Office of Wastewater Management
2015-2016 Annual Report

Message from the Director

Over the past three years, I have had the pleasure of serving as the Director of the Office of Wastewater Management (OWM). In my time, especially in the last two years, we have done a tremendous job partnering with federal, state and local governments, industries and tribes to provide innovative solutions for our nation's water quality and quantity challenges. Whether I'm shopping for a new WaterSense labeled showerhead or walking through my neighborhood on a rainy day, I see the fruits of our labor everywhere. While this report serves as a highlight of the accomplishments we have achieved together, it only skims the surface to illustrate the direct impact we have on the lives of Americans.

The past 24 months have included immense growth in OWM. We expanded how we help Americans access clean water with new innovative funding options, technical assistance, partnerships and regulations. With these new activities, we needed to change the way we operate to create opportunities for even greater success. We stood up the Water Infrastructure and Resiliency Finance Center (WIRFC) and created a new team to implement the Water Infrastructure Finance and Innovation Act (WIFIA). We reorganized the Sustainable Communities Branch and the Sustainable Management Branch to become the newly created Sustainable Communities and Infrastructure Branch. The Municipal Support Division became the Water Infrastructure Division to better capture the work we do. And, most importantly, we are investing in staff through culture exercises, retreats, facilitated discussions, and more, because I know that our people are our greatest resource.

"We are a one-stop-shop for those needing help with their water quality or quantity problems..."

This year, we also adopted a new slogan: *Solutions for Clean Water*. We are a one-stop-shop for those needing help with their water quality or quantity problems, whether they are a state, tribe, community, industry, utility, partner, or citizen. We create the legal framework and then provide the guidance, funding - and support through partnerships – to get the job done. As the world changes, we have evolved with it. New technology has made connecting with those we serve more important than ever. We took the message directly to those who need to hear it through extensive outreach campaigns; for example, WIFIA, WIRFC, and some of our permitting programs held forums of opportunities, conversations and feedback with critical partners and stakeholders in various settings and communities around the country. We wrote blogs that shared our experience with issues such as septic system maintenance for new homeowners and the challenges communities face paying for essential water infrastructure improvements. We held several "Twitter Chats," inviting the world to ask us questions about nutrients, WaterSense, water conservation, and water finance. And we took innovation a step further by inviting groups to present new ideas and technologies to address environmental challenges for areas like nutrient management and green infrastructure. By embracing the opportunities presented by new technology, we connected with hundreds of thousands of American citizens in their own homes and communities.

In 2015-2016, we worked together to accomplish more than could fit in the pages of this report. And in 2017, we will build on those successes to create solutions to problems that do not exist yet. We work with industry and communities on the best water quality and quantity solutions available. We support states and tribes to develop and maintain infrastructure. With our partners, we work together toward one goal: ensuring every American has access to clean water. I'm proud to be a part of the Office of Wastewater Management and look forward to the growth and potential that the future holds.

Andrew D. Sawyers, Ph.D.
Director, Office of Wastewater Management


Solutions for Clean Water

About OWM

Who We Are

The Office of Wastewater Management (OWM) is part of the U.S. Environmental Protection Agency's Office of Water. OWM partners with federal, state and local governments, industries and tribes to provide innovative solutions for our nation's water quality and quantity challenges.

Our Vision

We envision a nation where all communities have access to clean water. By working with stakeholders, we develop approaches to manage water as a critical resource and prevent water pollution. Our programs and initiatives protect public heath and the environment as we support a growing economy.

Table of Contents

Funding

Clean Water State Revolving Fund

CWSRF Eligibility Paper

The Water Resources Reform and Development Act of 2014 amended the Clean Water State Revolving Fund (CWSRF) program, expanding project eligibilities from three to eleven. The new eligibilities are broadly defined, providing the opportunity to fund many new project types, especially in the areas of water conservation and stormwater. The flexibility provided by the new eligibilities offers the CWSRF additional opportunities to address the most pressing state water quality issues. The CWSRF Branch developed a document that provides an overview of the extraordinarily wide variety of CWSRF project eligibilities. The document is intended to serve as a resource for state program managers as they identify projects to receive CWSRF assistance.

CWSRF Marketing and Outreach Initiative

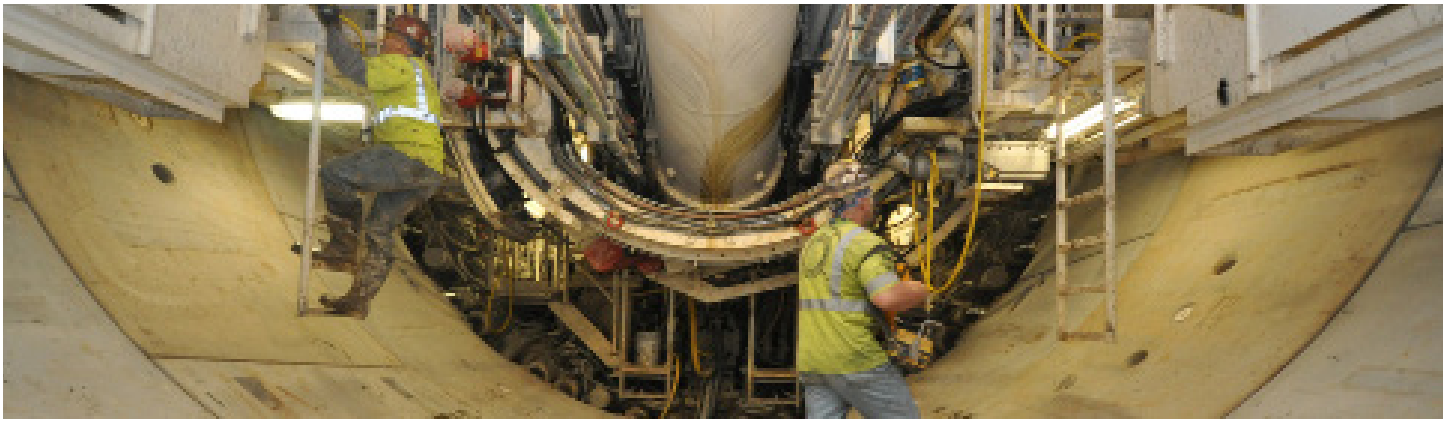
During 2016, the CWSRF Branch implemented a new marketing and outreach initiative focused on helping state programs build demand for CWSRF assistance. Components of the plan include using contract resources to provide technical assistance to state programs, highlighting program accomplishments in written publications and social media outlets, and developing a new recognition initiative that will honor outstanding CWSRF projects. Contract resources will be used to work with states and their potential borrowers to analyze demand for assistance and identify action items to enhance state marketing and outreach efforts. Best practices learned during this process will be incorporated into a model state marketing plan that states can use to launch a new marketing and outreach program or augment existing efforts.

