for design, relocations, supervision and administration of ongoing construction and award one contract and continue economic evaluation of the MR&T Lower Mississippi River Main Stem (LMRMS) project features. Supplemental funds are being used for ongoing construction at 6 sites. All 24 critical sites funded by supplemental have either been completed or are under contract. Funds budgeted for Fiscal Year 2017 will be used for design, relocations, and supervision and administration of ongoing construction.

Atchafalaya Basin Floodway System, Louisiana

The Atchafalaya Basin Floodway System includes both flood control and ecosystem restoration work. On the Atchafalaya Basin Floodway System, Louisiana, project, programmed work provides for acquisition of 50,000 acres in fee for public access and easements on 338,000 acres for flowage, developmental control, and environmental protection. Approximately 47,084 acres of fee and 116,802 acres of easements lands have been acquired. The Water Resources Development Act of 2007 authorized an additional 20,000 acres in fee for a total of 70,000 acres. Fiscal Year 2016 funds are being used to continue construction of the Buffalo Cove Water Management Unit and complete the economic evaluation of the MR&T Lower Mississippi River Main Stem (LMRMS) project features. Fiscal Year 2017 funds will be used to continue easement acquisition, and planning, engineering and design.

WATER SUPPLY
CONSTRUCTION

Bayou Meto Basin, Arkansas

The project is located in Lonoke, Prairie, Pulaski, Jefferson, and Arkansas Counties in east-central Arkansas. Project features include diversion of excess water from the Arkansas River through a pumping station on the upper end of the project with delivery through a system of new canals, existing streams, and pipelines to the water depleted areas; channel improvements, control structures, and a pumping station on the lower end of the project to provide for reduced flooding; water management; waterfowl conservation and management measures; and other environmental restoration features. The project will provide for water security, groundwater restoration, agricultural water supply, flood control and drainage, water management, and waterfowl management restoration and protection. The agricultural economy, which supports the eastern Arkansas region, cannot exist without a dependable supply of irrigation water. Continued withdrawals at the current rate will deplete the alluvial aquifer so that it no longer is a viable source of irrigation water. Agriculture under its current practice would be impossible. The economic result of exhausting the aquifer would be catastrophic. Without a supplemental source of irrigation water only about 34 percent of the project area could be irrigated which would cause approximately $48,292,000 of losses in net farm revenues. The selected plan for agricultural water supply is the combination of conservation, groundwater, on-farm storage, import water, and environmental measures, which best meet the needs of the project area and is the preferred plan of the project sponsor. The selected plan provides a supplemental source of irrigation water combined with conservation, which will allow the alluvial aquifer to stabilize. Flooding problems occur frequently throughout the basin causing serious damages to agriculture, natural resources, and infrastructure. One of the area's greatest needs

is relief from flooding and improved drainage and water management in the lower portion of the basin. There are currently 650 acres of dead and dying timber in the Bayou Meto Wildlife Management Area with another 12,000 acres stressed to varying degrees. The selected plan of improvement for flood control includes features to reduce flooding, improve drainage and enhance water management. Environmental restoration features will create 240 acres of moist soil habitat for waterfowl, and restore 10,000 acres of wet land buffer units. Fiscal Year 2016 funds are being used to perform design of features at Wildlife Management area, perform design of Little Bayou Meto Channel construction, and perform construction management of prior year awarded contracts. No funds are included in the FY 17 budget for this project.

The Project Partnership Agreement (PPA) was executed with the local sponsor, the Arkansas Natural Resources Commission (ANRC), on 24 May 2010. The Bayou Meto Water Management District (BMWMD), a legal entity with taxing authority, is in partnership with the State of Arkansas on this project.

Grand Prairie Region, Arkansas

The project area is primarily located in Arkansas and Prairie Counties and a small portion in Lonoke and Monroe Counties. The project addresses the problems of water scarcity in eastern Arkansas and water security for the alluvial and Sparta aquifers in eastern Arkansas. The loss of these aquifers would result in devastating losses to the agricultural based economy, and would pose a threat to the municipal and industrial water supply. The project will provide water security, aquifer protection, groundwater conservation, agricultural water supply, and fish and wildlife restoration and enhancement. The project consists of a pumping station located on the White River, a network of new canals, pipelines, and associated channel structures to provide surface water to the water depleted areas. Other project components include on-farm storage reservoirs, conservation measures, and environmental restoration and enhancement measures. Project outputs are water security for eastern Arkansas, preservation of the aquifer for drinking water, creation of fisheries and waterfowl habitat, and agricultural benefits. The agricultural economy, which supports the eastern Arkansas region, cannot exist without a dependable supply of irrigation water. Withdrawals have depleted the alluvial aquifer in many areas so that it no longer is a viable source of irrigation water. Withdrawals have increased in the pristine Sparta aquifer so that continued use will certainly effect the volume of available drinking water and inevitably Arkansas' economy. Agriculture under its current practice would be impossible. The economic result of exhausting the aquifer would be catastrophic. The selected plan is the combination of conservation, groundwater, on-farm storage, import water, and environmental measures, which best meet the needs of the project area and is the preferred plan with the project sponsor. The selected plan provides a supplemental source of irrigation water combined with conservation, which allows water security, and the ability of the alluvial aquifer to stabilize. The environmental benefits consist of preservation of the alluvial and Sparta aquifers, restoration of fisheries habitat, restoration of historic native prairies, and creation of waterfowl habitat. The 184 miles of new canals would result in the creation of 8.560 fish habitat units per month (one habitat equals on acre-foot of prime fish habitat). The new on-farm storage would provide over 8,000 new surface acres on existing farmland. Given that very little of the historic prairie remains in the project area, the project provides the opportunity for restoration of approximately 3,000 acres into native prairie grasses along project rights-of-way. Waterfowl habitat is a major component of the project. An average of 38,000 additional acres of rice field would be flooded annually providing a high quality food source for waterfowl and over 22,000,000 duck use days. In addition, the long term drying of the wetland along the White River within the southern portions of the Grand Prairie would be halted or slowed through protection of the aquifer. Fiscal Year 2016 funds are being used to perform construction

management for ongoing construction. No funds are included in the FY 17 President's Budget. A Project Cooperation Agreement was executed with the project sponsors, the State of Arkansas and the White River Regional Irrigation Water Distribution District (WRID), on 4 August 2000.

MAINTENANCE

Fiscal Year 2016 funds are being used on 35 completed projects for operation of projects and repairs of levee slides, repairs to revetments, harbor dredging, and dredging of the Mississippi River. Fiscal Year 2017 budget for Mississippi River and Tributaries maintenance is included in Region 8 – Lower Mississippi for $151 million. This budget will allow continuation of necessary operations and maintenance activities on 35 completed projects. This work consists of Mississippi River main stem channel and harbor dredging; repairs of levee slides, banks, dikes, and revetments; operation and maintenance of tributary river basin projects; mapping; and inspection of completed works.

NORTHWESTERN DIVISION COMMANDER STATUS REPORT
TO
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE
HOUSE
ON
FISCAL YEAR 2017 BUDGET

BRIGADIER GENERAL SCOTT A. SPELLMON
NORTHWESTERN DIVISION

February 24, 2016

DESCRIPTION OF DIVISION

The Northwestern Division comprises more than twenty-five percent of the U.S. continental landmass including the Columbia River and Missouri River Basins. The Division headquarters is located in Portland, Oregon, and provides direction and guidance for five subordinate District offices located in Kansas City, Missouri; Omaha, Nebraska; Portland, Oregon; and Seattle and Walla Walla, Washington. A Division office, which is focused on work within the Missouri River Basin, as well as management of our Military and Environmental Programs, is located in Omaha, Nebraska.

The Division's Civil Works Program directly supports the Nation's economy through its focus on providing commercial navigation facilities; reducing damages from floods and coastal storms; maintaining safe dams and navigable waterways, providing hydropower, recreation, and other benefits; and developing and executing projects to restore the environment. The President's Budget continues work underway and recognizes that several projects in the Columbia River and Missouri River basins must be adequately funded to satisfy requirements of Biological Opinions issued under the Endangered Species Act (ESA). As we execute our programs, we will utilize the resources provided by Congress to maximize our ability to meet the Nation's water resources needs to the greatest extent possible, to rapidly mobilize and provide response to civil emergencies and military conflicts in support of homeland security, manage risks posed by the Nation's aging water resources infrastructure, to efficiently operate Corps of Engineers facilities providing necessary security, to meet commitments agreed upon with partners and stakeholders, and to meet all requirements of the ESA. The majority of our construction work is executed through contracts with the private sector providing a large economic multiplier and stimulus throughout the Nation's economy.

OVERALL BUDGET

The Northwestern Division's Civil Works budget for Fiscal Year 2017 totals $529,147,000 and continues to focus on completion of projects currently underway to meet regional critical flood risk management, navigation, hydropower and environmental needs. The program returns significant dividends to the Nation's economy and the environment. The Investigations program represents 0.5 percent of our budget and focuses on completion of studies currently underway. The Construction program represents 32.5 percent of our budget and focuses on continuing execution of our important construction projects and addressing important dam safety issues. The remaining 67 percent of our Fiscal Year 2017 program provides the minimum level of funding for routine Operations and Maintenance (O&M) and critical repairs within the environment of an aging infrastructure. The O&M program also includes the funding of environmental compliance requirements and maintaining recreational facilities to accommodate visitor requirements.

In conjunction with the O&M General funding, the Bonneville Power Administration (BPA) directly funds routine and non-routine work associated with power production at hydropower facilities in the Pacific Northwest. Some items that are associated with hydropower are jointly funded by BPA and appropriations. The BPA direct funding for routine expenses and capital improvements for hydropower projects is itemized in the table below

The Northwestern Division also continues to work toward improved timeliness and consistency in all regulatory efforts and is working with other Federal regulatory agencies through the Northwest Interagency Regulatory Workgroup, a collaborative effort to improve the effectiveness and efficiency of our processes, the timeliness of decision-making, and the public's access to information about specific projects under review with the agencies.

	FY16 ENACTED	FY17 BUDGET
APPROPRIATION		
Investigations	$ 4,892,000	$ 2,175,000
Construction	$147,453,000	$172,542,000
Operations/Maintenance	$399,586,000	$354,430,000
Total	**$551,931,000**	**$529,147,000**
BONNEVILLE POWER ADMINISTRATION		
Routine & Non-routine O&M Expenses	$234,660,000	$240,050,000
Direct Funded Large & Small Capital	$152,243,000	$171,851,000
BPA Program Total	**$386,903,000**	**$411,901,000**
NWD TOTAL PROGRAM	**$938,834,000**	**$941,048,000**

PERFORMANCE BUDGET

This budget utilized a performance based priority ranking along eight business lines: flood risk management, navigation, environmental restoration, hydropower, water supply, emergency response, regulatory and recreation within three Regions: the Pacific Northwest System, Columbia River Basin, and Missouri River Basin. The integrated Fiscal Year 2017 Northwestern Division Civil Works budget is developed by business line managers and program managers following the President's Management Agenda.

OBLIGATION PERFORMANCE

During Fiscal Year 2015 the Northwestern Division obligated $925,876,000 for Investigations, Construction, and Operations & Maintenance including remaining items and the BPA direct funding of routine and non-routine hydropower maintenance items. This represents eighty seven percent of the total funds available. During Fiscal Year 2016, we are continuing to focus on projects as appropriated and authorized by Congress.

INVESTIGATIONS

Our Investigations appropriation will fund one new start and three completing studies. The studies cover flood control, navigation, and environmental restoration. Highlights of our Investigations program are presented below.

NEW START STUDY

GRAND RIVER BASIN, IA & MO

The Grand River Basin is a Missouri River tributary that drains 7,900 square miles in southern Iowa and north central Missouri. Riparian, wetland, floodplain and other natural system functions have been seriously degraded over decades due the impacts of Federal and local projects and land use practices. Since the mid-1800s, thousands of acres of wetland and bottomland hardwood habitat have been lost in what is a vital waterfowl flyway. The objectives of the recommended plan will be to protect and enhance the connectivity between the existing high value ecosystem features in the Golden Triangle area, and restore bottomland hardwood and high value wetland habitat supporting resident and migratory species. The study will address impacts to Federal endangered species including the Topeka shiner, Indiana Bat, and Northern long-eared bat. The recommended plan will restore habitat in this critically important flyway that serves 19 migratory bird species listed as conservation concerns. Fiscal Year 2017 funds will be used to start the feasibility phase of the study.

CONTINUING STUDIES

ADAMS AND DENVER COUNTIES, CO

The Adams and Denver Counties study area includes the South Platte River, its tributaries, and the City and County of Denver, Colorado. Urbanization within the floodplains has affected existing waterways, and local governments and organizations have begun restoring habitats along some of these waterways. Interest is high in expanding restoration activities throughout the area and extensive damage from historic flooding has elevated interest in addressing flood risks. This study will be a central component of the overall Urban Waters Federal Partnership effort as it will add the Corps' unique study abilities and implementation potential to the continuing work of 10 Federal and 25 local entities. Fiscal Year 2017 funds will be used to complete the feasibility phase of the study.

BOISE RIVER, BOISE ID

The Boise River study area is located predominately in the Idaho counties of Ada and Canyon. The Boise River is a tributary of the Snake River and the floodplain houses $10 billion of infrastructure vital to the State and regional economy. The watershed now contains significant development in the 100-year chance floodplain. This study will develop a multi-purpose project to reduce significant flood risk while providing water supply and ecosystem restoration benefits. Fiscal Year 2017 funds will be used to complete the feasibility phase of the study.

SEATTLE HARBOR, WA

The Seattle Harbor study area is located in Seattle, WA between the East, West, and Duwamish Waterways navigation channel in Puget Sound's Elliott Bay. The Harbor provides access to existing container terminals and other marine industrial users, which includes nearly 11,000 annual transits. This study will determine potential deepening of the East and West Waterways of Seattle Harbor, to allow existing post panamax and potentially larger vessels to access existing container terminals. Fiscal Year 2017 funds will be used to complete the feasibility phase of the study.

CONSTRUCTION

The appropriation for the Construction budget will fund one new start and four continuing projects in Fiscal Year 2017.

NEW START PROJECT

MUD MOUNTAIN DAM, WA

Mud Mountain Dam is located on the White River about 38 miles southeast of Tacoma in western Washington. The existing fish collection facility collects up to 1.5 million ESA listed and non-listed salmon to be trucked upstream above Mud Mountain Dam, however is presently deteriorated and unsafe for both fish and workers. This project will allow the Corps to continue meeting mitigation and ESA requirements for the Mud Mountain Dam Project. The Fiscal Year 2017 budget will be used to complete design and initiate construction of a new trapping facility, roads and levees and a barrier structure. The project is currently 10 percent complete.

CONTINUING PROJECTS

COLUMBIA RIVER AT THE MOUTH JETTY MAJOR REHABILITATION, OR & WA

The Mouth of the Columbia River Jetty Major Rehabilitation project is located where the Columbia River enters the Pacific Ocean, about 120 miles downstream of Portland, OR, and Vancouver, WA. The Jetty system was constructed from 1885-1939 and consists of three rubble mounded jetties to secure consistent navigation up the river, and annually provides for over $20 billion in international trade. The North Jetty is about 2.5 miles long, the South Jetty is about 6.6 miles long and the Spur Jetty 'A' is about 1.1 miles long. All jetties have suffered significant deterioration. The Fiscal Year 2017 budget will be used for the DDR, Plans and Specifications and Modeling for the South Jetty, and continuation of construction activities at Jetty A. The project is currently 5 percent complete.

COLUMBIA RIVER FISH MITIGATION, WA, OR & ID

The Columbia River Fish Mitigation (CRFM) project purpose is to mitigate impacts to migrating anadromous fish through the Corps dams in the Columbia River and Willamette River basins. The mitigation consists of improvements to facilities provided at the dams for passage of juvenile and adult salmon and steelhead and associated monitoring and research to evaluate effectiveness and develop improvements. Measures are being implemented in response to the National Oceanic and Atmospheric Administration (NOAA) Fisheries listing of 13 salmon and steelhead stocks as threatened/endangered under the ESA. These listings resulted in (1) NOAA Fisheries' Biological Opinions (BiOps) addressing operation of the Federal Columbia River Power System (FCRPS) (2008 BiOp, 2010 Supplemental BiOp and 2014 Supplemental BiOp) and (2) the 2008 NOAA Fisheries BiOp and the U.S. Fish and Wildlife Service (USFWS) BiOp addressing 13 Corps dams in the Willamette River Basin. Actions from the BiOps include developing construction and operational measures to improve fish survival resulting from biological and

engineering research, analyses, and design efforts, developed and prioritized through a regional collaborative process. Efforts began in recent years to also address lamprey passage, avian predation, and to understand salmon habitat needs in the lower river estuary. Since Fiscal Year 2008, actions identified in the Willamette River basin have been pursued under the CRFM program to mitigate impacts to anadromous fish in that sub-basin.

For the FCRPS, the Fiscal Year 2017 budget will be used to construct and evaluate juvenile and adult fish passage improvements and conduct research to inform future configuration and operational actions. The improvements and modifications include actions involving: surface passage, fish ladder improvements, juvenile bypass system improvements, modifications to aid adult lamprey passage, avian predator measures, and spill and other operational changes for ESA-listed fish. Studies include adult passage, spillway and turbine survival, avian predation, and estuary evaluations. FCRPS BiOp and Pacific lamprey actions total $53,597,000 and $3,300,000 respectively. The amount of $28,642,000 will be used for actions in the Willamette basin to continue a comprehensive study to develop a basin-wide plan and priorities for improvements, and initiate and continue construction of the highest priority actions relative to their impact on the ESA-listed salmonid species. The entire project is currently 69 percent complete.

MISSOURI RIVER FISH & WILDLIFE RECOVERY PROGRAM, IA, KS, MO, MT, NE, ND, SD

The Corps is working closely with the USFWS, states, tribes, and other Missouri River basin stakeholders, towards contributing to the recovery of ESA listed species. In 2003, the USFWS issued a BiOp for the operation of the Missouri River Mainstem Reservoir System, the Bank Stabilization and Navigation Project (BSNP) and the Kansas River Projects. The Corps continues to implement the elements of the Reasonable and Prudent Alternative included in that Amended BiOp using funds from the Missouri River Recovery Program, and is presently in compliance with that BiOp. Actions to be conducted using Fiscal Year 2017 funds include program management activities, an integrated science monitoring and evaluation program to assess success of management actions for the species, and development/implementation of an adaptive management strategy that includes USFWS and stakeholder participation in the Missouri River Recovery Implementation Committee. The Missouri River Fish & Wildlife Program is currently 20% percent complete.

TOPEKA, KS

The existing Topeka Levees system includes 43 miles of levees along both sides of the Kansas River within the City of Topeka, KS. The levee system protects over 11,000 acres and $2.67 billion of development, including over 6,400 residences and 790 businesses and public facilities. Failure of a component of the levee system could result in loss of life and hundreds of millions of dollars in flood damage. The project goal is to increase the reliability of the levee system by performing modifications to floodwalls, address underseepage, improve foundations, and pump stations, however raising the levees is not included. Fiscal Year 2017 funding is for project completion (last year funding) activities that will include both continued engineering and design, and construction. This project is currently 10% complete.

CONSTRUCTION, CONTINUING AUTHORITIES PROGRAM

The Continuing Authorities Program (CAP) establishes a process by which the Corps of Engineers can respond to a variety of water resource problems without the need to obtain specific congressional authorization for each project. The CAP is comprised of legislative authorities under whom the Secretary of the Army, acting through the Chief of Engineers, is authorized to plan, design, and implement certain types of water resources projects. Each authority has its own program authority and strict limits on the federal contribution. CAP is budgeted by the Corps applying performance based budgeting to the individual projects requested to be done by our Sponsors to continue the work that provides national flood control, navigation and environmental benefits. In Fiscal Year 2017, HQUSACE will determine the allocation of CAP funding using national project priorities determined by Congress. NWD will remain ready to execute this program to its fullest potential should funding be received on new and/or ongoing projects ranging in purpose from emergency, flood control, environmental, and navigation.

OPERATION AND MAINTENANCE

The Northwestern Division is charged with the stewardship of a large Federal investment in an aging water resources infrastructure in the Columbia River Basin, Missouri River Basin and other areas throughout the Pacific Northwest. National assets include 30 major multipurpose power projects, 82 flood control dams, and numerous navigation projects. As these important water resource facilities increase in age, more of our efforts are focused on necessary repairs. Our budget will provide for minimum repairs and routine operation and maintenance (O&M) for these facilities. It will not reduce the critical maintenance backlog.

CAPITAL AND O&M DIRECT FUNDING FROM BONNEVILLE POWER ADMINISTRATION (BPA)

Under the direction of the National Energy Policy Act of 1992, the Department of the Army and the Department of Energy's Bonneville Power Administration (BPA) signed a Memorandum of Agreement (MOA) in 1994 that provides direct funding for large capital improvements and replacements at Northwestern Division's twenty-one multi-purpose with hydropower projects in Oregon, Washington, Idaho and Montana. Another MOA signed in 1997 provides direct funding for O&M at these same hydropower projects. The BPA O&M direct funding commenced in Fiscal Year (FY) 1999 and eliminates appropriation funding for hydropower O&M activities and the hydropower share of joint cost items.

The existing MOA with BPA was renewed at the end of FY 2013 for an additional five-year term. In accordance with the MOA, a new five-year budget for FY 2012-16 was developed by NWD and signed by BPA. Coincident with a new five-year budget for FY 2017-21, BPA, in coordination with the Corps and Bureau of Reclamation, are negotiating a new rate case for FYs 2018–19. This new rate case sets BPA O&M direct funding levels for those years. The matching non-hydropower share of funding for joint cost items at these projects will continue to be provided through congressional appropriations each year.

The appropriated funding dictates which non-hydropower, joint-use projects will be funded by BPA. The matching appropriation funding is critical to ongoing work since it is required by law, before the BPA portion may be utilized. The appropriated share of these work packages vary from 0.7% to 89.5% of the total funding, and so a small amount of appropriations can direct a large amount of funding for a joint-use item from BPA.

MISSOURI RIVER MAINSTEM SYSTEM WATER MANAGEMENT SUMMARY
IN CALENDAR YEAR 2015 (1 Jan 15 – 31 Dec 15)

The Missouri River basin runoff in calendar year 2015 above Sioux City, Iowa, was 25.8 million acre-feet (MAF), 102 percent of normal. The 2014-2015 mountain snowpack peaked more than a month early at 72 percent of the normal peak accumulation in the reach above Fort Peck and 78 percent of normal in the reach between Fort Peck and Garrison. Plains snowpack was light over most of the basin. All of the 2014 flood water was evacuated by early January when the mainstem reservoir system reached the base of the annual flood control zone, thus

providing the full flood control capacity of the system to reduce flood risk in 2015. System storage peaked at 61.9 MAF on 9 Jul 2015, 5.8 MAF above the base of the annual flood control and multiple use zone. The bi-modal (March and May) spring pulse from Gavins Point dam was not implemented based on the Independent Science Advisory Panel's report on Spring Pulses and Adaptive Management which concluded that the spring pulses as currently implemented are not accomplishing the intended outcomes. Based on this report, the Corps and USFWS agreed to aggressively pursue the recommendations of the ISAP and the development of a Missouri River Recovery Management Plan/EIS. Accordingly, while this plan is being developed the agencies believe it is prudent to forego the spring pulse and that the suspension is not likely to have an adverse effect on the listed species. Full service flow support for Missouri River navigation was provided for the normal 8-month season. Full service flow support is generally sufficient to provide a navigation channel 9 feet deep and 300 feet wide. Winter releases were adjusted as needed to complete the evacuation of the annual flood control pools in early 2016. Hydropower production at the six mainstem dams totaled 8.5 billion kWh in 2015, 91 percent of the long-term average.

COLUMBIA RIVER WATER MANAGEMENT SUMMARY
IN FISCAL YEAR 2015 (1 Oct 14 - 30 Sep 15)

The Dalles, Oregon, is the farthest downstream forecast point on the Columbia River. Hydrologic conditions during the Fiscal Year were very abnormal marked by warmer than normal temperatures and below normal precipitation through much of the winter and spring. This resulted in much of the seasonal runoff occurring in late winter with near-record low runoff in the spring. While the Columbia River runoff in Fiscal Year 2015 above The Dalles was 83.7 million acre-feet for the January through July period (83 percent of normal) the runoff for the April through August period was 58.4 million acre-feet (67 percent of normal and third lowest on record since 1960). Precipitation above The Dalles for the Fiscal Year was 85% of normal. Flood damages prevented by the Columbia (including Kootenai, Pend Oreille, Spokane, Upper and Lower Snake basins) and Willamette River System projects and levees were estimated to be $914 million and $1.73 billion, respectively. The Federal Columbia River Power System (FCRPS) Corps dams generated approximately 47.6 billion kWh of energy in Fiscal Year 2015.

Fiscal Year 2015 Water Management operations in the Columbia River system implemented by the Corps, Bureau of Reclamation and the BPA, collectively the FCRPS Action Agencies (AAs), were consistent with ESA requirements identified in the following BiOps: 1) NOAA Fisheries 2014 Supplemental FCRPS BiOp dated 5 May 2008, and supplemented on 19 May 2010 and on 17 January 2014; 2) NOAA Fisheries 2008 Willamette River Basin Flood Control Project BiOp dated 11 July 2008; 3) USFWS 2000 FCRPS BiOp dated 20 December 2000; 4) USFWS 2006 Libby Dam BiOp dated 18 February 2006, as supplemented with the Clarified Reasonable and Prudent Alternative (RPA) dated 30 December 2008[1]; and 5) USFWS 2008 Willamette River Basin Flood Control Project dated 11 July 2008. All the applicable dry year strategy actions and adaptive management provisions in the BiOps were implemented during Fiscal Year 2015 due to the low water supply conditions. In Fiscal Year 2015 there were no court orders issued requiring different operations and/or actions than those defined in the BiOps.

MISSOURI RIVER MAINSTEM SYSTEM WATER MANAGEMENT FORECAST
FOR CALENDAR YEAR 2016 (1 Jan 16 - 31 Dec 16)

Runoff in the Missouri River basin above Sioux City, Iowa is currently forecast to be slightly below average in 2016. As of 5 February, mountain snowpack was 92 percent of normal in the basin above Fort Peck dam and 74 percent of normal in the reach between Fort Peck and Garrison dams. Normally about 65 percent of the peak mountain snowpack has occurred by early February. Plains snow is very light across the upper basin with most locations reporting less than 1 inches of snow water equivalent. Soil moisture is near normal to slightly drier than normal across much of the upper basin, but much wetter than normal across much of the lower basin. Based on these early season conditions, the forecasted runoff above Sioux City, Iowa, for calendar year 2016 is 23.3 MAF, 92 percent of normal. All of the 2015 flood water was evacuated by early January when the mainstem reservoir system reached the base of the annual flood control zone; the full flood control capacity of the system is available to reduce flood risk in 2016. Navigation support will be at the full service level during the first half of the navigation season; flow support for the second half of the season and the season length will be based on the total system storage on 1 July. Normal reservoir levels and near average runoff this year will likely result in good service to all authorized purposes. The risk of flooding is near normal this year; localized flooding is possible as a result of spring runoff, ice jams or localized heavy rain, particularly in the lower basin where soil conditions are much wetter than normal. The Gavins Point spring pulse will not be implemented in 2016. Water Management's spring public meetings regarding the operation of the reservoir system are scheduled throughout the basin the week of 11 April. Monthly calls with Congressional delegations, Tribes, states and local officials and media are being held; audio files of the calls are available on the Corps' Defense Video and Imagery Distribution System at www.dvidshub.net/unit/OmahaUSACE .

COLUMBIA RIVER WATER MANAGEMENT FORECAST
IN FISCAL YEAR 2016 (1 Oct 15 - 30 Sep 16)

The 2016 water year in the Columbia River at The Dalles has experienced 93 percent of normal runoff 01 October 2015 through 31 January 2016. Expectations for water supply in 2016 are indicating slightly below normal conditions in the Columbia Basin. The official February 2016 water supply forecast prepared by the NWRFC, issued on February 5, predicts the runoff at The Dalles for the April – August period to be 95 percent of normal.

In Fiscal Year 2016, the AAs will implement operations consistent with ESA requirements identified in the following BiOps: 1) NOAA Fisheries 2014 Supplemental FCRPS BiOp dated 5 May 2008, and supplemented on 19 May 2010 and on 17 January 2014; 2) NOAA Fisheries 2008 Willamette River Basin Flood Control Project BiOp dated 11 July 2008; 3) USFWS 2000 FCRPS BiOp dated 20 December 2000; 4) USFWS 2006 Libby Dam BiOp dated 18 February 2006, as supplemented with a Clarified RPA dated 30 December 2008; and, 5) USFWS 2008 Willamette River Basin Flood Control Project BiOp dated 11 July 2008. There is the possibility that court orders issued in Fiscal Year 2016 could require different operations and/or actions than those defined in the BiOps.

COLUMBIA RIVER TREATY 2024 IMPLEMENTATION

The project provides for the US Army Corps of Engineers Northwestern Division Commander's participation as a member of the U.S. Entity, along with BPA Administrator, for implementation of the 1964 Columbia River Treaty (Treaty) with Canada. Implementation includes participation in a joint Operating Committee with the Bonneville Power Administration and British Columbia Hydro and Power Authority charged with developing annual plans for operation of reservoir storage in three Treaty projects in Canada and one Treaty project in the U.S. to meet Treaty flood risk management (FRM) and power objectives, and other mutually beneficial purposes. The Treaty currently provides 8.95 million acre-feet (MAF) of assured, annual FRM storage in Canadian Reservoirs, contributing to reduced flood risk to 850,000 citizens.

In September 2024 the Treaty specifies that the 8.95 MAF of assured, annual flood control storage changes to an annual called upon approach. This means that the current, pre-planned Canadian Reservoir storage expires and Canadian storage will only be available for U.S. FRM operations on an ad-hoc basis that requires payment to Canada for "economic and operating costs." On December 13, 2013, the U.S. Entity transmitted the *U.S Entity Regional Recommendation for the Future of the Columbia River Treaty after 2024* to Department of State and the Administration. At the direction of the Interagency Policy Committee (IPC) and Department of State, the U.S. Entity produced a recommendation that reflects the broadest possible regional consensus developed in collaboration and consultation with the region's sovereign states, federally recognized tribes, and a variety of stakeholders through an extensive, multi-year process.

The Department of State, in consultation with the National Security Council (NSC) and the Administration, is developing the strategy for a National Policy Review, which will result in a decision for the U.S. regarding the Treaty by the Administration. The National Policy Review is coordinated through the Administration via an IPC co-chaired by NSC, Council on Environmental Quality, and Department of State. In 2015, Department of State hired a lead negotiator for the Treaty who has engaged the Region. Through the National Policy Review process and other Department of State activities, the U.S. Entity, including Northwestern Division staff, will continue to provide assistance to Department of State and the IPC through additional technical analysis and additional modeling of scenarios in a timely and effective manner. The project also entails a series of planning studies for implementation of the current treaty provisions required prior to and after 2024.

The President's Fiscal Year 2017 budget includes $5,400,000 to be used for continuation of the Treaty Implementation.

CULTURAL RESOURCES

Columbia River Basin Tribes: The management of historic properties, primarily prehistoric cultural resource sites, was an element of the Columbia River System Operation Review completed in 1996 with the Record of Decision being signed on February 20, 1997. Pursuant to this decision and to fulfill our compliance responsibilities under Section 106 of the National Historic Preservation Act (NHPA), the Corps forged a partnership with the BPA and Bureau of Reclamation to protect and manage historic properties affected by the operation of hydroelectric projects in the Columbia River Basin. Ten Columbia River Basin Tribes are participating in this partnership to assist in meeting responsibilities to preserve and protect historic properties, including traditional cultural properties. The partnership includes the establishment of five Cultural Resource Cooperating Groups (Co-op Groups) to evaluate and prioritize necessary management measures at 12 Corps-administered projects. These Co-op Groups are comprised of Corps and BPA personnel, tribal members, State/Tribal Historic Preservation Officers and other affected state and federal agencies. The focus of each Co-op Group is on individual Corps projects, or a series of projects, located within Portland, Seattle and Walla Walla Districts. Management measures include preparation of historic properties management plans, historic property inventories, National Register evaluations, site mitigation and stabilization, site surveillance, data recovery, curation, and public education.

From Fiscal Year 1999 through 2011, the Corps provided approximately $500,000 annually in Operation and Maintenance funding to conduct management activities at the 12 Corps-administered projects. The BPA provided approximately $2.5 million annually, in accordance with the Direct Funding Agreement between the Corps of Engineers and the BPA. This level of funding remained fixed for thirteen years. Starting in Fiscal Year 2012, both Corps and BPA requested additional funds to increase joint program funding to approximately $6 million annually, $800,000 of this total to be contributed by the Corps. The purpose of this additional funding is to address high-cost mitigation projects and to better manage over 4,000 sites (archeological, historical, and traditional cultural properties) recorded in the Columbia River Basin. As of the end of Fiscal Year 2015, approximately $ 46 million has been expended on various identification, evaluation and treatment activities. Coordination with the tribes is ongoing through Co-op Group activities and through implementation of the 2009 System-wide Programmatic Agreement for compliance with Section 106 NHPA. The Tribes consider funding to be inadequate to effectively manage and mitigate damages to the approximate 4,000 historic properties recorded in the system.

Missouri River Basin Tribes: The Omaha District remains vigilant in the implementation of the 2004 Programmatic Agreement (PA), our commitment to protect our Nation's great historical assets. The PA, which outlines a new approach to preservation of historic and cultural resources on the Upper Missouri River Basin, seeks to implement a shared stewardship approach to accomplishing our preservation responsibilities.

The PA signatories have been actively working several issues stipulated in the PA. A Monitoring and Enforcement Plan, , Public Education Program, shoreline erosion and consultation procedures are a few of the items the group has tackled. The Omaha District has pursued tribal partnerships to complete the difficult mission of cultural site identification, evaluation, monitoring

and protection. Several Tribal governments and Indian-owned and operated businesses have partnered with the Omaha District to implement several PA Stipulations. Lower Brule Employment Enterprises, a construction firm, is a good example, having successfully completed numerous stabilizations throughout the Omaha District.

As mentioned, monitoring and enforcement has also been an area of emphasis. Monitoring of sites is currently being conducted as agreed upon in the Cultural Resource Management Plans and specifically documented in the Monitoring and Enforcement Plan. The monitoring identifies site boundaries and inpacts to the sites. Data is also collected that can assist law enforcement officials in pursuing violations of cultural preservation laws. The monitoring information collected is documented in a GIS database and is being utilized to make strategic decisions for the use of limited funding.

The 5-year cultural resources program requirement continues to grow, currently estimated at $84 million. With the current funding, the Omaha District has been able to make progress in all areas mentioned above, but unfortunately the program requirements are continuing to grow at a rate greater than what can be accomplished with the current funding level. Therefore, the Upper Missouri River Basin Tribes and other concerned parties continue to express concerns over impacts from the operation of the main stem system on cultural resource sites. The Tribes view funding amounts for the protection of cultural sites as inadequate. Even at the current funding level, National Register eligible sites continue to be impacted and lost due to erosion, encroachment and looting.

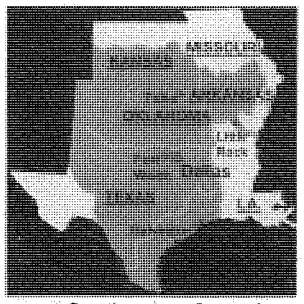
CONCLUSION

In summary, significant accomplishments highlight our current work year. We will continue to meet the nation's water resource needs, prepare and respond to emergencies, both natural and man-made, as well as provide security and protective measures for our infrastructure. Our dynamic and challenging military construction, environmental restoration, and Civil Works programs have developed a diverse pool of technical experts and centers of expertise ready to address the toughest challenges this Nation may demand of us. Our acquisition strategies, such as design-build, are balancing the needs of the most cost-effective contracting mechanisms with the development of robust internal capabilities. Additionally, we are improving the timeliness and consistency of regulatory program efforts. The execution of our Civil Works programs, including development of water resource projects, mitigation in the Columbia River and Missouri River Basins to meet requirements associated with the Endangered Species Act, prevention of flood damages, and the efficient delivery of engineering services is of benefit to the Nation, as well as the 12 states and 41 Congressional Districts within the Northwestern Division boundary.

STATUS REPORT ON CIVIL WORKS ACTIVITIES IN THE SOUTHWESTERN DIVISION FISCAL YEAR 2017 TESTIMONY

BRIGADER GENERAL David Hill
DIVISION COMMANDER
26 February 2016

INTRODUCTION



The Southwestern Division's area of responsibility embraces all or part of six states, an expanse that contains about 10 percent of the land area (376,300 square miles) and 11 percent of the total population (34.4 million) of the United States based on the calendar year 2010 population data. The Division is headquartered in Dallas, Texas, and is made up of approximately 3,000 professional employees located in four engineer districts, with offices located in Fort Worth and Galveston, Texas; Little Rock, Arkansas; and Tulsa, Oklahoma. The three primary mission areas include Civil Works, Military, and International and Interagency Services, with a focus on supporting Overseas Contingency Operations, keeping America safe, and ensuring continued prosperity of the Nation.

The Southwestern Division's Civil Works program involves planning, design, construction, and operation and maintenance of water resource projects to meet the region's need for water supply, flood damage reduction, navigation, aquatic ecosystem restoration, hydropower, recreation and other water-related needs. Within the region the Division is responsible for some 2.3 million acres of public land and water. That's 29 percent of the Corps' total of managed lands. The Southwestern Division maintains 74 multi-purpose reservoirs; 1,200 miles of inland waterways (Gulf Intracoastal Waterway and McClellan-Kerr-Arkansas River Navigation System) to include 21 locks and dams, and 32 coastal navigation channels and ports. We currently have 12 ongoing feasibility studies and 8 projects in the Preconstruction Engineering and Design phase assessing the feasibility of implementing Navigation, Flood Risk Management, and Ecosystem Restoration measures, and 14 projects under the construction implementation phase.

Building into FY 2017, the Southwestern Division continues to focus on working closely with our non-Federal partners and stakeholders to continue the long term relationship for enhancing the water resources infrastructure of the region. The Southwestern Division FY2017 budget is focused on four Civil Works priorities that relate to infrastructure systems or portfolios. These are the Texas Coast; Multipurpose Reservoirs; the

McClellan-Kerr Arkansas River Navigation System (MKARNS); and Hydropower. Examples of the significance of these priorities abound.

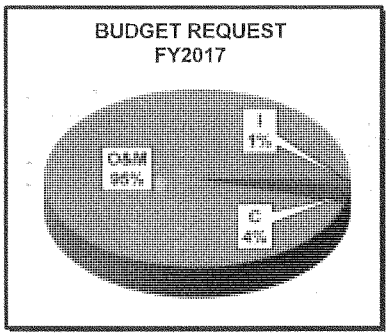
Southwestern Division's Civil Works missions are vital to ensure the continued economic well-being of the nation. More than one-half billion tons of waterborne commerce is shipped annually over the region's 15 deep-draft ports, 17 shallow-draft ports, and more than 1,200 miles of inland waterways. Based on the 2014 Waterborne Statistics, 22 percent of all waterborne commerce within the Nation, and 23 percent of foreign goods were transported on the waterways improved and maintained by the Southwestern Division. Three of the nation's top ten ports (Houston, Beaumont, and Corpus Christi) are located on the Texas Gulf Coast. The Houston Ship Channel contributes an estimated $265 billion to the Texas economy and $499 billion to the national economy on an annual basis, and provides more than 2.1 million direct and indirect nationwide jobs. In addition to the economic benefits derived from the Southwestern Division's navigation program, the work accomplished within the region is key to maintaining the national defense as the Ports of Corpus Christi and Beaumont are two of the debarkation sites for transport of military goods and materials involved in supporting Overseas Contingency Operations.

The value to the nation provided by the Southwestern Division's flood risk management (FRM) infrastructure, constructed operated, and maintained with our great partners, was brought to the forefront in calendar year 2015. Many regions within the Southwestern Division experienced record annual rainfall records. During calendar year 2015 the Southwestern Division had 51 of its 74 FRM reservoirs in flood pool, 23 FRM reservoirs in surcharge pool, and 8 FRM reservoirs set new pools of record. The existing Southwestern Division FRM reservoirs and floodways prevented $27.7 billion of damages. This included $9.1 billion of damages prevented within the Houston, TX metro area, and $16 billion within the Dallas/Fort Worth Metroplex. While the Southwestern Division FRM infrastructure operate as intended, our existing infrastructure experienced more than $100 million of damages from more than two months of emergency operations that included closures to the McClellan-Kerr Arkansas River Navigation System, and a four month reduction in the recreation season. To date, $50 million has been funded to restore critical FRM infrastructure at the FRM reservoirs. There still remains a $30 million shortfall of funding required to restore our recreation areas across the Southwestern Division.

The Civil Works infrastructure within the Southwestern Division is aging, which can lower productive efficiency and affect the ability to provide important benefits to the Nation. Making this aging infrastructure more resilient requires a collaborative effort between government agencies, industry and public/private partnerships. Our Regional Priorities enable us to remain focused delivering solutions to the Nation's most pressing water resource challenges. The Southwestern Division has worked intensely with our partners to develop system and portfolio-wide investment strategies that include requirements for both new infrastructure and sustainment of existing infrastructure. This collaboration has resulted in improved reliability of the MKARNS through establishment of a five year maintenance plan; the Southwestern Power Administration (SWPA) and

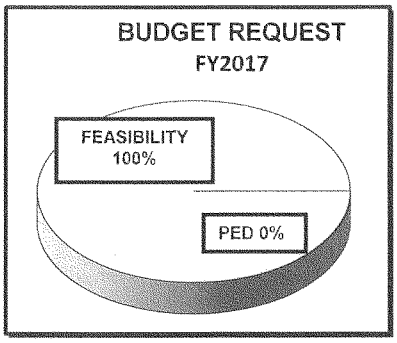
its Customers developing a 20 year investment strategy to fund the rehabilitation of all existing powerhouses within SWPA's footprint; the Texas Department of Transportation moving forward on the feasibility study to identify a feasible alternative for rehabilitating or replacing the GIWW – Brazos River Floodgates; and Port led improvements to a number of navigation channels on the Texas Coast to prepare for the larger vessels expected from the expansion of the Panama Canal. The Southwestern Division will continue to work with our partners to develop innovative approaches to resource and accelerate the delivery of critical infrastructure investments through alternative financing that includes contributed funds and work-in-kind by our sponsors, public-private partnerships (P3), and public-public-private partnerships (P4). The Districts of the Southwestern Division will look at all avenues to ensure we deliver on our commitment to our partners and to the American people. We will look at all avenues to ensure that we deliver on our commitment to our partners and to the American people. Our Regional Priorities will help us continue to touch the lives of Americans every day!

FISCAL YEAR 2017 PROGRAM



The FY 2017 Federal budget request for studies and projects in the Southwestern Division is approximately $419 million. This amount is proposed to be proportioned in the percentages shown at right for the Investigations (I), Construction (C), and Operation and Maintenance (O&M) appropriations. The requested amount is about 14 percent less than the $485 million in Federal funds that were included in the FY 2016 budget for the Southwestern Division. The reduction between the FY 2016 and FY 2017 budget is due to the reduction in the Construction Account as a result of the completion of the Canton Lake, OK Dam Safety, the Pine Creek Lake, OK Dam Safety, and the Lower Colorado River Basin, Onion Creek, TX projects in FY 2016.

INVESTIGATIONS



Approximately $6.1 million is proposed in the FY 2017 budget for continuation of six feasibility studies. The amount provided, together with scheduled non-Federal sponsor contributions of about $5.1 million, will provide for continued planning activities on high priority studies in the Southwestern Division area.

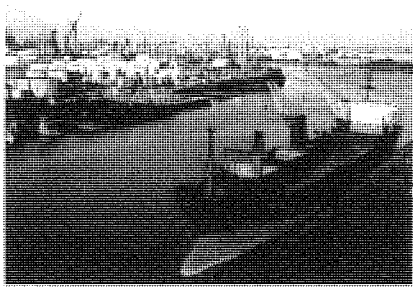
The breakdown of Federal appropriations for the Southwestern Division's FY2017 Investigations program is as follows:

FISCAL YEAR 2017 INVESTIGATIONS PROGRAM

STUDY	FEDERAL REQUEST	NON-FEDERAL SPONSOR CONTRIBUTION
Three Rivers, AR	580,000	580,000
Arkansas River Corridor, OK	415,000	415,000
Coastal Texas Protection and Restoration, TX	1,825,000	1,825,000
GIWW – Brazos River Floodgates & Colorado River Locks, TX	1,000,000	0
Houston Ship Channel, TX	1,750,000	1,750,000
Matagorda Ship Channel, TX	500,000	500,000
TOTAL STUDIES	**$6,070,000**	**$5,070,000**

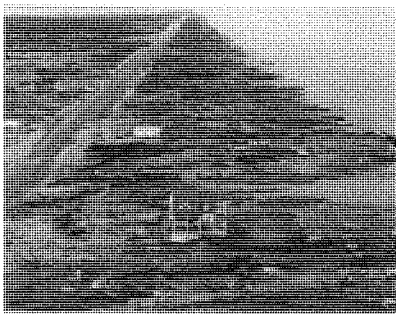
Five of the six feasibility studies are being pursued on a 50-50 cost sharing basis with non-Federal sponsors in accordance with Public Law 99-662, the Water Resources Development Act of 1986. The remaining study, Gulf Intracoastal Waterway (GIWW) – Brazos River Floodgates and Colorado River Locks, TX study is being conducted at full Federal expense as the project is part of the Inland Waterways System.