CWSRF Trends

The CWSRF Branch is currently undertaking a major initiative to identify critical trends based on program and project level data collected from the states. These trends will cover all aspects of CWSRF activity, ranging from identifying the types of communities and projects receiving funding to tracking how these funds are being committed and disbursed to needed projects. This work has already benefited other important branch efforts such as partnering with states to promote CWSRF marketing and outreach. Going forward, this analysis will also factor heavily in the branch's ongoing efforts to support regional oversight of the CWSRF programs.

CWSRF Oversight

During 2016, the CWSRF Branch collaborated with EPA Regional staff to update the SRF Annual Review Guidance and associated review checklists. The purpose of these tools is to assess state successes in implementing the activities identified in state Intended Use Plans and Annual Reports and to determine compliance with federal requirements. These updates allow the Region to conduct a more thorough review and foster more in-depth discussions with states regarding their success, concerns, and plans for the future of their CWSRF programs. Staff from EPA Headquarters accompanied the Regions during annual reviews in 11 states to ensure that the annual review guidance and checklists are being used correctly, engage in oversight of the Regional review process, and maintain close working relationships between federal and state partners.



Water Infrastructure Finance and Innovation Act

FY 2017 Funding in President's Budget

This year, the Water Infrastructure Finance and Innovation Act (WIFIA) program focused on establishing the administrative framework needed for the program to begin receiving applications for credit assistance in FY 2017. This included developing a credit subsidy model, drafting program implementation and fee rules, developing application materials, and establishing operating procedures. The Office of Management and Budget signaled that EPA made sufficient progress in standing up the program by requesting $15 million for WIFIA credit assistance and $5 million for WIFIA administrative support in the FY 2017 President's Budget.

WIFIA Information Collection Request

In order to collect application materials for credit assistance in FY 2017, the WIFIA program initiated the Information Collection Request (ICR) required under the Paperwork Reduction Act. The ICR Supporting Statement, draft Letter of Interest, and draft Application were published in the Federal Register on May 23, 2016 for a 60-day public comment period. EPA received seven comments. In addition, the WIFIA program conducted consultations with nine potential applicants. Based on this feedback, it revised the supporting statement and application materials and EPA published these revised versions for additional public comment in the Federal Register on September 8, 2016.

Water Infrastructure and Resiliency Finance Center

WaterCARE

In January 2016, the Water Infrastructure and Resiliency Finance Center (WIRFC) began providing direct financial planning technical assistance to 10 communities across the country through the Water Community Assistance for Resiliency and Excellence (WaterCARE) initiative. WaterCARE provides this predevelopment financial planning assistance to selected communities that lack the resources to effectively plan needed water infrastructure development. Case studies on these projects are being developed to identify systemic solutions to expand federal, state, and local commitments to predevelopment investment.

Compendium of Utility Customer Assistance Programs

WIRFC developed a compendium of Utility Customer Assistance Programs to identify programs developed by utilities to help low and fixed income customers having difficulty paying their wate and sewer bills. This compendium reviewed 795 drinking water and wastewater utilities and found that 228 utilities offer a total of 365 programs. The compendium was released in April 2016 and a webinar was held in June 2016 to highlight innovative customer assistance programs from the San Antonio Water System in San Antonio, TX and the Portland Water Bureau in Portland, OR.

Funding and Financing Water Infrastructure for Communities in Need

In July 2016, WIRFC convened a national dialogue on Funding and Financing Water Infrastructure for Communities in Need that drew 148 leaders representing federal, state, and local governments, as well as non-governmental organizations including state associations, national water sector associations, foundations, and advocacy groups. Speakers shared best practices in coordinating funding and showcasing leadingedge local financing solutions. These discussions identified key priorities for future activities to replicate state and local successes of states and communities in identifying financing approaches for Communities in Need.

Grants

U.S.-Mexico Border Water Infrastructure Program

The U.S.-Mexico Border Water Infrastructure Program (BWIP) provides grant assistance to communities 100 kilometers north and south of the U.S.-Mexico border. The grant assistance is for planning, designing, and constructing drinking water and wastewater infrastructure. Many economically distressed communities along the U.S.-Mexico border lack the resources to secure planning and construction funding of critically needed infrastructure. The BWIP, one of the few federal programs that provides both financial and technical assistance, helps communities to be able to afford access to safe drinking water and sanitation, reducing public health risks and environmental impact from raw sewage discharges. In FY 2016, the program provided first-time access to safe drinking water to 3,700 homes and first time access to adequate sanitation to 45,000 homes. Also, the program's technical assistance provides hands-on management and technical oversight for planning, engineering, environmental review and design; this technical assistance is a critical bridge between proposed projects and actual project construction.

Clean Water Indian Set-Aside Allocation

The Clean Water Indian Set-Aside provides assistance to tribal communities through the distribution of grants for the construction of wastewater treatment systems. As of December 2015, about 6.5 percent of tribal homes lacked access to safe drinking water and/or basic sanitation services. A lack of clean water infrastructure in tribal communities threatens the health of residents who often rely on local wildlife and fish for food and on the nearest water body for drinking water. During FY 2016, EPA provided $30 million for 82 projects to improve sanitation for over 7,700 homes. OWM continues to lead the multi-agency Tribal Infrastructure Task Force. The Task Force is facilitating coordination among federal partners and works to ensure that built infrastructure meets or exceeds its design life.

Alaska Native Villages

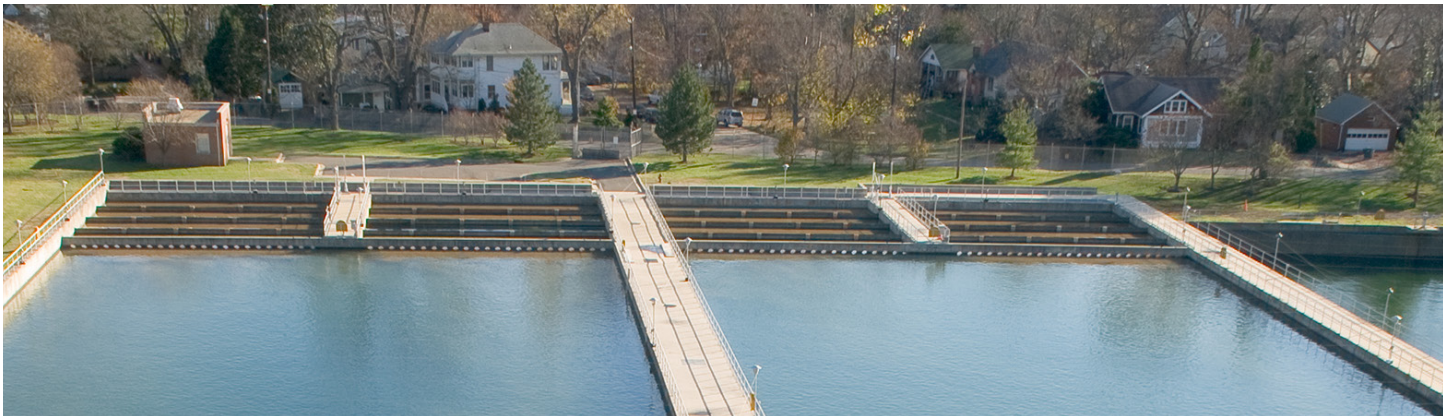
Since its inception in 1996, the Alaska Native Village and Rural Communities Grant Program (ANV) has distributed nearly $520 million in funds for drinking water and sanitation services in the 280 Alaskan native and non-native rural villages. Funds are used for the planning, design, construction and/or repair of new or improved water and wastewater systems. Communities can also use the funding for training and technical assistance in system operations and maintenance. In FY 2016, the ANV program provided $20 million in grants for 10 projects affecting 1,900 homes.