The Port of Houston is the nation's number one port in terms of foreign waterborne tonnage and number two in total US tonnage based on 2014 Waterborne Commerce data. The major commodities include petroleum, chemicals, and bulk goods. The feasibility study for the Houston Ship Channel will assess the Federal interest in potential deepening and widening of the Bayou reach of the project, and reduce navigation delays along the entire channel, especially in the Galveston Bay reach. The study will address concerns due to current vessel traffic having to light load to be able to transit the Boggy

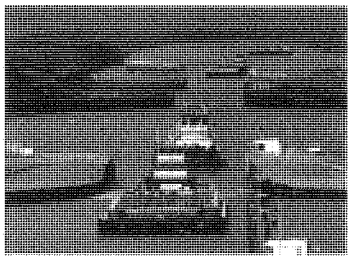


Bayou reach of the channel. Development along the channel has continued to increase, resulting in more vessel traffic and creating an increased risk of collisions and other incidents between vessels, along with the need to improve efficiencies. The feasibility study will investigate the incremental deepening of the Boggy Bayou reach from 1-foot to 5-foot depth in addition to any necessary widening to accommodate larger vessels. In addition to the investigations on the Boggy Bayou Reach, the study will investigate alternatives to address navigation safety concerns on the entire waterway, with a special emphasis on concerns with the Galveston Bay Reach of the channel. A major challenge in this study, due to the industrial growth in the area, will be the coordination of new environmentally suitable placement areas in conjunction with beneficial use of dredge material. The Port of Houston Authority is the local sponsor for the feasibility study. Due to the complexities of the study, the study received an approved exemption on 10 November 2015 to expand the total study cost to $10 million, and increase the time to complete the study to four years. The Feasibility Cost Sharing Agreement was executed on 13 November 2015.

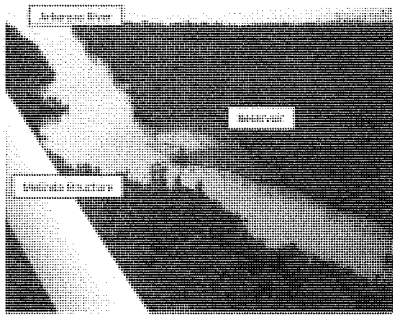
The feasibility study, Coastal Texas Protection and Restoration has a study area that consists of the entire Texas Gulf Coast from the mouth of the Sabine River to the mouth of the Rio Grande. The Texas coastal zone contains several large cities at risk during storm events including the nation's 4th largest city (Houston). The coastal region is home to approximately 3 million people living within the storm-surge inundation zone. Mineral production has a value of nearly a billion dollars per year and commercial fisheries generate another $156 million. Agriculture in the less populated counties generates approximately $500 million of product per year. The study area includes critical coastal ecosystems of 3.9 million acres of wetlands, 235,000 acres of sea grass, 367 miles of sea turtle nesting habitat, 380,000 acres of piping plover critical habitat, and 328 square miles of whooping crane critical habitat, as well as 21 state and Federal wildlife refuges. Of the 367 miles of shoreline, more than 60 percent has been identified by the Texas General Land Office (GLO) as subject to high rates of erosion. Flooding from hurricanes and other rainfall events makes the 25 percent of the state population that live within the 18 coastal county areas vulnerable to impact from storms. The ten tropical storms and hurricanes that struck Texas in the last decade resulted in 176 fatalities and over $36 billion in damages. According to the Federal Emergency Management Agency (FEMA),



Hurricane Ike in 2008 was the third most destructive hurricane ever to hit the United States, with losses of more than $27 billion, and responsible for 112 deaths. The study will develop a comprehensive coastal Protection and restoration plan to reduce risk and damages to public safety, property, and environmental resources from storms and erosion. The goal of the study will be to identify critical data needs and recommend a comprehensive strategy for reducing flood risk through structural and nonstructural measures that take advantage of natural features like barrier islands and storm surge storage in wetlands. The study has been divided into four regions. The study received an approved exemption on 10 November 2015 to expand the total study cost to $20 million, and increase the time to complete the study to five and a half years. The Feasibility Cost Sharing Agreement was executed with the Texas General Land Office on 16 November 2015.



The GIWW – Brazos River Floodgates and Colorado River Locks, TX feasibility study will assess the feasibility of replacing or rehabilitating the Brazos River Floodgates and Colorado River Locks located on the Gulf Intracoastal Waterway. Both facilities experience more than 12,000 lockages with more than 26,000 tons of commerce navigating through this reach of the GIWW, annually. Commerce has experienced delays close to 80 percent of the time, and more than 50 unscheduled lock closures during calendar year 2014. The feasibility study is being done in coordination with the Texas Department of Transportation (TXDOT). The Inland Waterways User Board (IWUB) has rated the need to correct the navigation deficiencies on the GIWW as two of the highest priorities in the nation.

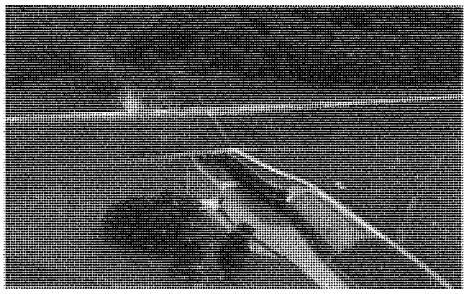


Melinda Structure overtopped with flows from the Arkansas River toward the White River (31 May 2015)

The Three Rivers, Arkansas Feasibility Study will address another high priority navigation concern of the IWUB and the number one priority of MKARNS stakeholders. During flood events, the 4.5 mile containment structure separating the Arkansas and White Rivers is at great risk of a breach. If a breach occurs, flows between the two rivers threatens to shut down navigation on the McClellan-Kerr Arkansas River Navigation System (MKARNS), as well as destroy hundreds of acres of pristine bottomland hardwood forest along the Mississippi-White-Arkansas River corridor. The patch work of structures constructed over the past 40 years to maintain separation between the two rivers has also led to degradation of tens of thousands of acres of aquatic ecosystem habitat. MKARNS ships about $3.4 billion (12 million tons) worth of commodities to and from

terminals in Arkansas and Oklahoma. In 2015, the Department of Transportation upgraded the MKARNS from "connector" to "corridor" as part of the Maritime Administration America's Marine Highway Program. This upgrade status brings the MKARNS into the same category as other major inland waterways, such as the Ohio River. Study projections indicate that tonnage through the project area will grow from about 10.0 million tons per year to 17.7 million (an increase of 76 percent) over the planning horizon. Within this reach of the MKARNS is the largest area of remaining continuous bottomland Hardwoods in the lower Mississippi Alluvial Valley. The study will assess alternatives that will provide long term environmentally sustainable solutions to the continued use of the MKARNS and look at alternatives that will restore the function of the bottomland hardwoods in the study area. The Arkansas Waterways Commission is the non-Federal sponsor for the study.

CONSTRUCTION



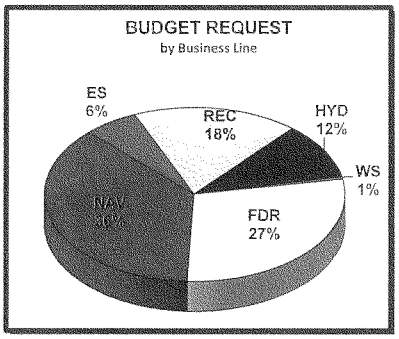
The FY 2017 budget for the Construction Account includes $13.3 million for continued construction activities on one Dam Safety Program project, Buffalo Bayou and Tributaries, commonly known as Addicks and Barker. The Southwestern Division has an active Dam Safety Assurance program in the Construction Account. The purposes of the Corps' Dam Safety Program are to protect life, property, and the environment by ensuring that all dams are designed, constructed, operated, and maintained as safely and effectively as is reasonably possible. A key mission of the program is to achieve an equitable and reasonably low level of risk to the public from its dams. The FY 2017 funds provided will continue construction of the new outlet work structure at Addicks and Barker Dams.

FISCAL YEAR 2017 CONSTRUCTION PROGRAM

PROJECT	FEDERAL FUNDS REQUESTS	NON-FED CASH CONTRIBUTIONS	NON-FED LERRD
TEXAS			
Buffalo Bayou and Tributaries, Dam Safety, TX	13,300,000	0	0
GRAND TOTAL CONSTRUCTION	$13,300,000	0	0

OPERATION AND MAINTENANCE

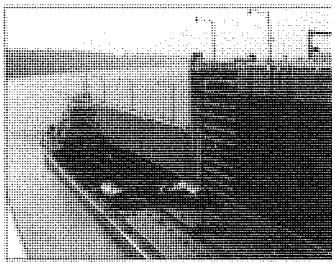
The FY 2017 budget for the Operation and Maintenance (O&M) Account for projects and activities in the Southwestern Division is approximately $396 million.



The Southwestern Division has continued to implement numerous cost reduction initiatives to address expected sustained future reductions of operation and maintenance budgets. These initiatives include using the latest technology and equipment to reduce the cost of underwater surveys for waterways, channels and harbors; reducing park services during non-peak visitation periods; leasing parks to local governments and non-profit organizations; reorganizing reservoir project manager's responsibilities to oversee multiple projects; sharing resources, including work crews, between projects; and installation of remote control equipment to manage multiple hydropower facilities from a single site.

The following business lines: commercial navigation (NAV), flood and coastal storm damage risk reduction (FDR), hydropower (HYD), environmental stewardship (ENS), recreation (REC), and water supply (WS) are within the O&M program and are discussed below.

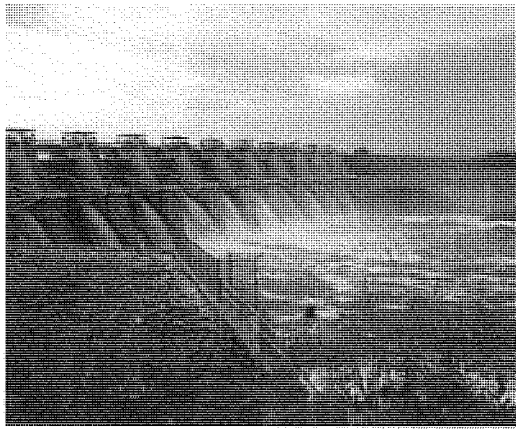
NAVIGATION



O&M funding in the FY 2017 Budget includes approximately $145.9 million to maintain 32 channels (15 deep draft and 17 shallow draft) along the Texas Gulf Coast and more than 1,200 miles of inland and intracoastal waterways in Texas, Oklahoma, and Arkansas. These funds sustain ports and waterways within the States of Arkansas, Oklahoma, and Texas which, according to the 2014 Waterborne Commerce Statistics, accounted for 25 percent of the nation's total imports and 24percent of the nation's total exports with respect to commercial tonnage. Also during 2014, the State of Texas ranked first in foreign waterborne tonnage traffic with 506.6 million tons transported through Texas ports. The Southwestern Division has three ports ranked within the top ten of the nation's ports: the Port of Houston ranked second in the nation behind the Port of South Louisiana, the Port of Beaumont ranked fourth, and the Port of Corpus Christi ranked sixth. There are eight additional ports in the Southwestern Division that are in the Top 100 Leading US Ports – Port of Texas City,

Port Arthur, Port Freeport, Port of Galveston, Port Lavaca, Port of Brownsville, the Port of Victoria, and the Port of Catoosa, OK. Other major navigation channels in Texas include the Sabine-Neches Waterway and the Matagorda Ship Channel. The budget also includes funding to operate and maintain one inland and one intra-coastal marine transportation system -- the 445 mile MKARNS in Arkansas and Oklahoma and the 424 mile Gulf Intracoastal Waterway (GIWW) along with 365 miles of tributary channels along the Texas Gulf Coast.

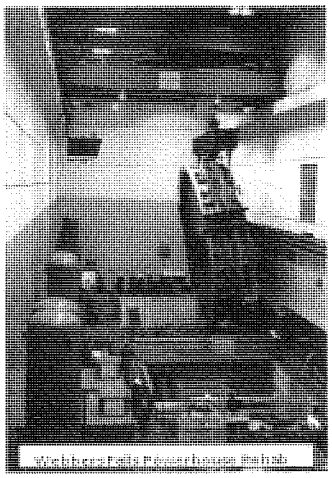
FLOOD RISK MANAGEMENT



O&M funding in the FY 2017 Budget includes approximately $109 million for the continued operation and maintenance of 74 reservoirs and other flood control activities (scheduling reservoir operations and inspection of completed works). The 74 reservoirs are located as follows: ten in Arkansas; eight in Kansas; two in Missouri; 22 in Oklahoma; and 32 in Texas. This business line covers projects in all of the 12 river systems serviced by the Southwestern Division Civil Works region. In FY 2015, the flood damages prevented by Southwestern Division projects were estimated at $27.7 billion. The cumulative flood damages prevented exceed $112 billion.

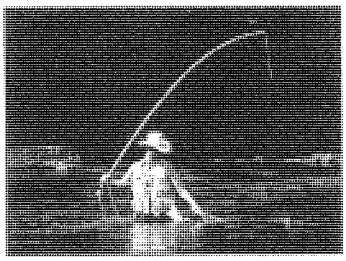
HYDROPOWER

O&M funding in the FY 2017 Budget includes approximately $42 million for the continued operation and maintenance of 18 projects in six river systems. These projects are located as follows: six in Arkansas; one in Missouri; seven in Oklahoma; three in Texas; and one on the Texas-Oklahoma state line. The six river systems providing hydropower are the Upper Red River, Red River, Upper Arkansas River, Arkansas River, Neches, and the Brazos River systems. These 18 hydroelectric power projects have a total installed capacity of just over 1.7 gigawatts and, without creating air pollution, produced about 3.0 billion kilowatt hours of clean energy and generated over $199 million in revenue returned to the U.S. Treasury in FY 2014. Nationally, the average annual energy produced in SWD is ranked third in the Corps. The Southwestern Division power plants provide 87% of the hydropower energy marketed by the Southwestern Power Administration (SWPA). The power produced at the Southwestern Division hydropower



plants is provided to preferential customers consisting of 3 Military Installations, 47 Municipalities, 13 Distribution, and 9 Generation and Transmission Cooperatives across 6 states. Through SWPA, SWD provides hydroelectric power that ultimately serves over eight million end users. These 18 power plants, containing 55 units, were available for production approximately 78 percent of the time during FY 2015. The Corps goal is 87 percent or better. The lower than desired production availability percentage can be primarily attributed to the Ozark Powerhouse project in Arkansas and the Webbers Falls Powerhouse project in Oklahoma. Major rehabilitation activities at these two locations were initiated in FY 2007 and will continue through FY 2016 to replace the five turbines at Ozark and the three turbines at Webbers Falls. The Whitney Powerhouse rehabilitation project in Texas is essentially complete and replaced the two existing turbines with "state of the art" turbines along with rewinding the existing generators. The annual increase in energy produced by each turbine will be enough to power 1,500 average homes for one year. The remaining 15 hydropower power plants have been in service for more than 30 years and all 15 require rehabilitation. The next two major rehabilitations will be at Robert S. Kerr Powerhouse in Oklahoma and Norfork Powerhouse in Arkansas. Plans and Specifications will be started in FY16. These are Customer Funded projects. In coordination with Southwestern Power Administration, a Strategic Partner, and our stakeholders, a plan has been developed to replace the major equipment in the powerhouses over the next 30 years.

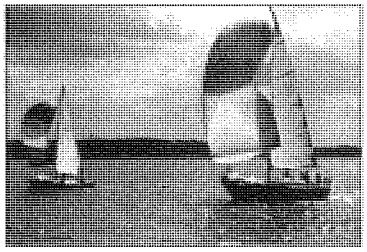
ENVIRONMENTAL STEWARDSHIP



Environmental stewardship is an essential consideration at all of our projects. The illustrative distribution of O&M funding in the FY 2017 Budget includes approximately $25 million to manage the existing 3.5 million acres of lands and waters at reservoirs across the region and 11,600 miles of shoreline. The Southwestern Division manages approximately 9,000 private dock and 9,500 land based permits through the Shoreline Management Program. This unique interface between land and water is increasingly valuable to the American Public. Many of our lands and water are islands of green in rapidly growing urban areas. Our lands and water are home to

numerous endangered species and many cultural resource sites. The Corps executes stewardship on projects land and waters to sustain healthy natural resources and cultural resources and take action to minimize adverse environmental impacts to provide healthy project lands and waters to future generations.

RECREATION



Nationwide, the Corps of Engineers is the largest Federal provider of recreation opportunities. Recreation continues to be a significant part of the economy in the Southwestern Division area, and is an important part of the lifestyle of the Southwest. Lakes within the Southwestern Division provide quality recreational opportunities, with 20 percent of the Corps' total recreation projects located within the region's boundaries. Southwestern Division manages a total of 11,600 miles of lake shoreline: including 1,172 recreation sites, 1,174 boat ramps, and 28,112 campsites. Our lakes host more than 74 million visits each year. An estimated $1.3 billion is spent annually on recreation supplies and equipment in the Southwestern Division area for use at Corps projects. These purchases support 65,000 jobs that would not otherwise exist. Historically, Southwestern Division leads the Corps in collecting approximately 35 percent of the total recreation fees collected by the Corps nationwide. In FY 2015, recreation fees collected at Southwestern Division facilities returned more than $18 million to the U.S. Treasury. O&M funding in the amount of approximately $71 million will enhance the recreation experience for visitors at the more than 1,000 recreation areas within the region. The 2015 floods caused more than $35 million of damage to recreation facilities at the Southwestern Division Multi-purpose reservoirs. The scope of all damages has not been fully assessed as some areas are still under water. Based on the current assessment, flood damage impacts to the 2016 recreation season could include closure of up to 10 parks, with an additional 47 parks having partial closure of some of the recreation areas. As the Multi-purpose reservoir flood pools are evacuated, additional damages could be found to water and electrical systems, and other structures that could increase the number of impacted parks.

WATER SUPPLY

Water supply is an increasingly important benefit provided by Corps lakes, especially with recurrent droughts and many projected shortages in urban areas. With 8.4 million acre-feet of water storage for municipal, industrial, and agricultural use, the Division's lakes provide 36 percent of surface storage to meet the water supply needs for Texas, 35 percent for Oklahoma, 20 percent for Kansas, for 20 percent of Arkansas. Water quality, quantity, and distribution are regional challenges that the Division and its local partners are addressing. O&M funding in the amount of $1.7 million will be used to

manage 274 existing water supply contracts at Corps reservoirs. These contracts control 8.4 million acre-feet (2.8 trillion gallons) annually, or enough water to supply the annual needs of 1.8 million typical households.

EMERGENCY MANAGEMENT

In addition to the Investigation, Construction, and Operation and Maintenance programs, the Southwestern Division is funded to provide Emergency Management assistance to the Nation through the Flood Control and Coastal Emergency Program (FC&CE). In response to the 2015 floods, requests from 16 non-Federal sponsors were received to repair damages to flood risk management project operated and maintained by non-Federal entities under the FC&CE program. Funding has been requested to complete nine Project Information Reports (PIR) to identify the scope and costs for the repairs.

REGULATORY PROGRAM

During FY 2015 within SWD approximately 6,700 permit decisions and 3,800 jurisdictional determinations (JDs) were completed by the four districts under the authorities of Section 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act of 1899, and Section 103 of the Marine Protection, Research, and Sanctuaries Act. Through the appeal program, SWD received and completed three appeals. SWD has not received any appeals thus far in this FY, but based on historic averages, it is expected that SWD will receive about four appeals before the end of FY 16. FY 2016 Regulatory Program initiatives will continue to emphasize improving the transparency of the permit process for applicants and expediting permit decisions while still providing protection for the aquatic environment. SWD is located in a region that is increasing in population with four of the top 10 fastest growing metropolitan areas in the country and has extensive oil and gas exploration occurring in several regions. To meet water demands of the growing population numerous water supply projects are proposed. There are two permit applications for large water supply projects currently under review within the Regulatory Program. Applications for several others are anticipated in the near future. Due to the size of impacts to waters of the US, these water supply projects are requiring environmental impact statements (EISs) which require several years to complete. An interagency workgroup was established and is developing recommendations for improving the permit review process for large water supply projects in Texas. Along the Gulf coast, numerous dredging projects are under review which if permitted, would allow deepening of existing ports and channels to accommodate larger ships. Within SWD there was nearly a twenty percent increase in the number of completed permit actions in FY 2015, with the Galveston District having a 27 percent increase in the number of permit decisions. This increase in workload was due primarily to energy related projects. Overall, in FY15 the Regulatory Program met or exceeded the national performance measure (PM) targets However, the recent increase in three of the eight targets have made it more difficult to meet the PMs. The interagency coordination of regional conditions to the nationwide permits (NWPs), which are updated every five years, will

begin in FY16 and continue into FY17. Because over 94 percent of all permit actions in SWD are authorized using NWPs, development of appropriate regional conditions is essential to ensure protection of the aquatic environment. To improve the efficiency and consistency of the program while minimizing impacts to the aquatic environment, districts continue to develop additional regional general permits, utilize pre-application coordination meetings, collaborate with other agencies, consult with tribes, implement regional initiatives and agreements, and support mitigation banking. While expediting the permit evaluation process for transportation, energy and water resource projects is a priority, given the volume of actions and our budget, implementing methods to accomplish this continues to be challenging without the ability to increase staffing.

SUMMARY

In summary, the Southwestern Division has a $419 million program for Civil Works water resource management and development in FY 2017. Public health and safety remain our number-one priority, which is emphasized continually across the region. With a work force of about 3,000, contractor support and shared work with local partners and stakeholders, the Division operates and maintains a substantial infrastructure that provides navigation channels, needed flood damage reduction to reduce human suffering and economic loss, hydroelectric power, water supply, and quality recreation opportunities for the American people, as well as disaster response throughout the Southwest wherever our Nation has a need.