Clean Water Act Section 106 Grants

Section 106 of the Clean Water Act authorizes EPA to provide federal assistance to states, territories, the District of Columbia, interstate agencies and eligible tribes to establish and implement water pollution control programs. This funding supports ambient water quality monitoring, water quality standard and total maximum daily load development, National Pollutant Discharge Elimination System (NPDES) permitting and enforcement, training and public information. EPA awarded approximately $229 million in section 106 funding to prevent and control water pollution in FY 2016.

State and Interstate Water Pollution Control Grants

EPA provided more than $185 million in section 106 grant funding to state and interstate agencies to protect and restore water bodies. Increasingly, EPA and states are working together to develop basin-wide approaches to water quality management. The grant program fosters a watershed protection approach at the state level by looking at state water quality problems holistically and targeting finances to the most important problems.



Tribal Water Pollution Control Grants

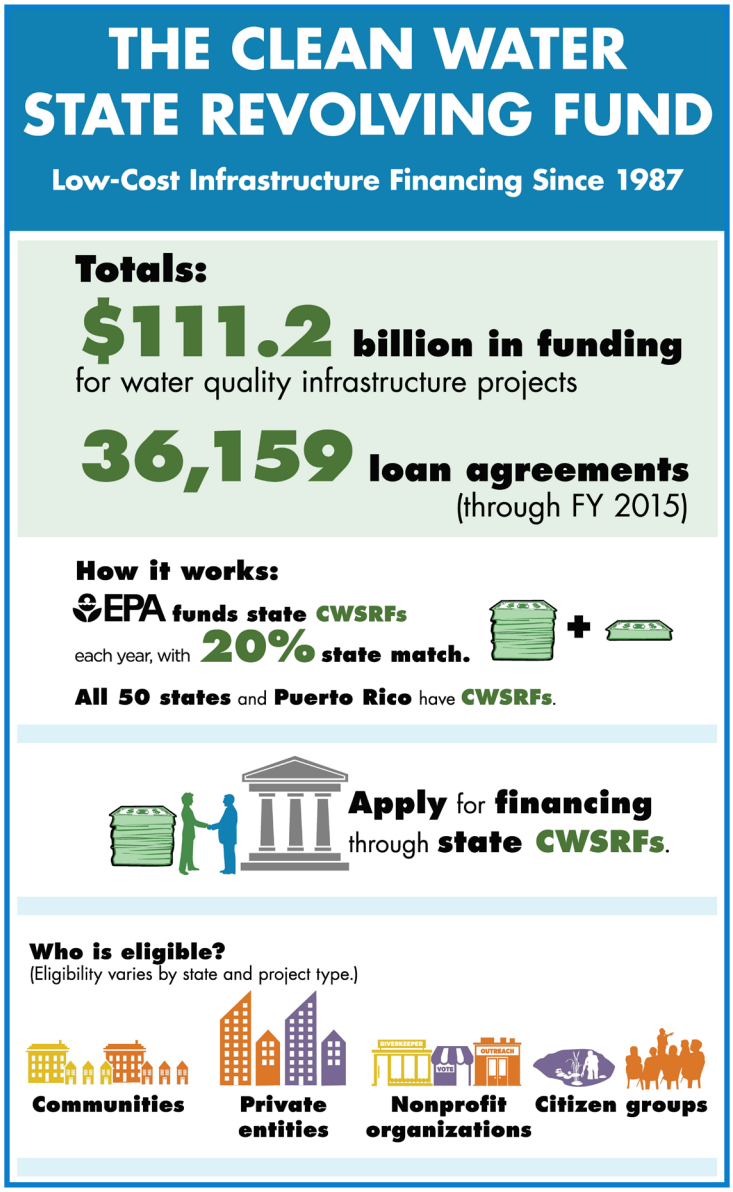
Section 106 grants are a crucial, dedicated source of funding for developing, maintaining, and expanding tribal programs designed to prevent, control and eliminate water pollution. In FY 2016, the tribal set-aside was approximately $25.7 million. Of the 565 federally recognized tribes, approximately 330 meet the criteria to receive section 106 funding, and 271 of these tribes are currently eligible to receive grants.

State and Tribal Multipurpose Grants

In 2016, Congress provided $21 million to fund state and tribal multipurpose grants. States used a portion of this funding to initiate 27 water pollution control projects. A $1 million tribal setasidewas used by 48 eligible tribes to support implementation of their Clean Water Act water quality standards programs.

State and Tribal Water Monitoring Initiative

Using a $17.7 million set-aside, OWM and the Office of Water's Office of Wetlands, Oceans and Watersheds worked with states and tribes to enhance their water quality monitoring programs and implement a multi-year, statistically valid survey of the nation's waters. In FY 2016, states and tribes conducted sampling and reported water quality monitoring data for the National Wetlands Conditions Assessment. The monitoring initiative allows EPA, states and tribes to report on the condition of the nation's waters and make progress toward assessing trends in water condition in a scientifically defensible manner.



Guidance

Sustainable Water Sector Utilities

Moving Toward Sustainability: Sustainable and Effective Practices for Creating Your Water Utility Roadmap

In FY 2016, OWM published the "Moving Toward Sustainability: Sustainable and Effective Practices for Creating Your Water Utility Roadmap." The guidance is intended to help utilities implement proven and effective practices over time to improve their operations and move toward sustainability, at a pace consistent with their needs and the needs of their communities. The guidance describes practices that should help utilities save money, assure water supply reliability, become more energy and water efficient, and increase resiliency to disasters and climate change. Several major water sector associations and leading utilities endorsed the guidance. Following the release, OWM participated in two sessions at the Water Environment Federation Technical Exhibition and Conference and initiated webinars to highlight utilities implementing sustainable practices based on the guidance.

Taking the Next Step on Effective Utility Management

Working with a group of leading utilities and associations, OWM completed Taking the Next Step on Effective Utility Management, which contains a revised version of the “Attributes of Effectively Managed Utilities and Keys to Management Success,” first endorsed by EPA in 2007. During Water Week 2016, a ceremony celebrated the release of this report. The revised Effective Utility Management framework was presented at the Utility Management Conference in January 2016. OWM also initiated a process to revise the Effective Utility Management Primer with a group of leading utilities and hosted a meeting of this group to get their input.

Making the Right Choices: Using Sustainability Criteria in Infrastructure Decision Making Guide

To help utilities ensure sustainability considerations are part of their planning processes, in FY 2016 OWM completed Making the Right Choices: Using Sustainability Criteria in Infrastructure Decision Making. This guide helps utilities use various sustainability criteria as they identify and select the most appropriate infrastructure for their operations. OWM also worked with the Camden County Municipal Utility Authority to use the guide as they developed their Combined Sewer Overflow Long-Term Control Plan.

Launched Utilities of the Future Program

2016 marked the inaugural launch of the Utilities of the Future program (UOTF). With input from OWM, UOTF is a partnership of the National Association of Clean Water Agencies (NACWA), the Water Environment Federation (WEF), the Water Environment & Reuse Foundation (WE&RF) and the WateReuse Association. This program recognizes the advancement and exceptional work of wastewater utilities while supporting the adoption of the UOTF business model. Sixty-one public and private utilities from across the United States, Canada, and Denmark were selected for recognition this year. OWM hosted three national webinars to highlight programs by leading utilities to adopt practices based on the UOTF business model.

Tools and Technical Assistance

Municipal Water Recycling Technical Assistance

OWM is supporting the implementation of the March 2016 Presidential Memorandum on Drought and the accompanying document, Long-Term Drought Resilience: Federal Action Plan of the Drought Resilience Partnership. The goal is to build national capabilities for long-term drought resilience. OWM's role with the Agency workgroup is to help develop municipal water recycling technical assistance.

Summary of State Post-Construction Stormwater Standards Updated

OWM continues to support states and EPA regional offices on the municipal separate storm sewer system (MS4) program. In 2016, OWM published an updated document entitled "Summary of State Post Construction Stormwater Standards." It provides a comprehensive summary of post-construction standards for stormwater discharges from newly developed and redeveloped sites for all 50 states and the District of Columbia. These standards are implemented through MS4 permits, construction general permits and state regulations.

Tools, Strategies and Lessons Learned from EPA Green Infrastructure Technical Assistance Projects

Released in early 2016, the Tools, Strategies and Lessons Learned from EPA Green Infrastructure Technical Assistance Projects report summarizes successes and lessons learned from EPA's green infrastructure technical assistance program. It matches problems with real-world, tested solutions. With a guide to green infrastructure practices and a table of benefits, city managers can share the report with potential collaborators and stakeholders.

Best Practices to Prevent Hazardous and Toxic Discharges to Sewers

The Pretreatment Team has been working with Office of Enforcement and Compliance Assurance (OECA) and Office of Environmental Information (OEI) to develop advanced electronic tools and a best practices memorandum as additional resources to NPDES permit writers in preventing hazardous waste and toxic chemical discharges to publicly owned treatment works. In addition, an accompanying fact sheet has been developed to explain industry notification requirements. The focus is to improve access to EPA databases, and promoting best practices for developing and implementing NPDES permits issued to publicly owned treatment works to ensure all hazardous and toxic industrial discharges are accounted for. The OECA-OEI developed tools are currently available.

Update to the 1994 Industrial User Inspection and Sampling Manual

The Pretreatment Team and OECA have been leading an effort to revise and update guidance manuals, some more than 20 years old. The Industrial User Inspection and Sampling Manual is expected to be finalized in 2016 and will feature updated guidance that is more closely aligned with our current regulations and modern methods.

Reviewed and Provided Input to OST's Effluent Guideline Plan

Many of the Office of Science and Technology's (OST) Effluent Guidelines are implemented by OWM through the Pretreatment Program and industrial NPDES permit assistance, and thus OWM also assists in the development of the Preliminary 2016 Effluent Guidelines Plan. The Industrial Branch has arranged calls and Q&A sessions with state and regional pretreatment coordinators and NPDES permit staff to communicate EPA's plan to stakeholders and solicit feedback on industries that states and regions recommend further study or potential revision.

CWSRF Green Infrastructure Policy and Best Practices Guide

In January 2016, EPA released its Green Infrastructure Policy for the CWSRF program. The policy encourages cost efficient investments in sustainable infrastructure and acknowledges green infrastructure's potential to offer affordable, longterm solutions to many surface water quality problems. As a complementary piece to the Green Infrastructure Policy, EPA released a best practices guide for funding green infrastructure in the CWSRF program. The document highlights state practices for incentivizing green infrastructure, including marketing and outreach, prioritization, financial incentives, technical assistance, and partnerships.

Wastewater Technology and Research

In 2016, OWM continued to provide technical support to EPA Regions and Office of Water program offices on wastewater technology performance areas and to actively collaborate with internal and external stakeholders on wastewater studies and research projects. Areas of focus included nutrient removal and recovery, energy management, and water reuse. OWM's research coordination efforts included collaborating with Office of Research and Development in various wastewater projects of the EPA Safe and Sustainable Water Resources research plan.

Collaboration with external stakeholders included active participation on the Water Environment and Reuse Foundation (WE&RF) Research Council and multiple WE&RF and Water Research Foundation (WRF) project steering committees as well as the WEF/WE&RF Leaders Innovation for Technology Forum. The Leaders Innovation for Technology workgroup activities aimed at promoting and expediting the development of sustainable and innovative wastewater technologies and sharing related information with industry stakeholders.

Release of the Clean Watersheds Needs Survey

In January 2016, OWM released the Clean Watersheds Needs Survey, which showed that $271 billion is needed to maintain and improve the nation's wastewater infrastructure, including the pipes that carry wastewater to treatment plants, the technology that treats the water, and methods for managing stormwater runoff. The survey, conducted every four years in response to Clean Water Act Sections 205(a) and 516, is a comprehensive assessment of capital needs to meet water quality goals set in the Clean Water Act. During the survey, states and EPA collected information about publicly owned wastewater collection and treatment facilities; stormwater and combined sewer overflow control facilities; and decentralized and onsite wastewater treatment systems. This report represents the Agency's 16th national survey on the needs of publicly owned treatment works.