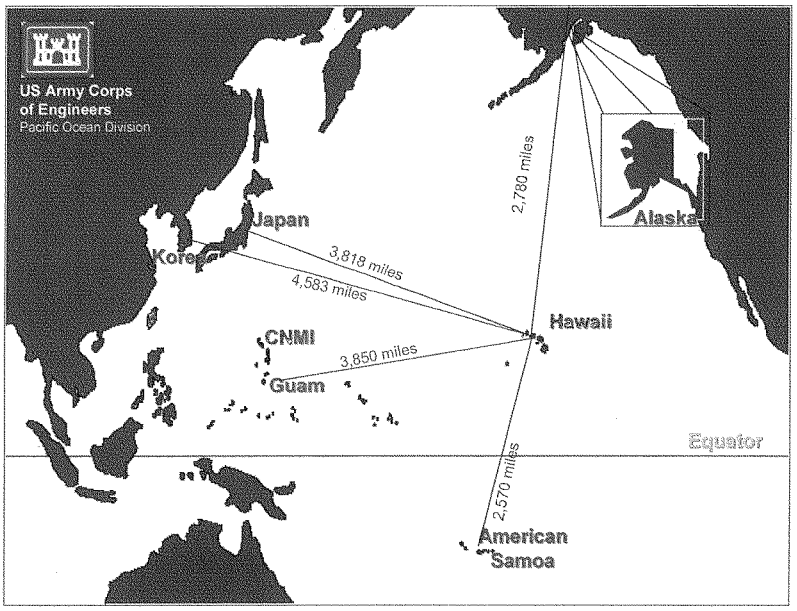
The "Pacesetter" Southwestern Division continues to demonstrate its selfless service and ability to respond to our Nation's domestic and emergency needs to serve the American people and bring enduring value to our Nation.

**DIVISION COMMANDER'S STATUS REPORT TO THE
SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT
COMMITTEE ON APPROPRIATIONS
HOUSE OF REPRESENTATIVES
ON FISCAL YEAR 2017 BUDGET**

**BRIGADIER GENERAL JEFFREY L. MILHORN
DIVISION ENGINEER
PACIFIC OCEAN DIVISION**

THE PACIFIC OCEAN DIVISION

Headquartered in Honolulu, Hawaii, the Pacific Ocean Division (POD) has four district offices located in Honolulu, Hawaii; Anchorage, Alaska; Seoul, Korea; and Camp Zama, Japan. The Pacific Ocean Division's Civil Works area of responsibility spans the Pacific Ocean and encompasses the State of Alaska, the State of Hawaii, the Commonwealth of the Northern Mariana Islands (CNMI), the Territory of American Samoa, and the Territory of Guam. Our Civil Works program is executed through our Alaska and Honolulu Districts. All four Districts have important military construction missions in Alaska, Hawaii, Japan, and the Republic of Korea, and Interagency and International Services responsibilities throughout the Pacific and Asia.



OVERALL BUDGET

This status report highlights the Pacific Ocean Division's activities and Fiscal Year 2017 budget request.

Pacific Ocean Division Fiscal Year 2017 Budget				
	Investigations	Construction	Operation and Maintenance	TOTAL
Alaska District	$ 1,000,000	$ 0	$ 31,124,000	$32,124,000
Honolulu District	$ 0	$ 0	$ 3,100,000	$3,100,000
POD TOTAL	$ 1,000,000	$ 0	$ 34,224,000	$35,224,000

INVESTIGATIONS

The Pacific Ocean Division's Investigations budget request will provide funding for the continuation of two feasibility studies. Highlights of our Investigations program budget request include the following.

Pacific Ocean Division Fiscal Year 2017 Budget - Investigations	
	Investigations
Alaska District	$1,000,000
Unalaska (Dutch) Harbor, Alaska	$500,000
Lowell Creek Flood Diversion, Alaska	$500,000
Honolulu District	$0
POD TOTAL INVESTIGATIONS	$ 1,000,000

Alaska District

Craig Harbor, Alaska

Craig Harbor, Alaska is located in southeast Alaska on the West Coast of Prince of Wales Island, approximately 750 miles north of Seattle, Washington and 220 miles south of Juneau, Alaska. Craig serves as a transportation center for the island of Prince of Wales and the surrounding communities. Existing moorage includes the South Cove Harbor, North Cove Harbor, and unprotected docks. The harbor is impacted by overcrowding and damaging wave action, which causes vessel and dock damages. Overcrowded conditions also cause operational inefficiencies to the commercial fleet. With funds provided by Congress in Fiscal Year 2001, we initiated reconnaissance phase

investigations and completed the report in January 2003. Initiation of the Feasibility phase was delayed while the local sponsor attempted to secure cost-share funding. In July 2012, a Feasibility Cost Sharing Agreement was executed. A planning charette was held in November 2012 in accordance with the Corps of Engineers 3x3x3 planning modernization initiative. The Tentatively Selected Plan was approved in December 2014 and the Interim Integrated Draft Feasibility Report and Environmental Assessment were released for public review in January 2015. The Civil Works Review Board was held in November 2015, State and Agency Review was completed in January 2016, and the Chief of Engineer's Report is scheduled for signature in March 2016. No Fiscal Year 2017 funds are requested.

Kotzebue Small Boat Harbor, Alaska

Kotzebue, Alaska is located in northwestern Alaska on the northern side of the Seward Peninsula about 550 miles northwest of Anchorage and about 25 miles north of the Arctic Circle. The city is located on a 3-mile long spit on the northwest tip of the peninsula. The spit faces Kotzebue Sound to the north and west, and Kotzebue Lagoon to the east. Because of shallow water in Kotzebue Sound, oceangoing barges that deliver general cargo and fuel from Anchorage and the Pacific Northwest are forced to anchor about 15 miles offshore and the cargo is lightered to Kotzebue, which requires additional time and costs. Kotzebue is a hub community that provides supplies to many surrounding communities. Often the same goods that are lightered off of barges bringing supplies to Kotzebue are lightered out to barges delivering the same supplies to the surrounding communities. Most of the communities served by Kotzebue are Alaska Native Villages. The purpose of the feasibility study is to identify opportunities to reduce transportation costs and decrease vessels damages from the effects of ice flow, while maintaining the community's cultural heritage and self-determination, consistent with Alaskan Native policies. The Department of Army Tribal policy states that every opportunity should be given to a tribe for it to maintain its cultural heritage and its ability for self-determination. The estimated cost of the feasibility phase is $2,800,000 and is shared 50 percent Federal and 50 percent non-Federal. The Feasibility Cost Sharing Agreement was executed in November 2015 with the City of Kotzebue, the non-Federal sponsor. Fiscal Year 2016 appropriations of $480,000 are being used to initiate feasibility study activities and an additional $750,000 from prior Fiscal Year Navigation Small, Remote, or Subsistence work plan funds are being provided to fund Fiscal Year 2017 and a portion of Fiscal Year 2018 requirements. No Fiscal Year 2017 funds are requested.

Little Diomede Harbor, Alaska

Located 135 miles northwest of Nome, the City of Diomede lies on the west coast of Little Diomede Island. There is no protected harbor and regular freight barges have ceased delivering cargo because of the high risk of barge damage and weather delays. The reconnaissance phase investigations were initiated in Fiscal Year 2001, with funds provided by Congress, to determine Federal interest in a protected harbor facility. The reconnaissance report was completed in April 2003 and continued to discuss feasibility phase studies with the City of Diomede. In November 2006, a Feasibility Cost Sharing

Agreement was executed with Kawerak, Incorporated, the regional not-for-profit Alaska Native Claims Settlement Act Corporation. The Civil Works Review Board was held in May 2014 and a Chief of Engineers Report was signed in August 2015. The report is currently under review by the Administration. No Fiscal Year 2017 funds are budgeted.

Lowell Creek Flood Diversion, Alaska

Lowell Creek is located in Seward, Alaska approximately 125 miles south of Anchorage, Alaska. Seward is the southern terminus of the Alaska Railroad and is also connected to the Alaska Highway system. The City of Seward is built on the alluvial outwash plain formed by Lowell Creek which was diverted away from the community in 1940. The existing Lowell Creek flood control project was authorized by Congress as a U.S. Army Corps of Engineers project on August 25, 1937, construction was completed in November 1940. The project consists of a diversion dam and tunnel to carry the floodwaters and debris of Lowell Creek away from Seward, through Bear Mountain into Resurrection Bay. The existing tunnel lining suffers erosive damage from rocks and debris being carried by the flood flows and has required significant repair and replacement. Since the original project construction, commercial and residential development (to include a hospital and senior citizens home) has occurred within the old floodway. The Alaska District has repaired the tunnel four times; three times under the authority of P.L. 84-99 and an additional time under the authority and direction of Section 510 of P.L. 106-60 (WRDA 2000). Floods in 1986, 1989, and 1995 have raised life safety and property damage concerns associated with the potential overtopping of the existing diversion dam as a result of high flows and blockage of the tunnel by landslides or debris. The City of Seward was maintaining the project since 1940, but maintenance of the project has proven difficult because of the very short time frame the tunnel is able to be entered and maintenance and repairs accomplished, a maximum of six to eight weeks per year. In addition to the issue of tunnel maintenance, there are massive sediment deposits upstream of the project, steep canyon walls with high rainfall and snow melt runoff, erosion of the concrete lining throughout the entire length of the tunnel, a lack of a confined downstream diversion channel and other flooding issues downstream. The entire system requires re-analysis to determine if more practicable options for flood risk management exist. Economic benefits would be realized from prevention of property damage and addressing life safety concerns associated with overtopping of the diversion dam as a result of high flows and blockage of the tunnel by landslides of debris. Fiscal Year 2016 Flood and Storm Damage Reduction work plan funds in the amount of $200,000 were provided for this new start feasibility study. The Feasibility Cost Sharing Agreement is scheduled for execution this Fiscal Year. Fiscal Year 2017 funds in the amount of $500,000 are requested.

Saint George Harbor Improvements, Alaska

Saint George Harbor, Alaska is located in the Bering Sea on the northeast shore of St. George Island, the southern-most of five Pribilof Islands. It lies 47 miles south of St. Paul Island and 750 air miles west of Anchorage, Alaska. Most freight and supplies are delivered by ship from Anchorage, Alaska on a monthly or bimonthly schedule. Cargo

from Seattle, Washington arrives five or six times a year. A harbor was constructed by the City of St. George with assistance from the State in the late 1980s and early 1990s. The existing harbor is barely useable due to dangerous wave conditions in the entrance channel, wave surge in the mooring area, and the deteriorated condition of the existing breakwaters. The purpose of the feasibility study is to evaluate the alternatives for reconfiguring the breakwaters or relocating the harbor. It is anticipated that wave data collection and physical modeling and related studies are required. The preliminary estimated cost of the feasibility phase is $2,800,000, which is cost-shared on a 50-50 percent basis by Federal and non-Federal interests. The Feasibility Cost Sharing Agreement was negotiated and executed in October 2015 with the City of Saint George, the non-Federal sponsor. Fiscal Year 2016 appropriations of $500,000 are being used to initiate feasibility study activities and an additional $835,000 from prior Fiscal Year Navigation Small, Remote, or Subsistence work plan funds are being provided to fund Fiscal Year 2017 and a portion of Fiscal Year 2018 requirements. No Fiscal Year 2017 funds are requested.

Unalaska (Dutch) Harbor, Alaska

Dutch Harbor is located in Unalaska, Alaska on Amaknak Island in the Aleutian Chain. It lies 800 air miles from Anchorage and 1,700 miles NW of Seattle. It is the only year round ice free deep water port serving the west coast of Alaska and is a designated as a "Harbor of Refuge." Dutch Harbor has also been the number one U.S. commercial fishing port in terms of quantity of catch for more than 23 years. There is currently no federally authorized entrance channel to Dutch Harbor and the Unalaska system of harbors. The naturally occurring entrance channel is being threatened by the growth of a shoal which restricts vessels from using the harbors. The City of Unalaska is concerned that the entrance channel will continue to shoal and further impede access and result in travel delays and potential vessel damage due to grounding. As an international port along the great circle route between the U.S. West Coast and Asia, shipping companies are already constrained by draft due to the depth of the entrance channel to the harbor. For international shipping companies calling on Dutch Harbor, as well as medevac operations and mid pacific dockside critical repair service to Great Circle traffic, the entrance bar is five to ten feet too shallow for most deep draft traffic to safely cross with a minimum under keel clearance. This study would identify problems and opportunities for providing navigation improvements of the entrance channel to Dutch Harbor, Alaska, and to determine if there is Federal (Corps) Interest in project development. Economic benefits would be realized from increasing efficiencies attributable to depth restrictions in the entrance channel. The City of Unalaska has provided a letter on this issue and has funds on hand to initiate the study. Fiscal Year 2016 work plan funds in the amount of $200,000 were provided for this new start feasibility study. The Feasibility Cost Sharing Agreement is scheduled for execution this Fiscal Year. Fiscal Year 2017 funds in the amount of $500,000 are requested.

Honolulu District

Ala Wai Canal, Oahu, Hawaii

The Ala Wai Watershed, on the island of Oahu, extends from the ridge of the Koolau Mountains to the near shore waters of Waikiki, encompassing more than 19 square miles, and includes the Makiki, Manoa, and Palolo streams and the Ala Wai Canal. Overtopping of the Canal has previously flooded Waikiki multiple times, including during the November 1965 and December 1967 storms and during the passage of Hurricane Iniki in 1992. Upstream areas are also at risk of flooding, as demonstrated by the October 2004 storm event. The October 2004 event was estimated to be a 25-year storm (having a 4 percent chance of occurring in any single year); it caused approximately $85 million in damages to property. It is estimated that more than 3,500 structures would be damaged by a 100 year (1 percent chance event) at an estimated cost of $274 million. Environmental degradation associated with urbanization of the watershed has resulted in the loss of habitat for native aquatic species; loss of all the wetlands within the lower watershed; and impaired water quality levels within the Canal and associated streams. The Feasibility Study Cost Sharing Agreement was executed in April 2001, amended in December 2006 to expand the scope of the studies as a result of the October 2004 floods, and amended again in November 2012 to bring the study in compliance with the Corps of Engineers 3x3x3 planning modernization initiative and focus in on flood risk management. An exemption from the 3x3x3 planning modernization rule was granted by Corps of Engineers Headquarters in July 2015 with a Chief of Engineer's Report scheduled no later than January 2017. The study is fully funded and no Fiscal Year 2017 funds are requested.

Rota Harbor, Commonwealth of the Northern Mariana Islands

Rota Harbor is located on the west coast of the island of Rota, Commonwealth of the Northern Mariana Islands (CNMI). The CNMI is comprised of a chain of 16 islands in the western Pacific approximately 3,700 miles west southwest of Hawaii and 1,400 miles south of Tokyo, Japan. The island of Rota is located 53 miles south-southwest of the main island of Saipan and is approximately 11 miles long and averages about 4 miles in width. Rota Harbor was constructed by the Corps of Engineers and completed in April 1985 under Section 107 of the River and Harbor Act of 1960, as amended. As an island community, Rota's population and economy are vitally linked to the shipment of goods into and out of Rota Harbor, the island's only commercial port. However, the existing harbor's size and configuration restricts larger-sized vessels from calling on Rota Harbor and requires the transshipment of goods and material to and from Rota. The added cost of transshipment is estimated at $13 million annually. The purpose of the feasibility study is to identify the need for modifications to the existing harbor. The estimated cost of the feasibility phase is $3,000,000 and is shared 50 percent Federal and 50 percent non-Federal. Additionally, Section 1156 of the Water Resources Development Act of 1986 (P.L. 99-662), as amended by Section 1032 of the Water Resources Reform and Development Act of 2014 (P.L. 113-121) provides the Northern Mariana Islands with a waiver of $455,000 for their share of the study. The Feasibility Cost Sharing Agreement

was executed in December 2015 with the Government of the Commonwealth of the Northern Mariana Islands, the non-Federal sponsor. Fiscal Year 2016 appropriations of $300,000 are being used to initiate feasibility study activities and an additional $1,000,000 from prior Fiscal Year Navigation Small, Remote, or Subsistence work plan funds are being provided to fund Fiscal Year 2017 and a portion of Fiscal Year 2018 requirements. No Fiscal Year 2017 funds are requested.

Tinian Harbor, Commonwealth of the Northern Mariana Islands

Tinian Harbor is located on the southwestern coast of the island of Tinian, Commonwealth of the Northern Mariana Islands (CNMI). Tinian is located 3 miles south-southwest of the main island of Saipan. Tinian is approximately 13 miles long and averages about 6 miles in width. The shoreline is formed predominantly by sea cliffs 20 to 100 feet high. Tinian Island is subject to storm waves associated with tropical storms and typhoons. Severe typhoons have occurred nearly every month of the year, but are most common between July and December. Tinian Harbor was originally constructed during World War II by the U.S. Navy Seabees. As the island of Tinian's only commercial port and primary facility for the import and export of goods and material, Tinian Harbor is vital to the island's economic and social welfare. The present harbor's condition and limitations result in increased transportation costs to shippers. The purpose of the feasibility study is to identify the need for navigation improvements to the existing harbor. The estimated cost of the feasibility phase is $3,000,000 and is shared 50 percent Federal and 50 percent non-Federal. Additionally, Section 1156 of the Water Resources Development Act of 1986 (P.L. 99-662), as amended by Section 1032 of the Water Resources Reform and Development Act of 2014 (P.L. 113-121), provides the Northern Mariana Islands with a waiver of $455,000 for their share of the study. The Feasibility Cost Sharing Agreement was executed in December 2015 with the Government of the Commonwealth of the Northern Mariana Islands, the non-Federal sponsor. Fiscal Year 2016 appropriations of $300,000 are being used to initiate feasibility study activities and an additional $1,000,000 from prior Fiscal Year Navigation Small, Remote, or Subsistence work plan funds are being provided to fund Fiscal Year 2017 and a portion of Fiscal Year 2018 requirements. No Fiscal Year 2017 funds are requested.

CONSTRUCTION

The Pacific Ocean Division's Fiscal Year 2017 Construction budget does not included any funding for Construction. Highlights of our Construction program include the following.

Pacific Ocean Division Fiscal Year 2017 Budget - Construction	
	Construction
Alaska District	$0
Honolulu District	$0
POD TOTAL CONSTRUCTION	$0

Alaska District

Bethel Bank Stabilization, Alaska

The City of Bethel is located in southwestern Alaska along the northwest bank of the Kuskokwim River, approximately 400 miles west of Anchorage. Bethel is approximately 65 miles upriver from the mouth and is at the upriver limit of tidal influence from the Bering Sea. Bethel is the major educational, economic, social, and cultural community in the Southwest Alaska Region, serving numerous smaller villages along the Yukon-Kuskokwim River Delta. The Corps of Engineers completed construction of an 8,200 linear feet rock revetment bank stabilization project along the Bethel waterfront in 1997. The river has since eroded the silts of the river bottom along a reach of 1,200 linear feet upstream of the existing project to the point of threatening the seawall and adjacent uplands. In 2007, a project to stabilize the riverbank to prevent further erosion and possible failure of the existing facilities along the Bethel waterfront was initiated by placing rip rap at the toe of the existing seawall. Completion of the project requires replacement of corroded tiebacks. Fiscal Year 2016 Flood and Storm Damage Reduction work plan funds in the amount of $3,500,000 were provided to complete construction. The construction contract is scheduled for award in Fiscal Year 2017. No Fiscal Year 2017 funds are requested.

Port Lions Harbor, Alaska

Port Lions Harbor is located on the north coast of Kodiak Island, approximately 250 miles southwest of Anchorage, Alaska. The Corps of Engineers constructed a breakwater and entrance channel in 1981 to provide safe anchorage for the local fishing fleet. However, additional protective structures are required to provide wave protection for full utilization of the existing moorage area and to reduce damages to vessels and the

mooring system. The reconnaissance report was completed in January 1999 and a Feasibility Cost Sharing Agreement was executed with the local sponsor in January 2001. The Feasibility Report was approved for public and agency review in February 2006 and the Chief of Engineer's Report was signed in June 2006. In May 2006, the Port Lions Harbor Feasibility Study Team earned the Corps of Engineers Planning Team of the Year Award. The project was authorized for construction in the Water Resources Development Act of 2007 and was approved by the Office of Management and Budget in March 2008. A limited re-evaluation report was completed in September 2013. The Fiscal Year 2014 work plan provided $180,000 to negotiate and execute a design agreement and to initiate preconstruction engineering and design activities. The design agreement was executed in September 2014. In Fiscal Year 2015, additional Fiscal Year 2014 work plan funds of $200,000 along with $300,000 of Fiscal Year 2015 appropriations were provided to compete preconstruction engineering and design activities. The Fiscal Year 2016 work plan provided $8,300,000 to fully fund the new start construction of the project. The execution of the Project Partnership Agreement and award of a construction contract is scheduled for this Fiscal Year. No Fiscal Year 2017 funds are requested.

Valdez Harbor Expansion, Alaska

Valdez is located on the north shore of Port Valdez, a deep-water fjord in Prince William Sound, approximately 115 miles east of Anchorage, Alaska. The demand for moorage space in the harbor far exceeds the existing capacity of 510 vessels. In January 1999, a reconnaissance report was completed that identified potential Federal interest in providing additional mooring spaces to relieve congestion at Valdez Harbor. The Feasibility Cost Sharing Agreement was executed in June 1999. In Fiscal Year 2002, we completed our evaluation of alternatives and tentative plan selection. However, in Fiscal Year 2003, the local sponsor requested a temporary pause in the study while they evaluated other local options. In January 2004, the local sponsor requested resumption of the feasibility studies. The Water Resources Development Act of 2007 conditionally authorized project construction "if the Secretary determines the project is feasible." Fiscal Year 2011 activities included completion of the final feasibility report in May 2011 and submission of the report in September 2011 for Washington level review and approval. The Assistant Secretary of the Army for Civil Works approved the report in December 2011. Fiscal Year 2012 activities included the negotiation and execution of a cost shared Preconstruction Engineering and Design Agreement in December 2011 and initiation of engineering and design activities. The Fiscal Year 2014 Work Plan allocated $21,010,000 for award of a fully funded construction contract. The Project Partnership Agreement was executed in July 2014 and a construction contract was awarded in November 2014. The project is currently under construction and scheduled for completion in 2017. No Fiscal Year 2017 funds are budgeted.

OPERATION AND MAINTENANCE

The Pacific Ocean Division's Operation and Maintenance budget will provide funding for operations and maintenance, inspections of completed works, project condition surveys, and navigation maintenance and dredging of our projects. Highlights of the Pacific Ocean Division's Operation and Maintenance budget include the following.

Pacific Ocean Division Fiscal Year 2017 Budget – Operations and Maintenance	
Alaska District	**$31,124,000**
Anchorage Harbor, Alaska	$11,868,000
Chena River Lakes, Alaska	$9,663,000
Chignik Harbor, Alaska	$200,000
Dillingham Harbor, Alaska	$1,050,000
Homer Harbor, Alaska	$462,000
Inspection of Completed Works, Alaska	$225,000
Ketchikan Harbor, Thomas Basin, Alaska	$3,100,000
Lowell Creek Tunnel, Alaska	$591,000
Ninilchik Harbor, Alaska	$345,000
Nome Harbor, Alaska	$2,920,000
Project Condition Surveys, Alaska	$700,000
Honolulu District	**$3,100,000**
Barbers Point Harbor, Hawaii	$319,000
Hilo Harbor, Hawaii	$400,000
Honolulu Harbor, Hawaii	$400,000
Inspection of Completed Works, Hawaii	$600,000
Nawiliwili Harbor, Hawaii	$400,000
Port Allen Harbor, Hawaii	$275,000
Project Condition Surveys, Hawaii	$706,000
POD TOTAL OPERATIONS & MAINTENANCE	**$34,224,000**

Inspection of Completed Works

The Pacific Ocean Division is responsible for conducting periodic and detailed inspections of 22 completed flood damage protection and 26 shore protection projects. Our Fiscal Year 2017 budget includes funds to conduct these periodic and detailed inspections to ensure that the projects are functioning as designed (Alaska District: $225,000; Honolulu District: $600,000).