Training

NPDES Training Courses

In FY 2016, OWM continued to support new state and EPA Regional NPDES permit writers through the NPDES Permit Writers' Course. The NPDES Permit Writers' Course has trained thousands of permit writers over more than two decades on the fundamentals of NPDES permit development. OWM conducted five week-long NPDES permit courses at sites across the country and incorporated new materials that highlight technology innovations and NextGen monitoring considerations.

EPA's NPDES Whole Effluent Toxicity (WET) course covers the programmatic and technical elements of implementing WET in permits. The course has been taught by experienced instructors for several years and has been well received by EPA Regions and their states. Due to an ongoing need for easily accessible and web-based training, EPA developed a nine-module NPDES WET online course. It is user-friendly, contains enhanced teaching features and is available on EPA's NPDES website. NPDES staff, including permit writers, can complete the course at their own pace and use it as a reference when developing NPDES permits with WET requirements.

OWM also launched advanced technical training on developing nutrient requirements for NPDES permit writers. After piloting the training in summer 2013, OWM held four three-day courses through FY 2016. Permit writers from all 10 EPA Regional offices and more than 42 states exchanged information and best practices on identifying applicable water quality standards, determining the need for effluent controls, and calculating numeric permit conditions for nitrogen and phosphorus.

Operations and Maintenance Training to Underserved Communities

Small and rural wastewater systems face a challenge as new utility operators/owners and community leaders need training and technical assistance on wastewater technology. Without this training and technical assistance, the infrastructure may not fully achieve its useful life and required effluent quality. In 2011, OWM began Small Water System Technical Training Workshops. Since then, OWM has delivered 18 trainings to 579 participants from tribes and small rural communities. The workshops focus on how best to operate, troubleshoot and maintain small wastewater and water systems to ensure sustainability and resiliency through proper operation and maintenance. OWM held training in FY 2016 in Connecticut as part of the Tribal Lands and Environment Forum. Attendees included tribal utility operators, tribal leaders, and federal support staff from Indian Health Service and EPA.

Sustainable Management of Rural and Small Systems Training

OWM continues to make strides in promoting effective utility management with rural and small systems in partnership with the U.S. Department of Agriculture (USDA). Using our guide on Sustainable Management of Rural and Small Systems, training workshops were provided by the National Rural Water Association (NRWA) through an EPA grant of $1.178 million dollars. The program also targets onsite or decentralized systems to help improve water quality and provides instruction on Sustainable Utility Management using tools developed by EPA and USDA. Workshops introduce local officials to the ten key areas of effectively managed systems, as well as provide instruction and assistance on how to conduct a system assessment based on the key management areas. Follow-up assistance will help local officials prioritize areas for improvement and develop measures of progress. In FY 2016, OWM conducted 56 Sustainable Management workshops for small and rural systems, reaching 422 systems and service providers.

Partnerships

WaterSense

10th Anniversary of WaterSense

In June 2016, WaterSense recognized the 10th anniversary of the program's launch in June 2006. Since that time, we've seen the number of our partners grow to more than 1,700 and labeled products grow to more than 17,000. More than 2,600 irrigation professionals have been certified by WaterSense labeled programs and close to 800 homes have earned the WaterSense label for achieving efficiency indoors and outdoors. Engaging the public and raising awareness of the need to be more water-efficient is an important program goal. To achieve this goal, WaterSense has a number of campaigns it promotes with its partners. The program also maintains a dynamic public website and active Facebook and Twitter accounts to further engage the public year-round.

WaterSense 2015 Partners of the Year

On October 8, 2015, WaterSense presented the 8th annual Partner of the Year Awards at the WaterSmart Innovations Conference. Four partners were recognized with Sustained Excellence Awards for their continuous high level of support:

- Kohler Co. (third time)
- Delta Co. (first time)
- The Home Depot (first time)
- KB Home (first time)

Seven partners were recognized as Partner of the Year:

- Promotional Partners of the Year: Texas Agrilife Research and Extension Urban Solutions Center
- Promotional Partners of the Year (Utility): Cobb County Water System (GA), City of Charlottesville (VA), Murray City Corporation (UT)
- Manufacturer Partner of the Year: The Toro Company
- Professional Certifying Organizations of the Year: Sonoma-Marin (CA) Saving Water Partnership
- Licensed Certification Provider: Energy Inspectors, Corp.

WaterSense also presented six Excellence Awards:

- Excellence in Outreach and Education: New Hampshire Department of Environmental Services and Metropolitan North Georgia Water Planning District
- Excellence in Strategic Collaboration: Colorado Springs Utilities (CO)
- Excellence in Promoting the Water/Energy Nexus: Puget Sound Energy (Washington)
- Excellence in Sprinkler Spruce Up Activities: Municipal Water District of Orange County (CA)
- Excellence in Promoting Labeled Products: Denver Water

Helping Americans Fix Leaks, Shower Better, and Spruce Up Sprinklers When in Drought (or not)

WaterSense consumer campaigns continue to serve as a great way to engage program partners and the public. The 8th annual Fix a Leak Week campaign in March saw at least 60 events around the country. In 2016, WaterSense introduced a new Leak Detective theme to the campaign and several partners used the detective theme to engage students to become leak detectives in their schools and at home. By the end of the campaign, media outreach had resulted in more than 2,600 articles in outlets reaching a circulation of 223 million and several local television news affiliates. WaterSense also continued to promote its fall Shower Better and spring Sprinkler Spruce Up campaigns. As summer heated up, WaterSense reminded Americans to save water outdoors to relievestress on water supplies, particularly in those parts of the country experiencing drought conditions.

Getting Down to Business with WaterSense

As awareness of the need for water efficiency grows, WaterSense is more frequently asked to help the commercial and institutional sector. In 2016, WaterSense partnered with ENERGY STAR on a Tackling WaterSense webinar series aimed at ENERGY STAR commercial building partners and users of their Portfolio Manager tracking system. ENERGY STAR also included WaterSense in their National Building Competition Bootcamp which challenges buildings to cut energy and water waste. WaterSense also continued its successful collaboration with ENERGY STAR in working towards the release of a water score for multifamily buildings.

4th Annual SepticSmart Week

The Decentralized Systems program held its 4th annual SepticSmart Week in September 2016. SepticSmart Week is a national education program designed to promote proper septic system care and maintenance by homeowners. Nearly one quarter of all American households—more than 26 million homes—depend on septic systems to treat their wastewater. Properly designed and maintained septic systems protect public health, preserve valuable water resources and maintain economic vitality in a community.