Navigation Project Condition Surveys

The Pacific Ocean Division is responsible for the maintenance of the general navigation features of 84 harbors throughout the Pacific and Alaska. Our Fiscal Year 2017 budget includes funds to conduct periodic project condition surveys of our harbors (Alaska District: $700,000; Honolulu District $706,000). The project condition surveys program includes hydrographic surveys to verify that project channel and basin depths are maintained and to identify projects requiring maintenance, inspection of breakwater and protective structures, and dredging disposal studies.

Alaska District

Alaska District Navigation Annual Maintenance Dredging

In the State of Alaska, annual maintenance dredging is conducted for Anchorage, Dillingham, Homer, Ninilchik, and Nome harbors. In addition to the annually dredged harbors, periodic maintenance and dredging is required for the other Corps of Engineers constructed harbors. The Fiscal Year 2017 appropriations and work plan allocations includes funds for the annual dredging of Anchorage Harbor ($11,868,000), Dillingham Harbor ($1,050,000); Homer Harbor ($462,000), Ninilchik Harbor ($345,000) and Nome Harbor ($2,920,000).

Chena River Lakes Flood Damage Protection Project, Alaska

The Alaska District is responsible for the operation and maintenance of the Chena River Lakes Flood Control Project that protects the City of Fairbanks, Alaska's second largest population center. Since the project became operational in 1979, the total flood damage prevented by the project is estimated at $370,000,000. Our Fiscal Year 2017 budget requests $9,663,000 for the project which includes project operations and maintenance, compliance with dam safety regulations, inspections for flood risk management, maintenance of relief wells, environmental compliance, recreation, and environmental stewardship activities.

Chignik Harbor Maintenance, Alaska

The City of Chignik is located on the south shore of the Alaska Peninsula, 450 miles southwest of Anchorage. The low-use, deep draft harbor consists of a 372-foot-long by 341-foot-wide inner basin, a 650-foot-long by 100-foot-wide entrance channel with authorized depths of 16.5 feet mean lower low water and 19.5 feet mean lower low water; a north breakwater 304 feet long; and a south breakwater 1,279 feet long. Access to this region is either by water or air only. Portions of the breakwaters contain armor and core rock are prematurely disintegrating from the weathering process. Fiscal Year 2017 funds are requested in the amount of $200,000 to continue engineering and design for maintenance and repair of the failing sections of both breakwaters.

Juneau Harbor (Harris Harbor), Juneau, Alaska

The City of Juneau is located on Admiralty Island in southeast Alaska, and is the state capital. This low-use, shallow-draft harbor consists of a small boat basin 11.5 acres in area, just north of the Juneau-Douglas bridge, bounded by two rubble mound breakwaters of 430 and 1,540 feet in length, with a project depth of -12 feet Mean Lower Low Water. Access to this region is either by water or air only. Fiscal Year 2016 work plan funds were allocated in the amount of $50,000 for obtaining environmental clearances and starting engineering and design for dredging shoaled material in the harbor.

Ketchikan Harbor, Thomas Basin, Alaska

Ketchikan is located on the southwestern coast of Revillagigedo Island, opposite Gravina Island, near the southern boundary of Alaska. It is 679 miles north of Seattle, Washington and 235 miles south of Juneau, Alaska. Thomas Basin Harbor is used as a base of operations for commercial fishing and is capable of accommodating 200 vessels. In addition, the National Marine Fisheries Service uses this harbor as a base of operations. The harbor includes an 11-acre basin protected by a 940-foot long rubblemound breakwater dredged to a depth of -10 feet mean lower low water. Access to this region is by air or water only. Fiscal Year 2017 funds are budgeted in the amount of $3,100,000 to complete environmental clearances, determination of disposal site location and approval, prepare final plans and specs, constructability review, prepare contractual documentation and award a construction dredging contract. The project was last dredged in February 1996 when 8,678 cubic yards of material was removed from a shoal near the mouth of Ketchikan Creek. The currently proposed work is similar to the 1996 dredging.

Lowell Creek Tunnel, Alaska

Lowell Creek Tunnel project is located in Seward, Alaska on the Kenai Peninsula approximately 125 road miles south of Anchorage, Alaska. Section 5032 of the Water Resources Development Act of 2007 authorized the Secretary of the Army to assume responsibility for the long-term maintenance and repair of Lowell Creek Tunnel (as well as the inlet and outlet to the tunnel, but not the diversion dam) until an alternative method of flood diversion is constructed and operational, or 15 years after the date of enactment of the Water Resource Development Act of 2007, whichever is earlier. It also authorized the Secretary of the Army to conduct a study to determine whether an alternative method of flood diversion in Lowell Canyon is feasible. The Water Resources Development Act of 2007 implementation guidance was issued in June 2009. A Screening Portfolio Risk Assessment was completed for the Lowell Creek Project dam in February 2011. Dam Safety Action Classification was received in March 2011 and an Interim Risk Reduction Measures (IRRM) Plan was prepared and approved in November 2011. One of the IRRM identified was to perform inundation modeling. The inundation modeling and report were completed, reviewed and approved in January 2012. The results were reported to the City of Seward in February 2012. The City of Seward is responsible for implementing the identified

IRRM including preparation of an Emergency Action Plan for the dam and communication of the risk to the public. Alaska District assisted the City of Seward with public meetings in Fiscal Year 2012. The Fiscal Year 2014 appropriations provided $150,000 to conduct annual tunnel inspection and prepare a maintenance and repair report which was approved by the Assistant Secretary of the Army (Civil Works) in December 2015. The Fiscal Year 2015 appropriations included $300,000 for annual tunnel inspection and for preparation of plans and specifications for tunnel repairs. The Fiscal Year 2016 appropriations provided $2,286,000 for tunnel repairs. The Fiscal Year 2017 budget includes $591,000 to complete maintenance repair of the tunnel lining and approach apron.

Saint Paul Harbor Maintenance, Alaska

Saint Paul Harbor is located on the Pribilof Islands, which are in the Bering Sea and approximately 850 air miles from Anchorage, Alaska. The project provides sheltered moorage for approximately 230 commercial vessels during the crabbing season, and is a supply point for commercial vessels fishing in the Bering Sea. The harbor is also utilized by the U.S. Coast Guard vessels patrolling the Bering Sea and -by seafood processors. A contract to perform breakwater armor stone repairs and cover three scour holes with rock erosion blankets was awarded in October 2015. Fiscal Year 2016 appropriations of $4,000,000 and work plan funds in the amount of $8,500,000 were provided to complete breakwater repairs and maintenance dredging. No Fiscal Year 2017 funds are requested.

Honolulu District

Barbers Point Harbor, Hawaii
Regional Visitor Center

The Honolulu District's Pacific Regional Visitor Center, constructed as a part of the Barbers Point Harbor Project in 1983, is located at Fort DeRussy in Waikiki, Hawaii. The Pacific Regional Visitor Center theme, "The U.S. Army Corps of Engineers: Partners in the Pacific - Protecting, Preserving and Improving" portrays the Corps of Engineers Civil Works mission and role in the Pacific. Our Fiscal Year 2017 budget includes funds of $319,000 for operations and maintenance of the facility and exhibits.

State of Hawaii Deep Draft Harbors Maintenance Dredging

Maintenance dredging for the State of Hawaii's primary commercial deep draft harbors serving the islands occurs on a periodic basis. Honolulu Harbor, Oahu; Barbers Point Harbor, Oahu; Kahului Harbor, Maui; and Nawiliwili Harbor, Kauai were last dredged in Fiscal Year 1999 and Hilo Harbor, Hawaii was last dredged in Fiscal Year 1990.The The Fiscal Year 2015 budget included funds for the dredging of Honolulu Harbor ($2,200,000); Barbers Point Harbor ($1,200,000); Kahului Harbor ($2,200,000); Nawiliwili Harbor ($1,500,000); and Hilo Harbor ($1,900,000). Dredging of the harbors in Fiscal Year 2015 was deferred to Fiscal Year 2016 due to the unavailability of the Corps of Engineers dredge, the Essayons. Dredging is scheduled to start in March 2016.

Hilo Harbor Maintenance Dredging, Hawaii

Hilo Deep Draft Harbor is located on the northeast coast of the island of Hawaii. The project was completed in 1930 and consists of a 10,080-foot-long breakwater protecting a 35-foot-deep basin. Hilo Harbor is one of the two main commercial ports for the Island of Hawaii. Dredging by the Corps of Engineers dredge, the Essayons, is being conducted in Fiscal Year 2016. Fiscal Year 2016 additional work plan funds in the amount of $662,000 were provided to account for the increases in the daily rate for the Essayons ($262,000) and to initiate environmental analysis, and plans and specifications contract ($400,000) for future year maintenance dredging of remaining harbor channel & basin to attain Federally-authorized depths. Remaining dredging is necessary to allow full use of Federal navigation channel & basin. Fiscal Year 2017 funds in the amount of $400,000 are requested to continue pre-dredge activities for future year maintenance. Maintenance of the Federal project features ensures safe navigation for the island communities that are dependent on water borne commerce.

Honolulu Harbor Maintenance Dredging, Hawaii

Honolulu Harbor is located on the southwestern coast of the island of Oahu, Hawaii and is the State of Hawaii's primary commercial harbor. This high-use, deep draft harbor is 40-feet deep and consists of five major components: an entrance channel (4,000 feet long, 500 feet wide and 45 feet deep); a main harbor basin (3,300 feet long, 1,520 feet wide and 40 feet deep); a west harbor basin (3,400 feet long, 1,000 feet wide and 40 feet deep); and a connecting channel (400 feet wide and 40 feet deep); and Kalihi Channel (400 feet wide, 23 feet deep). Phase I dredging by the Corps of Engineers dredge the Essayons is being conducted in Fiscal Year 2016. The Fiscal Year 2017 budget requests funds in the amount of $400,000 to complete Phase II plans and specifications contract for maintenance dredging of remaining harbor channel & basin to attain Federally-authorized depths, utilizing mechanical clamshell dredging. The proposed dredge material was determined to be unsuitable for ocean disposal and requires special handling to an upland disposal containment site. Maintenance of the Federal project features ensures safe navigation for the island communities that are dependent on waterborne commerce.

Kikiaola Harbor Maintenance Dredging, Hawaii

Kikiaola Harbor is located along the southwest coast of the island of Kauai between the towns of Kekaha and Waimea. The Federal project modified an existing harbor, which was originally developed by the State of Hawaii in 1959. The low-use, shallow draft harbor consists of a 725-foot-long entrance channel varying in width from 105 to 205 feet to a depth of 11 feet; a 320-foot-long access channel varying in width from 70 to 105 feet to a depth of seven feet; a 764-foot long east breakwater; a 71-foot-long inner east breakwater; and a 245-foot long west breakwater. Recent hydrographic condition survey of the harbor indicates shoaling within the entrance channel and access channel. It is estimated that approximately 25,000 cubic yards of material requires dredging. The

shoaling within the channels progressively impedes safe navigation. Tree and vegetation growth on the breakwater structure are threatening to cause damage to the root structure of the breakwater and requires removal. Fiscal Year 2016 funds in the amount of $3,500,000 were requested to finalize plans and specifications and award a contract for maintenance dredging and removal of vegetation from the breakwater. No Fiscal Year 2017 funds are requested.

Nawiliwili Harbor Maintenance Dredging, Hawaii

Nawiliwili Harbor is located on the southeast coast of the island of Kauai and is the island's principal commercial harbor. The medium use, deep draft harbor consists of a breakwater 2,045 feet in length, and an S-shaped entrance channel 40 feet deep with a minimum width of 600 feet and a length of 2,400 feet. Dredging by the Corps of Engineers dredge the Essayons is being conducted in Fiscal Year 2016. The Fiscal Year 2016 work plan provided additional funds in the amount of $742,000 for increased daily rate for the Essayons dredging ($342,000) and for environmental analysis, and plans and specifications for future year maintenance dredging of remaining harbor channel & basin to attain Federally-authorized depths ($400,000). Fiscal Year 2017 funds in the amount of $400,000 are budgeted to continue environmental analysis, and plans and specifications contract for maintenance dredging of remaining harbor channel & basin to attain Federally-authorized depths, utilizing mechanical clamshell dredging. Remaining dredging is necessary to allow full use of Federal navigation channel & basin.

Port Allen Harbor Maintenance Dredging, Hawaii

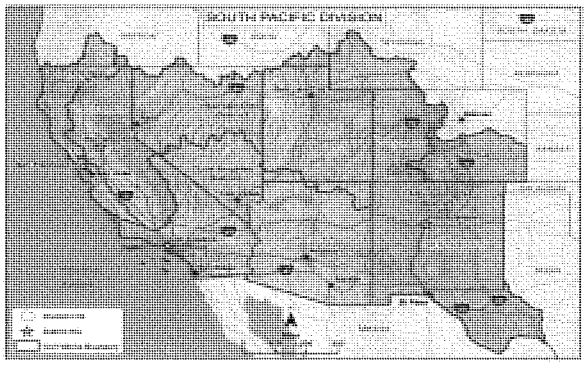
Port Allen Harbor is a low-use, deep-draft harbor located on the southern coast of the island of Kauai, Hawaii. The project consists of a 1,200-foot long rubble mound breakwater on the east side of the bay; an entrance channel (500-feet wide and 35-feet deep); and a harbor basin (1,200-feet wide by 1,500-feet long, and 35-feet deep). Fiscal Year 2017 funds in the amount of $275,000 are requested to complete environmental actions for future year dredging.

SUMMARY

With the support of this committee, our Fiscal Year 2017 budget of $35,224,000 will allow the Pacific Ocean Division to continue to provide quality and environmentally sound water resources projects for the people and islands of the Pacific and the State of Alaska. Our Civil Works program and projects have an enormously important impact on the economic and social well-being of the island and rural communities that are served by the Pacific Ocean Division.

STATUS REPORT ON CIVIL WORKS ACTIVITIES IN THE SOUTH PACIFIC DIVISION FISCAL YEAR 2017 TESTIMONY

BRIGADIER GENERAL R. MARK TOY
DIVISION COMMANDER
February 26, 2016



INTRODUCTION

Mr. Chairman, I am Brigadier General R. Mark Toy, and I am pleased to provide this status report on Civil Works activities of the South Pacific Division and on our contributions to the economy, environment, and national security. In the South Pacific Division, we are Building Strong and Taking Care of People through sustainable water resources solutions in partnership with our partners and stakeholders. I am extremely proud of the strong working relationship that we enjoy with Congressional Representatives and their staff; like other USACE Divisions, this is something we are doing well.

REGIONAL OVERVIEW:

The South Pacific Division is one of nine USACE regional commands. Established in 1888 to help settle the West, the region now encompasses California, Nevada, Arizona, New Mexico, Utah, and parts of five other states. Four operating Districts are headquartered in Sacramento, San Francisco, Los Angeles, and Albuquerque. Missions include:

• Managing a $1.45 billion annual military and civil works design and construction program.

• Dredging over 400 miles of Federal navigation channels and maintaining 35 miles of navigation structures for 27 ports and harbors that support 1.16 million jobs. Removing approximately 1200 tons of debris/year from San Francisco Bay.
• Operating and maintaining 46 dams and reservoirs for flood risk reduction, water resource management, and environmental stewardship.
• Levee safety inspections, improvements, flood fight and flood damage repairs for 2,290 miles of Federal levees in collaboration with local partners who operate and maintain the systems.
• Operating 211 recreation areas at 33 lake and river sites; including the San Francisco Bay Model Regional Visitor Center. Sixteen million visits annually to these parks, campgrounds, marinas, swim areas and hiking trails connect people to nature while strengthening family ties by offering swimming, fishing, camping, boating, and other recreation opportunities for lovers of America's Great Outdoors.

Navigation
California's complex of 27 ports and harbors carry 31% of the Nation's waterborne international trade, and contribute $8 billion annually to the Federal Treasury. Every dollar spent on port and harbor maintenance generates $160 in Federal revenues. South Pacific Division maintains five major "deep draft" ports to depths greater than 40 feet; six minor ports to 20 – 40 feet, plus sixteen small craft harbors, and 429 miles of Federal channels. South Pacific Division uses dredged sediment to restore neighboring wetlands and to naturally renourish beaches. Over the past 10 years, USACE has helped restore more than 4,000 acres of San Francisco Bay.

Regulatory Program
The South Pacific Division Regulatory Program issues permits for construction activities affecting waters of the United States - balancing reasonable development while protecting important aquatic resources, including wetlands. In FY 2015, the region issued 3,095 general permits, 393 individual permits, and 2,204 jurisdictional determinations. The region is home to more than one-quarter of threatened and endangered species of plants and wildlife in the Nation, including several Pacific Salmon important to the commercial fishing industry on the West Coast. California alone hosts 307 listed species, second only to Hawaii with 435 listed species. The historic loss and scarcity of wetlands and other aquatic habitats in the arid West make Regulatory issues inherently contentious, and environmental protection and restoration are important features of many projects we authorize. Mitigation and conservation banks and Nationwide Permits are important regulatory tools, allowing us to maintain a balance of reasonable development with healthy aquatic resources that provide critical ecological services and functions.

Water Resources Management
Complex water supply, flood risk management, and water rights issues also abound. Scientists believe climate change will not only reduce snowpack in the region, but will increase overall climate variability. This may result in more intense rainfall events coupled with longer droughts that have the potential to stress existing water resource infrastructure. We continue to work collaboratively with a broad range of stakeholders to

solve water resources challenges in a sustainable manner. We use a systems approach to identify connections between natural and man-made systems. Our comprehensive structured analysis also considers the costs and benefits to ensure that taxpayers and local project sponsors get a sound return on investment.

States within the Division are facing growing challenges in sustainable flood risk management. Residential and commercial development is increasing within floodplains which have historically been agricultural use areas. Flood risk management infrastructure is aging and has substantial deferred maintenance. New information and technology for levees and dams suggests our infrastructure may be less reliable than established under their original design criteria.

Many levees in the West were constructed during the early 20th century out of readily available materials to reduce flood risk management to agricultural lands. The foundations of these levees are subject to seepage and movement. Traditional levee inspections detect visible deterioration and do not expose problems with their internal structural integrity. Where problems such as erosion are identified, some local reclamation districts are deferring maintenance due to lack of funding, environmental constraints, and rising maintenance costs. In addition, some channels have become clogged with sediment and vegetation and have lost the capacity to carry their design flow of water.

Water managers in the Corps and in our partner agencies often must adjust to either too much or too little water. Water management also is conducted by multiple agencies, at Federal, State and local levels, which frequently using shared infrastructure to meet multiple goals including flood risk reduction, wastewater treatment, water supply and environmental goals. South Pacific Division recognizes that to effectively address these multiple goals, we must seek collaborative solutions. However, with the drought currently afflicting the West, attention has shifted to drought mitigation measures.

The Corps remains vigilant to assist with natural disasters, but is also implementing some emergency measures in Southern California in preparation for increased rain from El Niño. The Los Angeles District has installed 17,000 linear feet of HESCO flood barriers along the Los Angeles River, while balancing speed, environmental stewardship, and communication to the surrounding communities. The Corps will continue to coordinate closely with local authorities throughout the storm season.

Calendar Year 2015 Achievements

The Division successfully completed an unprecedented number of Civil Works Review Boards for five studies in California including the Solana-Encinitas Shoreline, Los Angeles River Ecosystem Restoration, South San Francisco Bay Shoreline, West Sacramento General Reevaluation Report and American River (Common Features) General Re-evaluation Report.

Fiscal Year 2015 Achievements

The Division initiated a navigation feasibility study for the Port of Long Beach in California, a flood risk management feasibility study in Arizona for the Lower Santa Cruz River, a General Re-evaluation Report study in California for Sacramento River Bank Protection Phase 3, and two environmental feasibility studies addressing recent Biological Opinions for Dry Creek Warm Springs and Yuba River Ecosystem Restoration in California. We initiated design for projects in California for San Clemente and Sutter Basin. In addition, we resumed and completed construction of the Petaluma River flood damage reduction project in California.

Fiscal Year 2016 Program

With the Fiscal Year 2016 budgeted funds, we will complete design on one project and continue nine feasibility studies. Our one design completion is located in California for the American River Watershed (Common Features), Natomas Basin; the other studies are located in Arizona, California and Texas. The Coyote and Berryessa Creeks project is also a new start funded in FY16 that will begin construction this fiscal year.

Fiscal Year 2017 Budget

The President's Budget includes $374.003 million to continue work on approximately 75 projects and studies throughout our region. Reflecting the strategic importance of California's water challenges, South Pacific Division continues to support the California Bay-Delta, an identified large ecosystem designated for enhanced interagency collaboration. It includes projects and activities to provide a reliable and sustainable long-term water supply to California, while restoring the system's environmental integrity and sustainability. Goals and activities for the California Bay-Delta are based on sound science, and focus on priorities outlined in the Interim Federal Action Plan and the Coordinated Federal-State Work Plan on California Water Issues.

Investigations

The budget includes $3.887 million in Fiscal Year 2017 for nine studies. We have one of the largest planning programs in USACE. They are located in four states, with six in California, one in Arizona, one in Texas, and one in New Mexico. These funds will support completion of one feasibility study and completion of design for one project,

South San Francisco Bay Shoreline, California, continuation of five feasibility studies and design for the Los Angeles River Ecosystem Restoration, California.

Construction

The budget includes $195.186 million for our Construction program for nine projects. There are seven continuing projects and two funded for completion. The seven continuing projects are American Rivers, Raise and Natomas Basin, Isabella Lake (Dam Safety), Santa Ana River Mainstem, Hamilton City, Yuba River Basin, and Sacramento River Bank Protection. The two projects funded for completion are American River JFP and Oakland Harbor 50-foot.

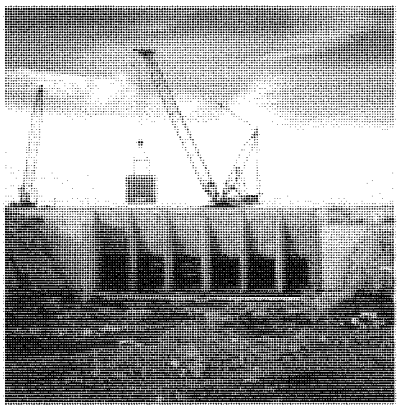
Let me share a few highlights of our work in the Division supported by the President's FY 2017 Budget.

Hamilton City, CA

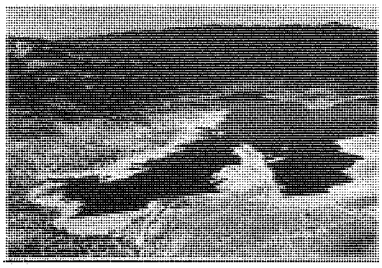
The budget includes $8.5 million to award revegatation contracts. This will reconnect the natural river flows to the restoration area. This includes removal of existing orchards in the restoration area. In Fiscal Year 2017, USACE will continue acquisition and propagation of plants; install and establish monitoring for the restoration area to include engineering, design and construction management. The project will construct a replacement setback levee after degrading of an existing levee and re-vegetation of a setback area to restore 1,100 acres of riparian woodland, 248 acres of riparian shrub, and 67 acres of floodplain meadow. The project will also reduce flood risk for Hamilton City and adjacent agricultural lands, and contribute to the sustainability of the Bay-Delta by improving habitat for fish passage through this reach of the Sacramento River.

American River Watershed, CA

The budget includes $62.93 million to continue construction on the American River Watershed project to significantly reduce flood risks for California's highly urbanized capital city, Sacramento, and its Greater Metropolitan Area.



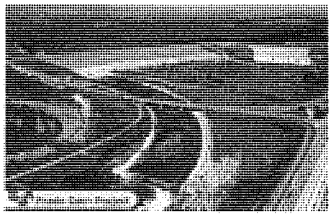
Isabella Dam, CA - Dam Safety Seismic Remediation



The budget includes $70.5 million to continue construction, which includes beginning construction on Phase 2 dams and spillway. When complete, the project will provide protection to a population of approximately 350,000 people in the city of Bakersfield and the town of Lake Isabella. In the event of a dam failure there could be loss to Interstate 5, Highways 99 and 58; major railroads lines; and the California state water project, supplies water to the Los Angeles metropolitan area. The average annual benefits are $15.52 million.

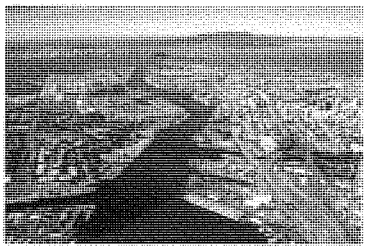
Santa Ana River Mainstem, CA

The $2.1-billion Santa Ana River Mainstem construction project remains a high priority in this performance-based budget. The budget includes $37.2 million for award of Reach 9 Phase 5B construction contract. This project is critical to communities in Orange County, California and within the larger Santa Ana River watershed. When complete, the project will provide protection from the Standard Project Flood (approximately 0.5 percent flood known as the 190 year flood event), which could cause an estimated $100 billion in damages, and affect more than 1.1 million people and 300,000 structures downstream of Prado Dam.



Operation and Maintenance

The budget includes $174.93 million for the continued operation and maintenance of 23 navigation, one environmental and 33 flood risk management projects. The amount includes $11.05 million for deferred maintenance at the Los Angeles County Drainage Area and Santa Ana River Basin projects in Los Angeles District. We are carefully reviewing the requirements of other projects that have deferred maintenance, and we will recommend accomplishing this work as funds become available.



Conclusion

Mr. Chairman, the Civil Works Program of the South Pacific Division is diverse, vibrant, and responsive to the needs of the people of our region, and it continues to support the Nation's water infrastructure needs. The Civil Works program is a continuing, fiscally prudent investment in the nation's water resources infrastructure and in the restoration of its aquatic ecosystems. The South Pacific Division motto is "BUILDING STRONG and Taking Care of People," paying tribute to all of the incredibly talented people who built this country from the ground up. "BUILDING STRONG and Taking Care of People!" means that the best way we can accomplish our mission as the Nation's Engineer is by training and developing our future force. The 2,300 Military and Department of the Army Civilians in our unit are the strength of the division and we will utilize resources from across our region to align the right talent at the critical time and place. By focusing on project delivery and positive relationships with customers, stakeholders, and partners, the South Pacific Division will continue to successfully engineer solutions for our Nation's toughest challenges. Mr. Chairman, the Civil Works program is diverse, vibrant and responsive to the needs of the people of our region. Furthermore, the Civil Works program is a continuing, fiscally prudent investment in the Nation's water resources infrastructure and in the restoration of its aquatic ecosystems.

US Army Corps
of Engineers

SOUTH ATLANTIC DIVISION

STATUS REPORT ON CIVIL WORKS ACTIVITIES

FISCAL YEAR 2017

BRIGADIER GENERAL C. DAVID TURNER
DIVISION ENGINEER

BEFORE THE

SUBCOMMITTEE ON ENERGY AND WATER
DEVELOPMENT APPROPRIATIONS

OF THE

COMMITTEE ON APPROPRIATIONS
UNITED STATES HOUSE OF REPRESENTATIVES

FEBRUARY 2016

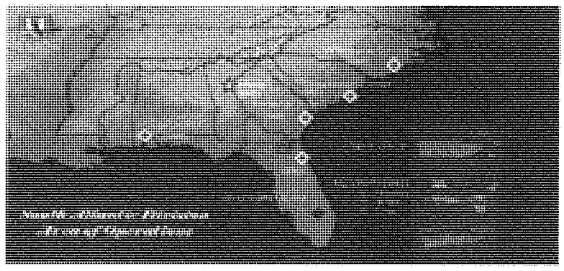
STATUS REPORT ON THE CIVIL WORKS ACTIVITIES IN THE SOUTH ATLANTIC DIVISION FISCAL YEAR 2017

INTRODUCTION

Mr. Chairman, and distinguished members of the Committee, I am Brigadier General C. David Turner, and I am pleased to present this status report on the Civil Works activities of the South Atlantic Division and our contributions to the improvement of the economy, environment, and the nation's security. In the South Atlantic Division we thrive on investing in the nation's infrastructure and reducing threat to the loss of lives and properties. Our goal is to seek and sustain viable projects, while continuing to pledge to find economical, secure, and rapid approaches to the challenges of our nation's growing population.

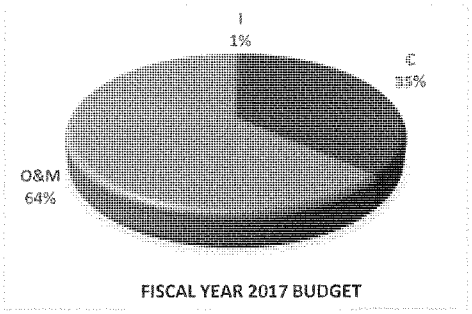
REGIONAL OVERVIEW

The South Atlantic Division, headquartered in Atlanta, Georgia, is responsible for Civil Works activities in all or part of seven southeastern states, Puerto Rico, and the U.S. Virgin Islands. This area covers about 260,000 square miles and includes about 14 percent of the national population. The management and oversight of the of the Civil Works program is provided by the South Atlantic Division Headquarters and implementation is conducted through the five District offices located in Mobile, Alabama; Jacksonville, Florida; Savannah, Georgia; Charleston, South Carolina; and Wilmington, North Carolina.



OVERALL BUDGET

This status report emphasizes the South Atlantic Division's accomplishments, Fiscal Year 2016 activities, and presents the President's Fiscal Year 2017 Budget for the approximate amount of $570,000,000for Civil Works activities. The Fiscal Year 2017 program will enable the Division to continue an effective Investigation and Construction program, while maintaining priorities for Operation and Maintenance Activities. The proposed amount is exhibited below for Investigations (I), Construction (C), and Operation and Maintenance (O&M).



FISCAL YEAR 2017 BUDGET

FLOOD RISK MANAGEMENT

INVESTIGATIONS

The Investigations Program allows for the planning, evaluation and initial design of solutions to Flood Risk Management (FRM), Navigation efficiencies, and other water resource problems throughout the region. Highlights of our Investigations program are presented below.

FISCAL YEAR 2016

During Fiscal Year 2016, $200,000 was provided to initiate a new Feasibility study on Sweetwater Creek, GA. Additionally, $300,000 was provided to initiate the Pre-construction Engineering and Design phase for the Bogue Banks Shore Protection Project. Two additional Shore Protection studies were funded to completion and two inactive studies were resumed now that they are compliant with SMART Planning guidelines. In all, a total of $1,355,000 in Investigation funding was provided for Flood Risk Management.

FISCAL YEAR 2017

Funds in the amount of $500,000 are in the President's Budget for the continuation of the Sweetwater Creek, GA feasibility study.

CONSTRUCTION

The Construction budget allows for the implementation of projects for Flood Risk Management in the region.

FISCAL YEAR 2016

Construction work will continue on seven Flood Risk Management efforts funded in Fiscal Year 2016. These projects will reduce risk through the construction of levees, channels and preparation of plans for shoreline protection.

FISCAL YEAR 2017

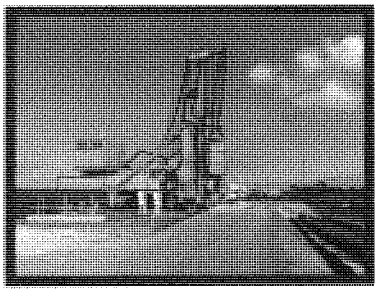
The President's Budget includes $49,500,000 for the Flood Risk Management construction program. These funds will allow for the continuing construction of the Herbert Hoover Dike, FL (seepage control) project.

NEW

There are no funds included in the President's Budget for Fiscal Year 2017 to initiate new Flood Risk Management construction projects in the South Atlantic Division.

CONTINUING

HERBERT HOOVER DIKE, FLORIDA



The Herbert Hoover Dike (HHD) system is a 143-mile earth-filled embankment that encircles Lake Okeechobee, which is located almost in the center of the state of Florida. Portions of the dike are subject to seepage, piping and erosion problems. Dike failure, along with flooding, would result in extreme socio-economic and environmental damages, including a potential for human suffering. The Major Rehabilitation Report (MRR) completed in November 2000 divided the dike into eight reaches and included a detailed analysis of alternatives in the first reach. The MRR proposed construction of a seepage/drainage berm along the lakeside toe of the dike for Reach 1. Based on recent input from a variety of expert sources and in consideration of lessons learned from Hurricane Katrina, a portion of the project has been redesigned. The new design concept includes toe-ditch fill, a cutoff wall at the center of the dike, and a seepage berm. The work on HHD involves the construction of a cutoff wall between Port Mayaca and Belle Glade, the replacement of 28 water control structures (culverts) and the removal or abandonment of 4 culverts. Landside construction includes features such as partial seepage berms, relief trenches and structural

solutions for removing or replacing existing culverts and other penetrations through the embankment.

NAVIGATION

INVESTIGATIONS

The Investigations Program allows for the planning, evaluation and initial design of solutions to Navigation problems throughout the region.

FISCAL YEAR 2016

Navigation project investigation activities funded are allowing for continuation of three studies and two Pre-construction Engineering and Design efforts in Fiscal Year 2016.

FISCAL YEAR 2017

The Fiscal Year 2017 Investigations budget for Navigation of $2,251,000 will allow for continuing study and planning activities in the South Atlantic Division area.

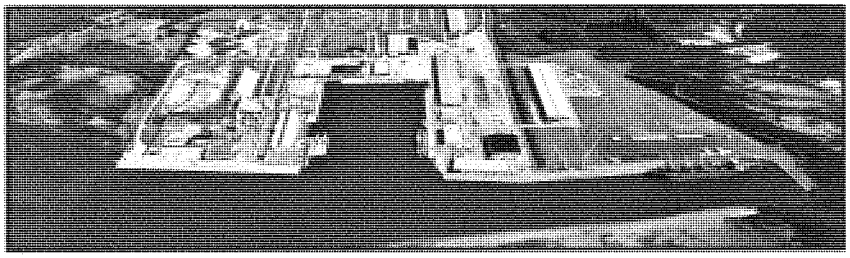
FEASIBILITY STUDIES

NEW

There are no funds included in the President's Budget for Fiscal Year 2017 to initiate new Navigation Feasibility studies in the South Atlantic Division.

CONTINUING

MANATEE HARBOR, FLORIDA

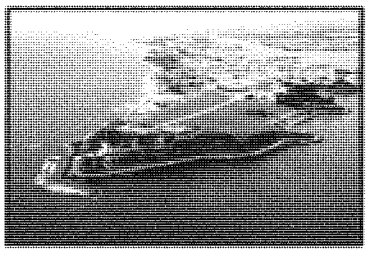


This was an FY15 New Start study. Manatee Harbor is located in Tampa Bay along the west coast of Florida. The port handles over 3,700,000 short tons of cargo primarily associated with chemicals and related products, petroleum products, and crude construction materials destined for southwest Florida. The project provides for Federal maintenance of an existing 40-foot deep by 400-foot wide entrance channel and basin, construction of new wideners at the

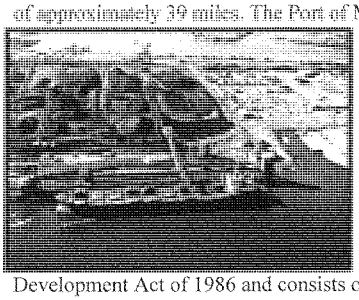
northwest end of the entrance channel, and enlarging the turning basin to 1,300 feet in diameter. The entrance channel extends approximately 3 miles from the turning basin to its intersection with the Tampa Harbor Main channel. The Stakeholders are concerned with the economic drivers that generate jobs for their citizens and a healthy economy, and a resilient and sustainable coastal and estuarine environment. These concerns are in concert with the study's problems and opportunities which include: reducing navigation transportation costs to and from Manatee Harbor to the extent possible; developing alternatives that are environmentally sustainable; and reducing navigation constraints facing harbor pilots and their operating practices to provide an even safer and more efficient port environment. The study will focus on deep draft navigation problems and opportunities primarily involving the problem of transportation cost inefficiency or the opportunity to reduce transportation costs. The navigation concerns will focus on two main problems; insufficient Federal channel depths and restrictive channel widths. The primary benefits will be derived by eliminating or reducing navigational restrictions and inefficiencies; the opportunity to reduce the risk of adverse environmental impacts from a new project or to protect or improve environmentally sensitive areas in the vicinity of the Federal project through potential beneficial uses of dredged material.

SAN JUAN HARBOR IMPROVEMENT STUDY, PUERTO RICO

San Juan Harbor is located within the San Juan metropolitan area along the north coast of Puerto Rico. It is the island's principal port, handling over 75 percent of the Commonwealth's non-petroleum waterborne commerce and is the only harbor on the north coast affording protection during inclement weather. Stakeholders are concerned with economic drivers that generate jobs for their citizens and a healthy economy, in addition to a resilient and sustainable coastal and estuarine environment. These concerns are in concert with the study's problems and opportunities which include: reducing navigation transportation costs to and from San Juan Harbor to the maximum extent possible; developing alternatives that are environmentally sustainable; and reducing navigation constraints facing harbor pilots and their operating practices to provide an even safer port environment. Deepening, widening, and/or re-alignment of the following existing project features will be considered for evaluation: the Bar Channel with depths stepping from 49 to 56 feet; the 40-foot deep Anegado Channel; the 40-foot deep Army Terminal Channel; the 39-foot deep Puerto Nuevo Channel; the 34-foot deep Sabana Approach; the 36-foot deep Graving Dock Channel; the 30-foot deep Graving Dock Turning Basin; the 36-foot deep San Antonio Channel; the 30-foot deep extension to the San Antonio Channel; two 36-foot deep Cruise Ship Basins; the 36-foot deep Anchorage Area E; and the 30-foot deep Anchorage area F. The benefits will result from transportation savings for the primary commodities of petroleum products, containerized cargo, and bulk grain. This study will determine the feasibility of providing navigation improvements at San Juan Harbor to increase security, safety, and efficiency.



MOBILE HARBOR DEEPENING AND WIDENING, ALABAMA



Mobile Harbor is located in southwest Alabama and extends from the Gulf of Mexico through Mobile Bay to the mouth of the Mobile River at the City of Mobile, Alabama, a distance of approximately 39 miles. The Port of Mobile is the twelfth largest port in terms of tonnage in the United States. Its largest commodities are coal, crude, oil and petroleum, which are essential to the Nation's economy. The non-Federal sponsor is the Alabama Ports Authority. The Port has seen a large increase in steel traffic because of the recently completed $4.6 billion steel facility constructed just north of Mobile and expects to see increased container ship traffic due to the Airbus Assembly Plant that began production in 2015. The Mobile Harbor, Alabama project was authorized in Water Resources Development Act of 1986 and consists of deepening and widening the entrance channel to 57 feet by 700 feet, deepening and widening Mobile Bay from the mouth to south of Mobile River to 55 feet by 550 feet for a total of 27 miles, deepening and widening an additional 4.2 miles of Mobile Bay channel to 55 feet by 650 feet, and a 55-foot deep anchorage and turning basin in the vicinity of Little Sand Island. Portions of the authorized project have been constructed, including deepening of the entrance channel to 47 feet by 600 feet and extending the upper channel for an additional 4,600 feet by 45 feet. In accordance with Section 110 of Public Law 113-235, Fiscal Year 2016 Investigation funds are being used to continue the efforts on the General Reevaluation Report (GRR) to develop alternatives, conduct surveys, and develop models.

PRECONSTRUCTION ENGINEERING AND DESIGN

No funds are included in the President's Budget for Fiscal Year 2017 to initiate new Navigation PED efforts in the South Atlantic Division.

CONSTRUCTION

The Construction Program allows for the implementation of projects for Navigation projects in the region.

FISCAL YEAR 2016

Funding in FY16 was provided to continue work on five Navigation projects. These projects will improve navigation channels used by commercial ships and other watercraft.

FISCAL YEAR 2017

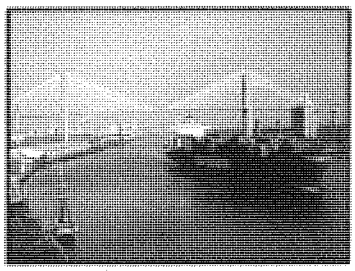
The President's Budget includes $42,700,000 for the Navigation construction program. These funds will allow for the continuing construction of the Savannah Harbor Expansion project.

NEW

There are no funds included in the President's Budget for Fiscal Year 2017 to initiate new Navigation construction efforts in the South Atlantic Division.

CONTINUING

SAVANNAH HARBOR EXPANSION, GEORGIA



This project was authorized for Construction in WRRDA 2014. The Savannah Harbor area includes the lower 21.3 miles of the Savannah River, which is the principal boundary between the states of Georgia and South Carolina. The City of Savannah is located 15 miles from the river mouth. Savannah Harbor has been the fastest growing United States container port over the last 11 years, with an average annual growth rate of over 10 percent. The Harbor's Garden City Terminal is the second largest container port on the East Coast by container volume, and the fourth largest in the nation and the largest single terminal in North America. According to the Georgia Ports Authority, over 82 percent of ships currently calling upon Savannah Harbor are constrained in some way by the project's current depth with significantly larger deeper drafting vessels expected after the expansion of the Panama Canal. The Savannah Harbor Expansion project consists of the following key features: 1) Acquisition of 2,397 acres for project construction and mitigation; 2) Deepening of the approximately 38 miles of navigation channel; 3) Bend Wideners; 4) Deepening and enlarging Kings Island Turning Basin; 5) Restoring confined dredge material containment capacity; 6) CSS George Civil War Ironclad removal, recover, and curation; 7) Construction of Fish and Wildlife facilities; and 8) Mitigation monitoring. FY 2017 Federal funding will be used to continue Entrance Channel Dredging, Construction Management, Environmental Monitoring and Engineering During Construction.

AQUATIC ECOSYSTEM RESTORATION

INVESTIGATIONS

The Investigations Program allows for the planning, evaluation and initial design of solutions for Aquatic Ecosystem Restoration problems throughout the region.

FISCAL YEAR 2016

The Aquatic Ecosystem Restoration program received $200,000 to initiate the Savannah River below Augusta, GA Ecosystem Restoration Feasibility Study. Additionally, $500,000 was provided to initiate the Pre-construction Engineering and Design phase of the Caño Martin Peña restoration project.

FISCAL YEAR 2017

There is $700,000 in feasibility funds included in the President's Budget for Fiscal Year 2017 Investigations budget for continuing AER investigations activities in the South Atlantic Division area.

FEASIBILITY

NEW

There are no funds included in the President's Budget for Fiscal Year 2017 to initiate new feasibility phase Aquatic Ecosystem Restoration investigation projects in the South Atlantic Division.

CONTINUING

PROCTOR CREEK WATERSHED, FULTON COUNTY, GA

This was an FY15 New Start study. The study area includes the Proctor Creek watershed which lies completely within the City of Atlanta, Fulton County, Georgia. The watershed consists of approximately 24 miles of the urban stream. The drainage area contains approximately 16 square miles. The uppermost 9 stream miles of Proctor Creek headwaters are the most severely degraded within the basin. This creek drains northwesterly and directly to the Chattahoochee River. Proctor Creek passes through an urbanized area. An ecosystem restoration program is needed to enhance the aquatic and ecological functions of the watershed that have been lost or degraded during the urbanization process. The United States Geological Society (USGS) and The Nature Conservancy (TNC) have documented a major loss of riffle/pool habitat, once supporting diverse endemic assemblages of species throughout the Mid-Chattahoochee River Basin due to altered flow and sedimentation. The project will include restoration and protection of valuable habitat for all life stages of native fishes and at least one endemic state threatened species, the bluestripe shiner. There is also a need to reduce the potential for flood damages along the creek. Development occurred in this area prior to implementation of the National Flood Insurance Program (NFIP) and, as a consequence, occurred in what was later found to be the 100-year floodplain. Development since that time has had to comply with the restrictions of the NFIP. An opportunity to integrate existing and potential recreation plans of the community into potential flood damage reduction and ecosystem restoration projects along the riparian corridor also exists.

SAVANNAH RIVER BELOW AUGUSTA, GA

The authorized project for the Savannah River between Augusta and Savannah, Georgia, provides for a navigation channel 9 feet deep and 90 feet wide from the upper end of Savannah Harbor (mile 21.31) to the head of navigation at Augusta just above the 13th Street bridge (mile 202.16), a distance of 180.85 miles. There are several threatened and endangered species in the area; those with the greatest likelihood of being affected by an environmental restoration are: the shortnose sturgeon, peregrine falcon, bald eagle (a protected species), and the wood stork. There

are forested wetlands located within the Savannah National Wildlife Refuge, and this area is a part of the Atlantic Flyway. During low flows, many oxbows are separated from the main river channel, resulting in degradation of water quality. Reservoir construction in the Upper Savannah River modified the natural flow regime of the river, including changes in sediment load and water quality. River access to some tributary streams has been cut off due to placement of dredged material from the 1962 channel modifications, which included deepening, widening, snagging, and construction of navigation cuts and pile dikes and other work to provide the 9-foot depth. The purpose of the study is to evaluate the Federal project to determine if a modification to the current project authorization for the purpose of aquatic ecosystem restoration is in the Federal interest. Non-Federal sponsors are Savannah Riverkeeper and Phinizy Center for Water Sciences.