Working with partners, EPA encourages homeowners and communities to learn more about caring for septic systems. In addition to educating homeowners, SepticSmart also provides online resources for industry practitioners, local governments and community organizations, providing access to tools to help educate their clients and residents. Outreach for this year's SepticSmart Week included:

- Proclamations for Governors, Mayors, or communities to declare participation in SepticSmart Week;
- A field trip to the Prince George's County Browns Station Road site for EPA employees to directly participate in SepticSmart Week and to learn more about green infrastructure, low impact development, and decentralized wastewater treatment systems;
- An updated Online Toolkit with materials targeted to homeowners;
- A guide on the "Top 10 Ways to Be SepticSmart;"
- A new infographic;
- A blog on "How to Be SepticSmart" as a new homeowner; and
- Social media with daily tweets.

Innovative Challenges

Campus RainWorks Challenge

The Green Infrastructure program held the 4th annual Campus RainWorks Challenge, a green infrastructure design competition created to engage college and university students in reinventing our water infrastructure and developing green infrastructure systems to reduce stormwater pollution and build resilience to climate change. The challenge targets the next generation of engineers, architects, and planners in a hands-on learning experience to design stormwater management features on campus.

More than 75 student teams submitted green infrastructure designs for their respective campuses to compete in one of two categories — master plan or demonstration project. The University of Texas at Arlington and Stevens Institute of Technology were the first- and second-place winners in the master plan category, and The University of Maryland and The University of California Berkley were first and second in the demonstration project category. The Green Infrastructure Program announced the fifth annual Challenge in July of 2016.

Nutrient Recycling Challenge

EPA partnered with USDA, pork and dairy producers, and environmental and scientific experts to host the Nutrient Recycling Challenge, a competition to develop affordable technologies that recycle nutrients from livestock manure. During the four-phase competition, innovators will turn their concepts into designs and eventually into working technologies that livestock farms will use in pilot projects.

In Phase I, launched in November 2015, EPA received 75 concept papers from around the world and selected 34 to continue on to Phase II of the challenge. EPA invited the 34 selected teams to a two-day summit in March 2016 at the White House Eisenhower Executive Office Building and World Wildlife Fund in Washington, DC, and awarded a total of $30,000 in cash prizes to the top 10 submissions. The summit provided a forum for innovators to meet experts and other innovators, as well as learn about resources to develop their ideas into real-life technologies in the subsequent phases, which began in the fall of 2016.

Working Together through MOUs

Decentralized Wastewater Memorandum of Understanding

EPA and 18 partner organizations signed a Memorandum of Understanding (MOU) to address the challenges faced by decentralized systems. The partnership has grown since it began in 2005 with eight public and private water sector organizations. Under this MOU, EPA and the partner organizations work together to improve decentralized wastewater treatment system performance; local decision-making; and accountability, control, and oversight. The group supports the principles outlined in the Voluntary Management Guidelines and Management Handbook for Decentralized Systems developed by the OWM Decentralized Systems program and actively participates in SepticSmart Week.

Copper Brake Memorandum of Understanding

On January 21, 2015, EPA, states, and the automotive industry signed an agreement to reduce the use of copper and other materials in motor vehicle brake pads. The agreement calls for reducing copper in brake pads to <5 percent by weight in 2021

and 0.5 percent by 2025. In addition to copper, this voluntary initiative reduces mercury, lead, cadmium, asbestiform fibers, and chromium-six salts in motor vehicle brake pads. The initiative will decrease the amount of these materials

Aquaculture Memorandum of Understanding

In 2015 and 2016 OWM chaired a federal workgroup to develop a coordinated federal permitting process for offshore aquaculture in the Gulf of Mexico. The workgroup, composed of EPA and seven other federal agencies, produced three guidance documents to provide information to potential operators of off-shore aquaculture facilities on the federal permitting and authorizations, including a Guide to the Application Process for Offshore Aquaculture in U.S. Federal Waters of the Gulf of Mexico, a Pre-Application Meeting Checklist, and a description for a Baseline Environmental Survey. In addition, the federal workgroup developed a MOU to facilitate efficient collaboration in the permitting of offshore aquaculture operations.

Collaboration and Synergy

Industrial National Enforcement Initiative Workgroup

OECA selects National Enforcement Initiatives every three years to focus resources on national environmental problems where there is significant non-compliance with laws and where federal enforcement efforts can make a difference. To reduce pollutants that impact surface and drinking water quality, the current initiative focuses on industrial discharges from chemical manufacturing, food manufacturing, metals, and mining. Since many of these industries are both direct and indirect dischargers, members of OWM's Pretreatment Team and industrial permit experts support the workgroup by providing input to the development of the initiative strategy and assisting with key stakeholder outreach.

Vessel Discharge Research

The Industrial program is overseeing a $2.2 million interagency agreement with the Naval Research Laboratory to: (1) evaluate the effectiveness of combining open ocean exchange and treatment for ballast water and (2) investigate novel, indirect sensing methods to assess and quantify biofouling loads on vessel hulls. These research efforts support, among other things, the Industrial Program's development and administration of the Vessel General Permit as a mechanism to control propagule pressure of potential invasive species transported by vessels.

Green Infrastructure Learning

In October 2015, EPA and the Environmental Finance Centers of the University of Maryland and Syracuse University hosted a National Green Infrastructure Learning Lab in College Park, MD. The objective of the Learning Lab was to provide a hands-on learning experience for communities interested in implementing green infrastructure, and an opportunity to engage in dialogue with members of the Green Infrastructure Collaborative. The Learning Lab agenda included sessions for peer-to-peer exchange on integrating flood mitigation with stormwater management using the Climate Assessment Tool Option of EPA's National Stormwater Calculator, as well as on harvesting rainwater in drought and population stressed regions. This event meets commitments under the President's Priority Agenda Enhancing the Climate Resilience of America's Natural Resources to provide support to 25 communities in utilizing green infrastructure for stormwater management.

Publicly Owned Treatment Works' Management of Bio-Contamination

OWM collaborated with internal and external groups to address the management of bio-contaminated materials by publicly owned treatement works (POTWs). This partnership helped track and compile available information related to management of Ebola patient waste and other hazardous

waste from hospitals with Ebola patients. It also monitored efforts to address appropriate Standard Operating Procedures for hospitals treating Ebola patient wastewater. The focus was discharges to POTWs and included identification of research, data and information gaps. The effort assisted in updating current CDC guidance on wastewater management and disposal, as well as the use of Personal Protection Equipment. The partnership improved preparedness in the wastewater management field for addressing Ebola and other future pathogens of concern.

Water Finance Forums

In partnership with EPA's Regional Offices, the Water Finance Center holds regional Water Finance Forums. The purpose of the forums are to bring together communities with water infrastructure financing needs in an interactive peer-to-peer networking format, share how local utilities have financed resilient water infrastructure projects, and provide the opportunity to meet key regional funding

• Addison, TX (September 2015) – Collaborated with Region 6 and the University of Maryland Environmental Finance Center. Topics focused on funding resilient and sustainable infrastructure, disaster preparedness and recovery, communicating the value of water to the public, and state funding for planning and construction.