PRECONSTRUCTION ENGINEERING AND DESIGN

There is $750,000 included in the President's Budget for Fiscal Year 2017 for preconstruction engineering and design for the Aquatic Ecosystem Restoration program.

CANO MARTIN PENA, SAN JUAN, PUERTO RICO

The Caño Martin Peña Canal is a tidal canal approximately 3.8 miles long connecting San Juan Bay and the San Jose Lagoon in metropolitan San Juan. The drainage area of the canal is about 2,500 acres. In 1988 the first 2.0 miles from San Juan Bay eastward to Munoz Rivera Avenue was dredged to 200 feet wide by 10 feet deep to provide a navigation channel for an intermodal passenger transport service. Vertical king pile walls line both sides of the channel. Urban development has encroached into the remaining unimproved portion of the canal, and untreated discharge of local household and industrial wastes have left the canal in very poor condition. Under the authority of a Memorandum of Agreement (MOA) executed in February 1996 between the Jacksonville District U.S. Army Corps of Engineers and the Puerto Rico Department of Natural and Environmental Resources (DNER), the DNER contracted the Jacksonville District Corps of Engineers to prepare a Design Memorandum (DM) to continue the dredging of the Caño Martin Peña 1.8 miles to the San Jose Lagoon. Three preliminary alternatives were initially investigated; a shallow existing channel clean out, an earth trapezoidal channel which would maximize the conveyance through proposed new 200-foot wide bridges, and a vertical sheet pile wall rectangular channel similar to the channel constructed for the Agua Guagua. The latter plan was selected by DNER and was developed in the Design Memorandum in sufficient detail, including identification of suitable disposal areas, environmental impacts, and real estate requirements.

CONSTRUCTION

The Construction Program allows for the implementation of projects for Aquatic Ecosystem Restoration in the region.

FISCAL YEAR 2016

Construction work will continue on two environmental ecosystem and infrastructure projects funded in Fiscal Year 2016. $126,742,000 was provided for the South Florida Ecosystem Restoration project. This total includes $3,000,000 of Environmental Infrastructure funds provided for the Florida Keys Water Quality Improvement project.

FISCAL YEAR 2017

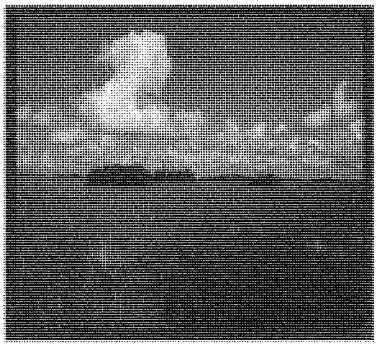
The President's Budget includes $106,000,000 for the Aquatic Ecosystem Restoration construction program. These funds will allow for the continuing construction of the South Florida Ecosystem Restoration, FL project.

NEW

There are no funds included in the President's Budget for Fiscal Year 2017 to initiate new Aquatic Ecosystem Restoration construction projects in the South Atlantic Division.

CONTINUING

SOUTH FLORIDA ECOSYSTEM RESTORATION, FLORIDA



The South Florida Everglades Ecosystem Restoration Program stretches from the Southern Orlando area southward across the Everglades, the Florida Keys and the contiguous and near shore waters of South Florida. This project encompasses an area of approximately 18,000 square miles which includes all or part of 18 counties. The principle project areas are the Kissimmee River Basin, Lake Okeechobee, Everglades Agricultural Area, Upper East Coast, Lower East Coast, Big Cypress Basin, Water Conservation Areas, Everglades National Park, Southwest Florida, Florida Bay and the Florida Keys. The project combines multiple separable elements of other projects associated with the ecosystem restoration activities in south Florida including: Central and Southern Florida(C&SF) project; Comprehensive Everglades Restoration Plan (CERP); the Kissimmee River project; the Everglades and South Florida Ecosystem (E&SF) project referred to as the Critical Projects; and the Modified Water Deliveries to the Everglades National Park funded by the Department of the Interior. The objective of the South Florida Everglades Ecosystem Restoration Program is to restore, protect, and preserve the South Florida ecosystem, including the Everglades, while providing for other water related needs of the region. The FY 2017 funding of construction supports the stated schedule. FY 2016 funds are being used to complete construction on the Upper St. John's and close out the project; continue Engineering and Design for CERP

Remaining Items; continue construction of the Kissimmee Lower Basin; continue construction on the C&SF C-111 South Dade Project; and continue construction on the CERP Picayune Strand and Indian River Lagoon South. For C&SF, FY 2017 funds will be used to continue construction on the C-111 South Dade Project. For CERP, FY 2017 funds will be used to continue Engineering and Design for Remaining Items and continue construction at Picayune Strand and Indian River Lagoon South. For the Kissimmee River project, FY2017 funds will complete construction on the Lower Basin.

MULTIPLE PURPOSE PROJECTS INCLUDING HYDROPOWER

INVESTIGATIONS

There are no funds included in Fiscal Year 2016 nor in the President's Budget for Fiscal Year 2017 for investigation of Multiple Purpose Projects Including Hydropower projects in the South Atlantic Division.

CONSTRUCTION

The Construction Program allows for the implementation of projects for Multiple Purpose Projects including Hydropower in the region.

FISCAL YEAR 2016

Construction work will continue on the Richard B. Russell Multiple Purpose Project funded in Fiscal Year 2016.

FISCAL YEAR 2017

The President's Budget includes $930,000 for one Multiple Purpose Project to include the Hydropower construction program. These funds will allow for the continuing construction of the Richard B. Russell Dam and Lake, GA and SC project.

NEW

There are no funds included in the President's Budget for Fiscal Year 2017 to initiate new Multiple Purpose Projects including Hydropower construction projects in the South Atlantic Division.

CONTINUING

RICHARD B. RUSSELL DAM AND LAKE, GEORGIA AND SOUTH CAROLINA

The Richard B. Russell Dam and Lake Project on the Savannah River near Elberton, Georgia is about 99 percent complete. The project provides for a concrete gravity dam flanked by earth embankments along with eight power generating units, four of which are reversible. Testing is complete to allow operation of the turbines in the pump-back mode with minimal

harm to fish populations. Testing to date has provided positive results toward successful operations. Pumped storage operation was declared commercially available on September 1, 2002 following a favorable decision from the U.S. District Court on May 3, 2002. Environmental monitoring of fishery and water quality is underway. FY 2016 funds are being used to complete year 3 and initiate year 4 of the required post construction environmental monitoring of full pumped storage operation. The requested funds will be used to complete year 4 and initiate year 5 of the required post construction environmental monitoring.

OPERATION AND MAINTENANCE

The Operation and Maintenance Program provides for the operation, repair, service and up-keep of the infrastructure and activities to insure that completed projects fulfill their authorized purposes.

FISCAL YEAR 2016

In Fiscal Year 2016, funds in the amount of $444,395,000 are being used to provide essential work on some of the 29 major harbor and smaller channel projects; six waterways containing locks and dams, flood control projects, flood protection projects, and several multiple purpose projects that include hydropower production while also conducting project condition surveys and the removal of aquatic growth, along with the operation and maintenance of appropriate recreation facilities.

FISCAL YEAR 2017

The President's Budget includes $366,605,000 for the Operation and Maintenance program in the South Atlantic Division to ensure that completed projects fulfill their authorized purposes.

NAVIGATION PROJECTS

The President's Budget includes $204,468,000 for navigation and will allow for maintenance of 18 major harbors and other small harbor and channel projects. Along with our harbors, qualifying portions of our 3,800 miles of inland waterways with 33 locks and dams will be maintained to support waterborne commerce, both domestic and international.

FLOOD RISK MANAGEMENT PROJECTS

The President's Budget includes $32,099,000 for flood risk management projects. The flood risk management projects in the South Atlantic Division have prevented flood damages valued in excess of $1 billion over the past 50 years.

ENVIRONMENTAL RESTORATION

The South Atlantic Division operates and maintains the South Florida Eco-system Restoration program, which is comprised of several projects in the Everglades region. The

program covers approximately 18,000 square miles, which includes all or part of 18 counties in the state of Florida. The President's Budget includes $299,000 for these efforts.

MULTIPLE PURPOSE PROJECTS INCLUDING HYDROPOWER

The South Atlantic Division operates and maintains 14 Multiple Purpose projects including hydropower throughout the region. These projects provide a variety of benefits, including hydropower production. They generated 3,727,957 megawatt hours of power last year, resulting in sales revenues of $200,838,732 returned to the treasury. The President's Hydropower Budget including the Joint costs shared with other business lines total $67,040,000for these projects.

ENVIRONMENTAL STEWARDSHIP

The operation, management, and conservation of natural resources through implementation of the environmental operating principles, advance natural resource management programs and shoreline management are vital to the environmental wellbeing of the nation. The President's Budget includes $17,674,000 for these purposes.

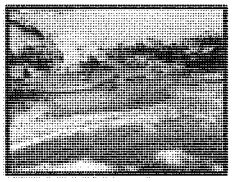
RECREATION AT PROJECTS

In a continued effort to maintain a minimal level of service to the visiting public, operation and maintenance of existing recreation facilities are required. Recreation facilities include day use parks, beaches, campgrounds, bath and comfort facilities and boat ramps. The President's Budget includes $44,401,000 for these purposes. This funding level acknowledges the necessity to reduce some services to some areas.

WATER SUPPLY AT PROJECTS

Water supply being utilized at numerous projects and communities that are adjacent to the project is authorized. To ensure water use compliance, enforcement of specific conditions of the water supply permits and the coordination of water supply releases are required. The President's Budget includes $624,000 for these activities.

SUPPLEMENTAL APPROPRIATIONS



The Supplemental funding received by South Atlantic Division to renovate numerous areas damaged by severe weather events is properly distributed and executed by all five districts within South Atlantic Division. Hurricane Sandy Supplemental funds allocated to the South Atlantic Division includes $1,975,000 for Construction, $61,500,000 for Operation and Maintenance, and $47,100,000 for Flood Control and Coastal Emergencies, totaling $110,600,000. All of the Sandy work is physically complete. Work continues on the Mississippi Coastal- Barrier Island Restoration funded under the Flood Control and Coastal Emergency appropriation. The South Atlantic Division plans to award one major contract in

Fiscal Year 2016, worth approx. $15.9M for lands purchase at Cat Island; and award 3 additional construction contracts in early-to-mid Fiscal Year 2017, estimated to be in excess of $177M."

CONCLUSION

The South Atlantic Division continues with resilience to make significant accomplishments with our Civil Works program. With the support of this committee our Fiscal Year 2017 budget of $570,000,000 will permit this division to continually prepare and respond to emergencies, meet the nation's water resource needs, and provide security measures for our infrastructure. Located in the City of Atlanta, we believe that we are well positioned, with Demonstrated ability, to continue the tradition of engineering excellence in the service of the citizens of this great region.

Mr. Chairman and the Members of the Subcommittee, this concludes the South Atlantic Division status report for this year.

QUESTIONS FOR THE RECORD
SUBCOMMITTEE ON ENERGY AND
WATER DEVELOPMENT HOUSE
COMMITTEE ON APPROPRIATIONS

Hearing on the Fiscal Year 2017 Budget Request for the U.S. Army Corps of Engineers, Civil Works February 26, 2016

STATUS OF STUDIES UNDER 3X3X3

Subcommittee. For the past few years, the Corps has been touting the 3x3x3 initiative – a planning initiative to complete feasibility studies within three years and three million dollars. The Committee previously has expressed concerns about specific aspects or consequences of this initiative, but has strongly supported the general goal of reducing the amount of time and funding necessary to complete studies.

Does the Corps track progress on implementation of 3x3x3? Do we know how successful the agency has been at limiting studies to no more than three years and three million dollars?

Assistant Secretary Darcy. Yes. For example, since Planning Modernization was initiated in 2012, the Corps has initiated 19 new feasibility studies. Of these, 14 are currently expected to be completed within three years and $3 million; two have received an exemption from the three-year and/or the $3 million goals; and three are pending their cost sharing agreements.

Subcommittee. The fiscal year 2017 budget request represents the third or fourth year for studies selected as new starts in fiscal years 2014 and 2015 – after 3x3x3 was put in place. Of these 19 studies, only one has been budgeted to completion. Does this fact raise concerns about 3x3x3?

Assistant Secretary Darcy. No. The Budget provides sufficient funding for the 19 new studies started in 2014/2015. The three-year timeframe begins when a study signs its Feasibility Cost Sharing Agreement (FCSA), so it is not necessarily funded over three consecutive budget years. Of the nine studies that started in FY 2014, eight of them have signed a FCSA, six are on schedule to complete within three years and $3 million, and two have approved exemptions. Of the 10 studies that started in FY 2015, eight of them have signed a FCSA and are currently on schedule to complete within three years and $3 million.

SELECTION OF FISCAL YEAR 2016 NEW CONSTRUCTION STARTS

Subcommittee. In the fiscal year 2016 work plan, the Administration chose to use a new start designation on a project that was then not supported in the fiscal year 2017 budget request. Proponents of other projects waiting in line could reasonably view that decision as "wasting" one of the limited new starts allowed in fiscal year 2016 and forcing their projects to wait another year for no good reason.

Please list all projects that: 1) are authorized; 2) could have signed project cost share agreements within the specified time; and 3) would have met budget criteria for ongoing projects in the fiscal year 2017 budget request.

Assistant Secretary Darcy. The 2016 appropriations act specified that the Corps could select up to six new construction starts with funds provided in the FY 2016 appropriations act. The Act also required that any new start selected as a new start sign a Project Partnership Agreement no later than August 31, 2016. The report language accompanying the act specified certain criteria for selecting those new starts, including that, of the new construction starts, one shall be for a navigation project, one shall be for a flood and storm damage reduction project, three shall be for additional navigation or flood and storm damage reduction projects, and one shall be for an environmental restoration project. In addition, the report indicated that of the new construction starts selected, the Corps should include funding for one new navigation or flood construction project that utilizes a public private partnership arrangement. Neither the Act nor the report specified that any project selected as a new start be eligible for funding in the 2017 Budget; the Budget though did have to consider the affordability of continuing any work started in the 2016 work plan.

The Corps carefully evaluated all of the criteria specified by Congress and selected six new construction starts in its FY 2016 work plan. Each of these new starts adhered to the requirements established by the Congress.

Four projects or separable elements of projects not funded in the FY 2016 work plan met all three of the criteria stated in the question posed here. These include:

- Surf City and North Topsail Beach, NC (Storm Damage Reduction)
- West Onslow Beach and New River Inlet, NC (Storm Damage Reduction)
- Corpus Christi Ship Channel, TX (Main Channel) (Commercial
- Navigation)
- La Grange Lock and Dam, IL (Commercial Navigation)

MODIFYING DAMAGED PROJECTS

Subcommittee. Public Law 84-99 authorizes the Corps to, among other things, restore eligible projects to pre-storm conditions. Typically, this has meant rebuilding existing projects to their former conditions. Recently, however, some stakeholders have raised the idea of encouraging the Corps to look at alternative approaches to reducing flood risk. Does P.L. 84-99 provide the legal authority to look at alternatives or is it limited to rebuilding exactly what was there before?

Assistant Secretary Darcy. PL 84-99 as amended (33 U.S.C. 701n) does not limit the Corps to rebuilding exactly what was there before the storm. PL 84-99 as amended also includes the authority to modify the project as may be necessary in the discretion of the Chief of Engineers for the adequate functioning of the project. It also authorizes the Corps to implement nonstructural alternatives to such repair if requested by the non-Federal sponsor of the project.

Subcommittee. *If the answer is that the Corps can look at alternatives:* It doesn't seem to be widespread Corps policy to do so – should it be? Is there a policy or direction to the field offices that addresses this issue?

Assistant Secretary Darcy. The Corps can consider a non-structural alternative under the P.L. 84-99 program upon the request of the non-Federal sponsor. The Corps is in the process of developing further guidance on this point, which it expects to include in a forthcoming revision to Engineer Regulation 500-1-1.

Subcommittee. If the Corps were to look at alternatives under the P.L. 84-99 program, how might you balance the need to move quickly on restoring flood protection with looking at new alternatives?

Assistant Secretary Darcy. Balancing the time line necessary to make repairs versus the timeline to implement alternative projects is considered on a case-by case basis. If a structural alternative such as resilience is considered, the timelines to complete the project is balanced against the next anticipated or forecasted event. If the repair can be made to restore to the pre-storm level of

protection and resilience can be added with no change to construction timelines, the decision is simpler. If adding resilience extends the construction period and there is the potential for a weather event that may further damage the unrepaired structure or cause damage to areas left exposed to more risk by the unrepaired structure, then that additional risk, as well as the costs, must be considered and discussed with the sponsor. While there is some flexibility under the PL 84-99 to consider alternatives beyond simply repairing a project to its pre-existing condition, changes to a flood risk reduction structure's level of protection generally are handled through the Congressional framework established for studying and authorizing modifications following Corps Planning processes.

FEDERAL FLOOD RISK MANAGEMENT STANDARD

Subcommittee. There have been concerns expressed about the President's executive order establishing a new federal flood risk management standard. The Financial Services and General Government division of the fiscal year 2016 Act included a provision limiting the implementation of the new standard.

Has the Corps issued implementation guidance for that provision yet?

If yes, could you please give a brief description of what it says and submit a copy guidance for the record?

Assistant Secretary Darcy. This provision is section 750 of Division E of the Consolidated Appropriations Act, 2016. Consistent with this provision, the Corps will not apply Executive Order 13690 or the Federal flood risk management standard in FY 2016. However, the Corps plans to review its existing flood risk management guidance in light of this Executive Order, with a view towards identifying potential ways to improve program performance. The Corps will also work with other Federal agencies during this period, as needed, to share ideas and ensure consistency across the Federal government.

Subcommittee. If guidance has not been issued yet, when do you anticipate issuing this guidance?

Assistant Secretary Darcy. The Corps typically would not issue implementation guidance for a general provision of this kind, which appears in an annual appropriations act. The Corps will comply with this provision, but does not anticipate issuing specific implementation guidance for it.

Subcommittee. For the second year in a row, the budget request slashes capital investment in the inland waterways system by not utilizing the expected revenues in the Inland Waterways Trust Fund. This budget request makes use of only about one-third of estimated revenues and supports an overall program that is 44 percent smaller than the fiscal year 2016 enacted program. The minimal request has been explained as necessary to ensure that revenues are available to meet investment needs in future years. Please explain in which specific fiscal years and for which specific projects the Administration foresees annual investments exceeding the level that can be supported by annual revenues.

Assistant Secretary Darcy. The Budget is performance-based and funds those programs, projects and activities that provide the greatest net economic and environmental return on investment to the Nation as well projects that address a significant risk to human safety. This approach allows the Administration to efficiently fund such projects, making high-impact use of trust fund revenues. Currently, the Olmsted Locks & Dam project is the only inland waterways construction project that meets the performance criteria for funding in the Budget.

ADDITIONAL CAPABILITY

Subcommittee. Are there any oversight personnel costs associated with ongoing work at inland waterways projects that are not funded in the budget request?

Assistant Secretary Darcy. Yes. The Corps would incur some supervision and administration costs in FY 2017 for ongoing work on the Locks and Dams 2, 3 & 4, Monongahela River, Pennsylvania project. The Budget did not include these funds because the project did not meet the performance criteria for funding in the Budget.

LOWER MON PROJECT STATUS

Subcommittee. The Administration previously has supported capital improvements to the Locks and Dams 2, 3, and 4 – or Lower Mon – project through budget requests. Why did this project fall out of the budget request this year?

Assistant Secretary Darcy. As a result of investments to-date and after a recent reevaluation of the dam, the Dam Safety Action Classification rating of the highest risk dam in this project was reduced from a level 1, the highest level of risk, to a level 4, meaning the risk is now much lower. The benefit-to-cost ratio for the Lower Mon project is 1.4 to 1 at a 7 percent discount rate (November 10, 2015 Economic Update), so this project did not meet the performance criteria for funding in the Budget on the basis of its economic return.

Subcommittee. Are there any oversight personnel costs associated with ongoing work? If so, how will you address those requirements since there is no funding in the budget request?

Assistant Secretary Darcy. Yes. Award of a portion of Option 1 for the River Chamber Contract, originally scheduled for FY 2016, will likely be delayed in order to cover the E&D and S&A costs of ongoing contracts in FY 2017.

RISKS OF FAILURE OF INLAND WATERWAYS PROJECTS

Subcommittee. What are the chances of failure at the other locks and dams in the inland waterways system? Will the Corps be able to operate them for the middle to long term at the funding levels included in the budget request?

Assistant Secretary Darcy. Several navigation locks and dams are currently rated high or very high urgency by the Corps, where failure could result in significant economic consequences. The Corps is working to reduce the risk of failure at these projects and anticipates being able to operate these dams safely in FY 2017 with the funding provided in the FY 2017 Budget. Many of these dams, such as Locks and Dams 52 and 53 on the Ohio River, are undergoing rehabilitation, repair or replacement, or like the Emsworth, Dashields, and Montgomery Locks and Dams, are the subject of studies for rehabilitation, repair or replacement.

20-YEAR PROGRAM UPDATE

Subcommittee. The Water Resources Reform and Development Act of 2014 directed the Corps to provide a report describing a 20-year program for making capital investments on the inland and intracoastal waterways. The report was due in June 2015. What is the status of this report? When do you expect to finalize it and submit it to Congress?

Assistant Secretary Darcy. The Inland Marine Transportation System Capital Investment Strategy Report is undergoing final review within the Administration and will be submitted to Congress by 31 March 2016.

Subcommittee. Last year, the Corps and the EPA finalized a joint rule defining "Waters of the United States," which governs federal jurisdiction under the Clean Water Act. In October, the Sixth Circuit Court of Appeals issued a nationwide stay of the rule while the court decides issues of jurisdiction. Earlier this week, the court issued an opinion claiming jurisdiction while leaving the stay of the rule in place. How is the Corps implementing section 404 of the Clean Water Act while under the court stay? Did you issue guidance or other direction to the field on how they should be proceeding right now?

Assistant Secretary Darcy. Following the stay issued by the 6th Circuit Court of Appeals on October 9, 2015, the Corps has been using all regulations, policies, and guidance in place prior to August 28, 2015 (the effective date of the Clean Water Rule) to implement section 404 of the Clean Water Act. The need to immediately implement the court-issued stay was communicated to Corps Districts and Divisions, consistent with memoranda signed by the Assistant Secretary of the Army (Civil Works) on October 10, 2015, and November 16, 2015. Because the nationwide stay is still in place, there has been no change in Corps practice since the Sixth Circuit held that it had jurisdiction.