• Iselin, NJ (December 2015) – Collaborated with Region 2 and the Syracuse University Environmental Finance Center. Topics focused on communicating the value of water to the public, state funding for planning and construction, and identifying financial indicators.

• Portland, OR (March 2016) – Collaborated with Region 10, the Oregon Department of Environmental Quality, and the Oregon Infrastructure Finance Authority. Topics focused on communicating the value of water to the public, state funding for planning and construction, funding resilient and sustainable infrastructure, and disaster preparedness and recovery.

• Big Stone Gap, VA (June 2016) – Collaborated with Region 3 and the University of Maryland Environmental Finance Center. Topics focused on expanding the reach of resources and innovation to meet critical water and wastewater needs in Central Appalachia. A host of expert panels discussed funding eligibilities, partnering opportunities for financial success, projects that leveraged multiple sources of funding, and successful technical and financial planning.

Hydraulic Fracturing: Key Role in Assisting Regions 4 & 6 in Addressing Hydraulic Fracturing Chemical Discharges

Hydraulic fracturing has been an issue of significant public interest since the late 1990s and the upsurge of the shale gas extraction industry. Environmental groups have raised issues regarding chemicals used for hydraulic fracturing and the effects of their discharge on the marine environment. The Industrial Branch developed permit language that addresses concerns about offshore discharge of chemicals used for well treatment, such as fracturing. The permit language will require that industry collect and submit information of their practices and the chemicals that are discharge, and to test the toxicity of those discharges.

U.S. Poultry and Egg's Educational Videos on Environmental Management

As part of its efforts to collaborate with animal agriculture to protect water quality, EPA supported the U.S. Poultry & Egg Association in producing a series of educational videos on environmental management. Released in January 2016, the videos discuss topics including Clean Water Act requirements for Confined Animal Feeding Operations, the importance of environmental management, nutrient management planning and implementation, and perspectives from producers. These videos illustrate how industry can produce poultry and eggs while protecting the environment and the importance of nutrient management planning for water quality.

EPA's Next Generation Compliance

This initiative promotes the use of new drivers for compliance and performance in rules, permits, and enforcement actions to help make environmental programs more effective and deliver their intended benefits. EPA is seeking to improve compliance and increase environmental benefits by implementing Next Generation Compliance Principles where possible. In FY 2016, OWM worked with OECA and Office of General Counsel (OGC) to develop and enhance these strategies when applied to NPDES permitting.

U.S.-China Scientific Cooperation Exchange Program

OWM participated on an interagency technical team as part of the ORD-USDA sponsored U.S.-China Scientific Cooperation Exchange Program. The focus of the program is water reuse, water efficiency and sustainable agriculture. The technical exchange included August 2016 site visits and meetings in Beijing, Gansu Province, and Liaoning Province. The Chinese technical team plans to visit the US later this year, with the final technical exchange concluding in China in early 2017.

Regulations

Rules

Final National Pollutant Discharge Elimination System Electronic Reporting Rule

The final NPDES Electronic Reporting Rule was published in the Federal Register on October 22, 2015 and became effective on December 21, 2015. The rule requires the conversion from paper to electronic reporting for discharge monitoring reports, general permits forms, and several program reports. This action will save time and resources for permittees, states, tribes, territories, and the U.S. government while increasing data accuracy, improving compliance, and supporting EPA's goal of providing better protection of the nation's waters. In 2016, OWM staff worked closely with OECA to develop implementation and outreach materials for Regions and states implementing this final rule. Additionally, OWM and OECA continued work to develop electronic reporting tools and make improvements to the ICIS-NPDES database to accommodate electronic reporting requirements.

NPDES Updates Rule

On May 18, 2016, EPA proposed the NPDES Applications and Program Updates Rule. The proposal would make targeted changes to the existing regulations and would not reopen them for other specific or comprehensive revision. EPA sought: comment on eliminating regulatory and application form inconsistencies; improving permit documentation, transparency and oversight; clarifying existing regulations; and deleting outdated provisions. EPA also sought public comment on potential ways to enhance public notice and participation in the permitting process. With these proposed revisions and requests for public comment, EPA aims to clarify who is regulated; more clearly identify applicable requirements for compliance; and improve transparency by providing permitting authorities and the public with improved information about NPDES permitted dischargers. The public comment period closed August 2, 2016 and EPA received over 14,000 written comments in the docket. EPA will consider and respond to all comments while formulating the final rule and revising the application forms.

Municipal Separate Storm Sewer System General Permit Remand Rule

EPA is finalizing changes to its regulations that govern how small municipal separate storm sewer systems obtain coverage under NPDES general permits. By order of the Ninth Circuit, EPA will finalize a rule by November 17, 2016 to address procedural requirements for issuing stormwater general permits to small municipal separate storm sewer systems under NPDES.

Implementation of the 316(b) Rule for Cooling Water Intake Structures

The Industrial Branch has been implementing the final 316(b) Existing Facilities Rule since it became effective in October 2014. The rule has specific application and permit requirements for existing facilities that withdraw more than 2 million gallons per day of cooling water through intake structures, primarily power plants and industrial facilities. OWM continues to support the Office of Water's OST in litigation resolution. The Industrial Branch has done extensive outreach to the regulated community through webinars and conferences and direct technical support with the EPA Regions. The Industrial Branch continues to work with the National Marine Fisheries Service and U.S. Fish and Wildlife Service on implementing the rule provisions regarding impacts to threatened and endangered species from the cooling water intake structures.

Implementation of the Newly Issued Steam Electric Rule

The Industrial Branch supported the Water's OST to finalize standards for the Steam Electric Power Generating Effluent Limitation Guideline that became effective in January 2016. The guideline establishes the first nationally applicable limits on the amounts of toxic metals and other harmful pollutants that steam electric power plants are allowed to discharge in several of their largest sources of wastewater. The new standards eliminate the discharge of certain existing wastestreams and address new

wastestreams created from air pollution controls particularly from coal fired facilities. The Industrial Branch conducted outreach to the regulated community through webinars and direct technical support with the EPA Regions to ensure implementation efforts are begun timely and lead to compliance with the guideline requirements.

Dental Amalgam Rule

The Pretreatment Team is an essential part of the rule development team, led by OST, working to promulgate a final rulemaking on dental amalgam discharges. The goal of the proposed pretreatment standards, which are anticipated to be finalized by the end of 2016, is to reduce the largest source of mercury discharges to POTWs while minimizing the regulatory burden on dentists, POTWs, and state agencies. The Pretreatment Team plays a key role in understanding and communicating the complex pretreatment regulations, and conducting outreach to stakeholders to ensure buy-in and regulatory effectiveness.