Subcommittee. The Water Resources Reform and Development Act of 2014 amended what's commonly called the section 214 authority to include public-utility and natural gas companies. This authority allows the Corps to accept and expend contributed funds to expedite permit evaluations. The Corps issued implementation guidance for the amended authority in August 2015.

Could you please describe how the Corps distributes and highlights implementation guidance, specifically this guidance?

Assistant Secretary Darcy. Corps Headquarters distributed implementation guidance for this provision internally and the guidance is posted on a public website: (http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/Sectio n214.aspx). Individual Corps districts are required to train funded employees on the guidance yearly. Between July and September of 2015, the Corps Regulatory Community of Practice (COP) held four webinars on the most recent 214 implementation guidance, followed by a detailed presentation at the National Regulatory meeting in November of 2015. In addition, questions are addressed in regular quarterly conference calls.

Subcommittee. Have any additional steps been taken to encourage implementation within the Districts and Divisions?

Assistant Secretary Darcy. In accordance with the implementation guidance, once a request for a funded agreement is received from a public utility and/or natural gas company, the Corps greets the opportunity with a collaborative approach. The Corps expeditiously processes the permit request following all applicable guidance and informed by previous experience with funded agreements.

Subcommittee. For the record, please provide the following information by District Office and with respect to public utilities and natural gas companies:

Assistant Secretary Darcy. The Corps does not track the requested

information at the national level. However, data requested from District offices indicates the following:

Subcommittee. Number of funding agreements requested;

Assistant Secretary Darcy. Four districts reported meeting and/or discussing funding agreements with five public utilities/natural gas companies potentially interested in pursuing agreements. Specifically, Chicago District has been approached by Ni Source (natural gas/public utilities); St. Paul District has received two requests, one from Wisconsin Public Services (electricity, natural gas) and another from American Transmission Company (electric). New England District has met with the National Grid of Waltham, MA. Jacksonville District has received one request for information from Florida Power and Light. Little Rock District has a verbal request for additional information from Southwestern Energy.

Subcommittee. Number of funding agreements completed;

Assistant Secretary Darcy. Zero.

Subcommittee. Number of funding agreements still pending; and

Assistant Secretary Darcy. Two agreements are pending. Los Angeles District is processing an agreement with Southern California Edison. Sacramento District is processing an agreement with Pacific Gas and Electric.

Subcommittee. Number of funding agreements denied.

Assistant Secretary Darcy. Zero.

Subcommittee. The Army Corps is developing what was once called an Emergency Plan but is now being referred to as a Contingency Plan related to Asian Carp. Will this plan be completed before this spring? If not, when will it be completed? What kind of specificity can we expect to see in this plan and what level of details will be included?

Assistant Secretary Darcy. The Emergency Response Plan is a multi-tiered strategy for establishing formal procedures that would be used to implement an emergency response action authorized in Section 1039(c) of Water Resources Reform and Development Act of 2014 or other applicable authorities; presenting available tools and solutions as identified by the Asian Carp Regional Coordinating Committee's (ACRCC) Monitoring and Response Workgroup (MRWG) to appropriate agencies to facilitate the decision making process; and recommending an action based upon an assessment of the measures' effectiveness under a particular situation in a particular geographic location.

The Emergency Response Plan is the union of the ACRCC's contingency planning process and the Corps' emergency response protocol. The MRWG is developing a Contingency Plan that provides the framework for assessing risk of Asian carp transfer and identifies options to mitigate the risk. The Contingency Plan is scheduled for completion in late spring/early summer 2016, and is a significant component of the Corps Emergency Response Plan.

THE HONORABLE LUCILLE ROYBAL-ALLARD

BACKLOGGED MAINTENANCE

Ms. Roybal-Allard. On February 18th, I, along with the rest of the Los Angeles delegation, received a letter from the Los Angeles County Board of Supervisors addressing the outstanding maintenance needs within the Army-Corps maintained portion of the Los Angeles County Drainage Area. What is the extent and cost of completing the Corps' backlogged maintenance in the LACDA project?

Assistant Secretary Darcy. The Budget provides $17.447 million for operation and maintenance of the Los Angeles County Drainage Area (LACDA) in FY 2017, consisting of $14.573 million for maintenance and $2.874 million for project operation. The maximum that the Corps estimates that it would be able to efficiently and effectively use in FY 2017 is a total of around $72 million, consisting of roughly $60 million for maintenance and $12 million for operation. This is around $55 million more than the level recommended in the Budget.

Ms. Roybal-Allard. At the level of the current budget request, how many years would it take for the Army Corps to eliminate that backlog?

Assistant Secretary Darcy. The condition of the system changes over time. The potential work varies each year, as does its relative priority. Therefore, the Corps is not able to say how long it would take to perform all of this work.

Ms. Roybal-Allard. What are the consequences of having such a large backlog? What risk does this place on adjacent communities?

Assistant Secretary Darcy. The risk that an infrastructure may pose is primarily a function of its condition and the consequences of a failure, rather than of the size or cost of any unfunded potential maintenance work. During budget development, the Corps uses the condition of its facilities to help determine the funding priority for each potential maintenance work package. Based on such an assessment by the Corps, the Budget provided around twice as much for LACDA in FY 2017 than in prior years. This project has become

the highest funded O&M project in the entire South Pacific Division, surpassing even the Ports of Oakland and Long Beach, two of the Nation's largest and busiest ports. The flood risk is considered and prioritized accordingly, in order to decrease the risk to the surrounding community. For example, in early FY 2016, the Corps targeted an increased level of O&M funding to LACDA in preparation for El Nino storms. It used these funds to remove additional vegetation and sediment and construct HESCO bastions to elevate the height of system levees in certain places to address that potential risk.

Ms. Roybal-Allard. What are the bottlenecks that are preventing the Corps doing more work?

Assistant Secretary Darcy. Real estate acquisition needed for temporary staging and construction purposes and environmental compliance are required in order for the Corps to accomplish additional work.

Ms. Roybal-Allard. What percentage of the Corps' current budget is for vegetation removal, and in particular removal of invasive species such as arundo donax?

Assistant Secretary Darcy. In FY 2017, $715,000 is included for herbicide application throughout the LACDA system and an additional $25,000 is specifically for invasive species management, including removal of arundo donax.

Ms. Roybal-Allard. What community outreach does the Army Corps have planned specifically for vegetation removal?

Assistant Secretary Darcy. The Corps has held bi-weekly coordination meetings with local government entities, congressional representatives, and city council members since January 2016. Meetings of this nature will continue for the foreseeable future. The Corps will attend the River Coordination Committee meeting on April 4, 2016, to update the status of interim risk reduction measures and to present a plan for the following year. The Corps has allocated funding in FY 2016 to remove non-native/invasive vegetation; address the highest priority repairs; minor repairs; debris removal; outreach; and strategic removal of temporary barriers. Over the last five

years, the Corps has also undertaken limited non- native removal as part of the channel maintenance contract. These vegetation removal activities have been bundled as part of a series of services, so separable costs are not available for past years.

Ms. Roybal-Allard. What percentage of the LACDA assets the Corps maintains is graded at "acceptable level?"

Assistant Secretary Darcy. The Corps maintains 45 miles of levees and channels within the LACDA system and five dams with flood storage.

With respect to Corps assets being "graded", there is a standard operating procedure of "grading" Corps dams. Corps dams are assigned a Dam Safety Action Classification (DSAC), informed by the probability of failure and the incremental risk. The DSAC ratings vary from 1 to 5, with a rating ranging from 1 (urgent and compelling) to 5 (normal) in terms of dam safety. Of the five Corps dams in the LACDA system, two are currently rated with a DSAC 2 (Whittier Narrows and Lopez), and the remaining three dams (Sepulveda, Hansen, and Santa Fe dams) have a DSAC 3 rating.

Corps operated and maintained projects are evaluated and funded on a risk-informed basis. This was evidenced at the LACDA project in the 2016 winter season: when the Corps determined that strong El Nino storms might pose an added risk to the surrounding community, it allocated additional O&M funding to LACDA to remove sediment and vegetation in order to prepare the system for larger than usual storms. Additional funding also was allocated at that time to increase levee heights in places.

Ms. Roybal-Allard. Does the budget request cover all work necessary to bring the Corps' assets up to "acceptable level?"

Assistant Secretary Darcy. No.

Ms. Roybal-Allard. What are the consequences of these assets not being at an acceptable level?

Assistant Secretary Darcy. The unfunded maintenance may affect project performance in certain reaches The Corps considers the risks and consequences of not funding a work item when it allocates O&M funds across

the system.

Ms. Roybal-Allard. Is the Corps open to conducting a single comprehensive assessment to measure the acceptability levels of the of the LACDA system?

Assistant Secretary Darcy. The Corps is capable of conducting a comprehensive assessment, but does not view that as a priority for this project at this time. This assessment would need to address specific metrics applicable to the system, such as its performance during a flood event.

REAL ESTATE COSTS

Ms. Roybal-Allard. Large cities normally have high land value. The Army Corps is not likely to give high priority to projects in areas with land costs exceeding 25% of the total project. Due to high real estate costs in large cities, the federal government is limited in its ability to engage in transformative projects. Los Angeles addressed this issue by waiving reimbursements for real estate costs above 35% and taking on additional $200 million in costs.

Is it possible for the Army Corps to provide a credit for real estate costs since the City only waived reimbursement but not credit?

Assistant Secretary Darcy. On May 27, 2014, the Assistant Secretary of the Army for Civil Works, ASA(CW), transmitted a letter setting Army policy on this issue, which included the following: "These decisions are subject to the Corps incorporating the information discussed above into the final decision documents and subject to the non-Federal sponsor's continued agreement to forgo reimbursement or credit for real estate which may exceed 35 percent of the LPP cost". This decision has been clearly articulated to the City of Los Angeles by the Army Corps of Engineers.

Ms. Roybal-Allard. Does the Corps have any suggestions on how to remedy this cost discrepancy, which is normally divided between 65% federal 35% local?

Assistant Secretary Darcy. In the May 27, 2014 letter, the ASA(CW) states "I have decided to permit the Corps to recommend equal cost sharing of the LPP". Given the policy directive prescribed by the ASA(CW), the non-Federal sponsor's share will include their 35% share of the project cost as real estate costs (commonly referred to as LERRDs), and an additional 15% cash resulting in equal cost sharing. However, the non-federal sponsor must pay for all additional LERRD costs above 35%. A Chief's Report was signed on December 18, 2015 that incorporated this cost sharing requirement. It is currently being reviewed by the Administration.

STORMWATER CAPTURE

Ms. Roybal-Allard. Given the prolonged drought in the West, what is the Army Corps doing to increase stormwater capture in the Los Angeles County Drainage Area (LACDA) system?

Assistant Secretary Darcy. Storm water control and capture for municipal, industrial, and agricultural water supply is primarily considered a local responsibility. Additionally, the Corps must balance all storm water-related goals with the need to fulfill authorized purposes, such as flood and storm damage reduction. That said, the Corps is working with local communities to explore how Corps infrastructure can help meet those needs where such assistance is requested. A minor deviation to the water control manual, at the request of the non-Federal sponsor, was approved to allow additional water conservation at Whittier Narrows Dam in the LACDA system during the 2015/2016 storm season. This deviation has resulted in the conservation of approximately 6,200 ac-ft. of water at Whittier Narrows Dam, which has been valued between $5 million to $8 million. If it rains with sufficient quantity, the Corps is able to conserve water up to an elevation of 205 feet. In addition, the non-federal sponsor is providing contributed funds to support a long term study to evaluate permanent water capture at Whittier Narrows Dam resulting in a modification to the water control manual.

Ms. Roybal-Allard. When does the Army Corps expect these increases to materialize?

Assistant Secretary Darcy. The minor deviation at Whittier Narrows Dam is only in place during the rainy season typically from November through March. The permanent change to the water control manual at Whittier Narrows Dam cannot be implemented until after the Dam Safety Modification work is completed several years from now.

Ms. Roybal-Allard. How much funding has the Army Corps dedicated to stormwater capture in the LACDA system?

Assistant Secretary Darcy. Few Federal funds have been targeted to address stormwater capture for the reasons outlined above. However, the non-

Federal sponsors have provided contributed and accelerated funds to allow feasibility studies for storm water capture to continue.

Ms. Roybal-Allard. How much stormwater does this level of funding allow the Army Corps to capture?

Assistant Secretary Darcy. If it rains with sufficient quantity, the Corps is able to conserve water up to an elevation of 205 feet. This corresponds to approximately 1,300 acre-feet of additional water each rain event, under the minor deviation.

Ms. Roybal-Allard. What percentage of the requested budget for the LACDA project is for advancing ecosystem restoration studies?

Assistant Secretary Darcy. None. The line item for the LACDA project is now funded only for operation and maintenance. A related item, the Los Angeles Ecosystem Restoration study, has been funded in the Investigations account. Contingent upon its receiving an authorization for construction, any construction funding for the proposed aquatic ecosystem features would be likely funded under a separate line item in the Construction account, rather than as part of the LACDA project.

Ms. Roybal-Allard. At the current funding level, how long will it take the Corps to complete its portion of these studies?

Assistant Secretary Darcy. There are no ongoing studies associated with the LACDA project.

Ms. Roybal-Allard. Does that amount of time meet the schedules laid out in the formal agreements the Corps made with local agencies?

Assistant Secretary Darcy. See response to 16a.

Ms. Roybal-Allard. What are the consequences to the Army Corps and to local sponsors if the agency doesn't complete its portion of the workplans laid out in these agreements?

Assistant Secretary Darcy. See response to 16a.

Ms. Roybal-Allard. What steps has the Corps taken to keep this from happening?

Assistant Secretary Darcy. The Corps has maintained open and transparent communication with the sponsor, identifying the next steps leading to the Preconstruction Engineering and Design Phase of the project.

Ms. Roybal-Allard. Does the Army Corps have sufficient funding and staff to be responsive to requests for permits to its LACDA project assets? More specifically, does the Army Corps's budget request provide sufficient funding and resources to process Section 404 and Section 408 permits promptly?

Assistant Secretary Darcy. The FY 2017 President's Budget includes $80,000 for 408 permit program management in California. The Corps expects this to be sufficient for these permits and will continue to assess the needs as the permit requests are submitted. The Corps also anticipates sufficient funding and resourcing to efficiently address permit requests under Section 404 of the Clean Water Act. The Corps Los Angeles District has also initiated a funding agreement with LAC-DPW, in accordance with WRDA 2000 Section 214, as amended. This agreement helps with additional funding resources.

Ms. Roybal-Allard. If not, what does the Army Corps propose to do differently?

Assistant Secretary Darcy. N/A

Ms. Roybal-Allard. What is the current average wait time to receive a Section 404 or Section 408 permit in the Los Angeles County Drainage Area (LACDA) project?

Assistant Secretary Darcy. Recent statistics for the Corps Los Angeles District Regulatory Program (404 permitting) indicate an average wait time for a General permit in the LACDA area of 74 days. (Average time spans date of complete application to date verified, average for last 5 years.) The Los Angeles District does not have a similar metric for the Section 408 process.

Ms. Roybal-Allard. How does this time compare with similar requests made at other agencies?

Assistant Secretary Darcy. We do not have data available from the other agencies to be able to complete a comparison.

Ms. Roybal-Allard. What portion of the Corps' current budget is dedicated to improving the current processing time for LACDA permits?

Assistant Secretary Darcy. The 404 program does not budget or track its expenditures by project area. The Corps receives lump-sum funding for 404 permit evaluations by area of responsibility. On an as needed basis, resulting from incoming workload of permit applications, a portion of that lump-sum is devoted to L.A. County and a portion is devoted to applications in the LACDA area.

In addition, L.A. County DPW has provided Water Resources Development Act of 2000 (WRDA), as amended Section 214 funds to the district to expedite permit application reviews. However, those funds are used for LACDPW applications throughout the county (not just in LACDA). The Corps does not track budget expenditures by permit action or by applicant. For permit reviews under the WRDA Section 214 funding agreement, the funding agency (LACDPW) sets relative priorities among their various permit applications. Those priorities may change depending on the County's needs over time.

Ms. Roybal-Allard. What will be the wait time for a LACDA permit if the agency receives the requested funding?

Assistant Secretary Darcy. The average wait time for a General permit is 60 days.

THE HONORABLE DAVID VALADAO

PERMITS

Mr. Valadao. The Clean Water Act requires anyone who might discharge dredged or fill material into covered areas to obtain federal approval. Originally, the Corps was only able to issue individual permits under section 404(a). However, as the EPA and Corps' interpretation of "waters of the United States" became broader, many more activities required permits, and the Corps was not able to administer individualized review of the many different projects covered.

Congress responded to the problem by enacting section 404(e), which authorizes the Corps to issue streamlined general permits on a state, regional, and nationwide basis for categories of activities that will cause only "minimal adverse effects." To qualify for a nationwide permit, an activity's anticipated impact cannot exceed the acreage or linear foot limits set by the nationwide permit.

It is my understanding that the Corps is in the process of updating these nationwide permits that are so vital to everything from resorting our nation's infrastructure to building affordable family homes. Given the importance, what changes are you considering during this update to make it easier for people to qualify for these permits?

Assistant Secretary Darcy. The issuance of the NWPs is a rulemaking activity that is subject to the requirements of the Administrative Procedure Act and E.O. 12866, Regulatory Planning and Review. Those requirements include seeking public comment on proposed rules, and all comments received in response to the Federal Register notice will be fully considered while developing the final NWPs. The E.O. 12866 process managed by the Office of Management and Budget requires rulemaking agencies to fully consider the benefits and costs of their rules and to tailor their rules so that they impose the least burden on society while achieving the regulatory objectives.

Mr. Valadao. Do you anticipate increasing acreage or linear feet thresholds to ensure that the new WOTUS rule will not stop or delay any

individuals from quickly obtaining the nationwide permits?

Assistant Secretary Darcy. The 2015 final rule defining waters of the United States (the "Clean Water Rule") is currently stayed nationwide by the 6th Circuit Court of Appeals. Since the Clean Water Rule defines waters of the United States, it would not stop or delay individuals from obtaining nationwide permits.

Mr. Valadao. In litigation over the recent WOTUS Rule, 33 states have determined that the Rule will expand federal jurisdiction. Additionally, EPA/USGS maps, which were created when the agencies proposed the WOTUS Rule and released by the House Science Committee in August 2014, reveal a tributary network of 8.1 million miles of rivers and streams.

This is compared to the "nation's 3.5 million miles of rivers and streams" that EPA reported to Congress in January 2009 in its latest official inventory. The EPA/USGS maps suggest the Rule would result in a substantial increase in tributary miles alone, which doesn't include other features like ponds, ditches, and wetlands.

Given the more than doubling of stream miles, shouldn't there be increases in acreage limits in the 2017 NWPs to address that expansion?

Assistant Secretary Darcy. Neither the EPA inventory nor the USGS maps identify waters covered by the Clean Water Rule. Instead, the inventory and maps identify water resources. The inventory and maps will have no effect on the use of the 2017 NWPs, once finalized. This is because the applicability of the NWPs is determined after Corps staff, consultants, and/or project proponents identify the waters and wetlands on a project site. Maps may be used for an initial site evaluation, but pre-construction notifications for NWPs require a delineation of waters and wetlands that are actually present on the project site, regardless of whether those waters and wetlands appear (or do not appear) on any general map even if that map is produced by the USGS and/or EPA. The acreage and linear foot limits of a particular NWP apply to the waters and wetlands that currently exist on a project site and will be lost as a result of a single and complete NWP activity. Those acreage limits are intended to ensure that the activities authorized under a NWP will have no more than minimal individual and cumulative adverse effects on the environment.

Mr. Valadao. Previously, the Corps had a nationwide permit—number 26—that authorized impacts of up to 10 acres of "isolated waters." The Corps eliminated NWP 26 in the early 2000s.

Now that the WOTUS Rule explicitly regulates certain isolated waters—like prairie potholes and western vernal pools—shouldn't the Corps' 2017 nationwide permit program reinstate NWP 26 or include new or revised nationwide permits that authorize impacts to isolated waters?

Assistant Secretary Darcy. Like the regulations and guidance in place prior to the 2015 final rule defining waters of the United States (the "Clean Water Rule"), the Clean Water Rule requires a case-specific significant nexus analysis for isolated waters. Furthermore, the Clean Water Rule is currently stayed nationwide by the 6th Circuit Court of Appeals. Thus, the Corps is using the regulations, policies and guidance in effect prior to August 28, 2015 its 1986 regulations and 2003 and 2008 guidance documents to determine jurisdiction under section 404 of the Clean Water Act.

The current NWPs are structured so that they focus on specific categories of activities rather than specific categories of waters. NWP 26 was limited to activities in headwaters and isolated waters. The current NWPs authorize categories of activities in a wider range of non-tidal waters, including the "headwaters" and "isolated waters" that were covered by NWP 26. The current NWPs can be used to authorize categories of activities in "isolated waters" if the 6th Circuit's stay of the 2015 final rule defining waters of the United States is lifted and those waters are determined to be subject to Clean Water Act jurisdiction.

Mr. Valadao. In particular, this permit might be very useful to the agricultural community. And if this permit is not reinstated, what other options are available to farmers and ranchers?

Assistant Secretary Darcy. The current NWP 40 authorizes discharges of dredged or fill material into all non-tidal waters and wetlands for agricultural activities, except for non-tidal wetlands adjacent to tidal waters.

That NWP has a 1/2-acre limit for losses of non-tidal waters and wetlands. In addition, all "normal" agricultural practices are exempt from permitting under Section 404(f) of the Clean Water Act, and would not require authorization under an NWP.

Mr. Valadao. Can the Corps ensure us that changes that result in it being harder to obtain nationwide permits will not be made?

Assistant Secretary Darcy. The issuance of the NWPs is a rulemaking activity that is subject to the requirements of the Administrative Procedure Act and E.O. 12866, Regulatory Planning and Review. Those requirements include seeking public comment on proposed rules, and all comments received in response to the Federal Register notice will be fully considered while developing the final NWPs. The E.O. 12866 process managed by the Office of Management and Budget requires rulemaking agencies to fully consider the benefits and costs of their rules and to tailor their rules so that they impose the least burden on society while achieving the regulatory objectives.

Mr. Valadao. Will the Corps be reinstating or including new nationwide permits to ensure the new WOTUS rule doesn't require any new individual permits?

Assistant Secretary Darcy. The 2015 final rule defining waters of the United States (the "Clean Water Rule") is currently stayed nationwide by the 6th Circuit Court of Appeals. Because the current NWPs generally authorize a wide variety of activities in all non-tidal waters and wetlands subject to Clean Water Act jurisdiction, and will continue to do so if the current stay of the Clean Water Rule is lifted, there is no need to develop new NWPs to authorize new categories of activities. The current NWPs that will be proposed for reissuance authorize discharges of dredged or fill material into waters of the United States to construct utility lines, roads, residential developments, commercial developments, agricultural activities, mining activities, and numerous other types of activities.

WITNESSES