Forest Roads Decision

On June 27, 2016, OWM published in the Federal Register its decision that no additional regulations are needed to address stormwater discharges from forest roads under the Clean Water Act at this time. State, federal, regional, tribal government, and private sector programs already exist nationwide to address water quality problems caused by discharges from forest roads. Many of these programs have been improved and updated in recent years. Program implementation rates are generally high and have been shown to be effective in protecting water quality when properly implemented. These programs employ a variety of approaches that are tailored to address regional and local differences.

OWM concluded that efforts to help strengthen existing programs would be more effective in further addressing forest road discharges than superimposing an additional federal regulatory layer over them. OWM has initiated efforts to establish a multi-stakeholder discussion group for the purpose of forming an ongoing dialogue on program improvements, technical and policy issues, research results, state of the art technologies, success stories, and solutions to problems areas related to forest roads discharges.

Sludge/Biosolids Electronic Reporting Form

As part of Phase I of the NPDES Electronic Reporting rulemaking, OECA began creating the reporting forms for the Biosolids/Sewage Sludge Annual Report (40 CFR 503). These are the forms that POTWs and other sewage sludge generators will see when they log in to submit their annual reports. The Pretreatment Team, along with OWM's Water Infrastructure Division, were members of the workgroup devoted to building them. The Pretreatment Team and others in OWM played a key role in identifying the necessary fields and any potential pitfalls or legal questions that could arise from receiving these data in electronic form.

Public Notification for Combined Sewer Overflows in the Great Lakes

In 2016, EPA began development of a new regulation establishing public notification requirements for combined sewer overflow discharges in the Great Lakes. This rulemaking is in response to new requirements included in Section 425 of the 2016 Appropriations Act. EPA is working closely with Great Lakes states to develop these new requirements, which will address the method of the notice, the contents of the notice, and requirements for public availability of the notice. EPA also sought input from the public through a public listening session in September 2016 and stakeholder outreach throughout the proposal development process. EPA will release the proposed rule for public comment in December of 2016 and aims to have a final rule signed by December of 2017. This rule will help ensure that the public, public health departments, and impacted

municipalities, such as downstream drinking water treatment plants, have access to information about combined sewer overflows in the Great Lakes basin.

PERMITS

2015 Multi-Sector General Permit Finalized

On June 4, 2015, EPA issued the fourth iteration of EPA's industrial stormwater discharge permit, the Multi-Sector General Permit, replacing the 2008 version. The permit provides coverage for about 2,400 facilities in the states and other areas where EPA is the stormwater permitting authority. Significant general changes include that dischargers to federal Comprehensive Environmental Response, Compensation, and Liability Act sites in Region 10 must notify the Regional EPA Office prior to obtaining permit coverage to determine their eligibility for permit coverage (based on controls, etc.); a requirement for electronic reporting; making information in the Stormwater Pollution Prevention Plan publicly accessible (on Internet or in the Notice of Intent); and more rigorous endangered species eligibility requirements.

Reviewing State and EPA Regional Office NPDES Programs

To ensure a level of quality and consistency in NPDES permitting nationwide, EPA conducts permit quality reviews. In FY 2016, OWM and EPA Regional Offices conducted seven permit quality reviews site visits of state NPDES programs and continued monitoring the completion of recommended follow-up actions from prior permit quality reviews.

Pesticide General Permit Proposed

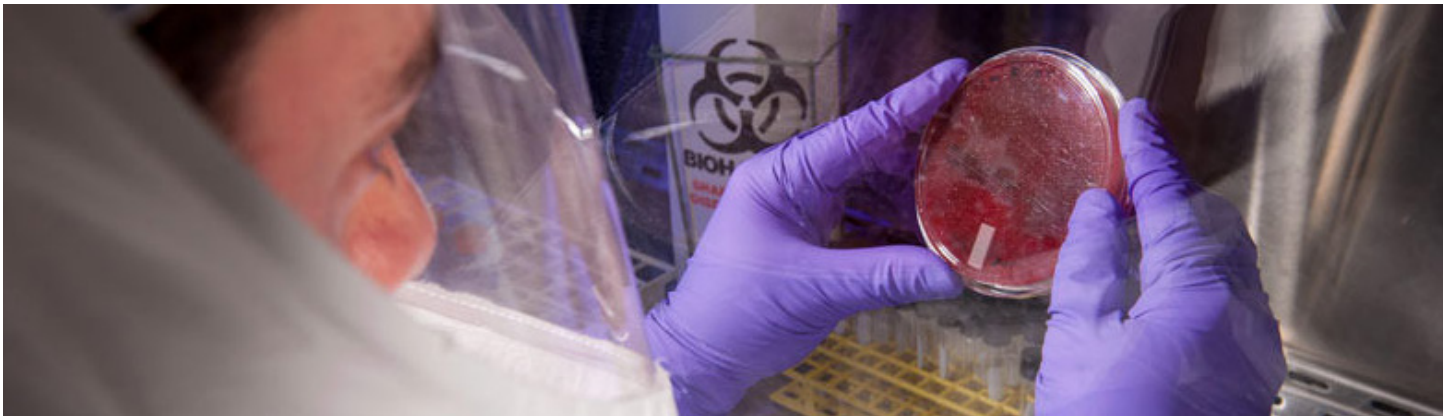
OWM proposed the 2016 Pesticide General Permit in the Federal Register on January 26, 2016. The general permit was first issued on October 31, 2011 and expires October 31, 2016. The general permit is available in areas where EPA is the permitting authority and regulates point source discharges of biological pesticides and chemical pesticides that leave a residue. EPA received 37 sets of public comments and is currently reviewing them in order to finalize the Pesticide General Permit in October 2016.

Vessel General Permit Administration

The Industrial Branch leads the development and administration of the Vessel General Permit, a permit that regulates 27 different types of discharges from more than 60,000 domestic and foreign vessels greater than 79 feet in length to protect U.S. waters from negative effects from vessel discharges, including the management of potentially invasive species from ballast water and hull fouling. The current Vessel General Permit, in effect through December 2018, includes both numeric effluent limitations and required best management practices to minimize the potential impacts from these discharges. As part of permit administration, OWM developed and operates an electronic reporting system (>50,000 reports annually) and email help desk (>2,000 questions annually).

Addressed Major Challenges Associated with Coal Ash Impoundment Dewatering and Permitting of Seepage Discharges

Coal fired steam electric power plants have been moving away from wet sluicing of coal ash and the associated waste impoundments. The plants need to dewater and decommission the impoundments when they are no longer used. The Industrial Branch worked with the EPA Regions to ensure that permits authorizing discharges of impoundment dewatering effluent



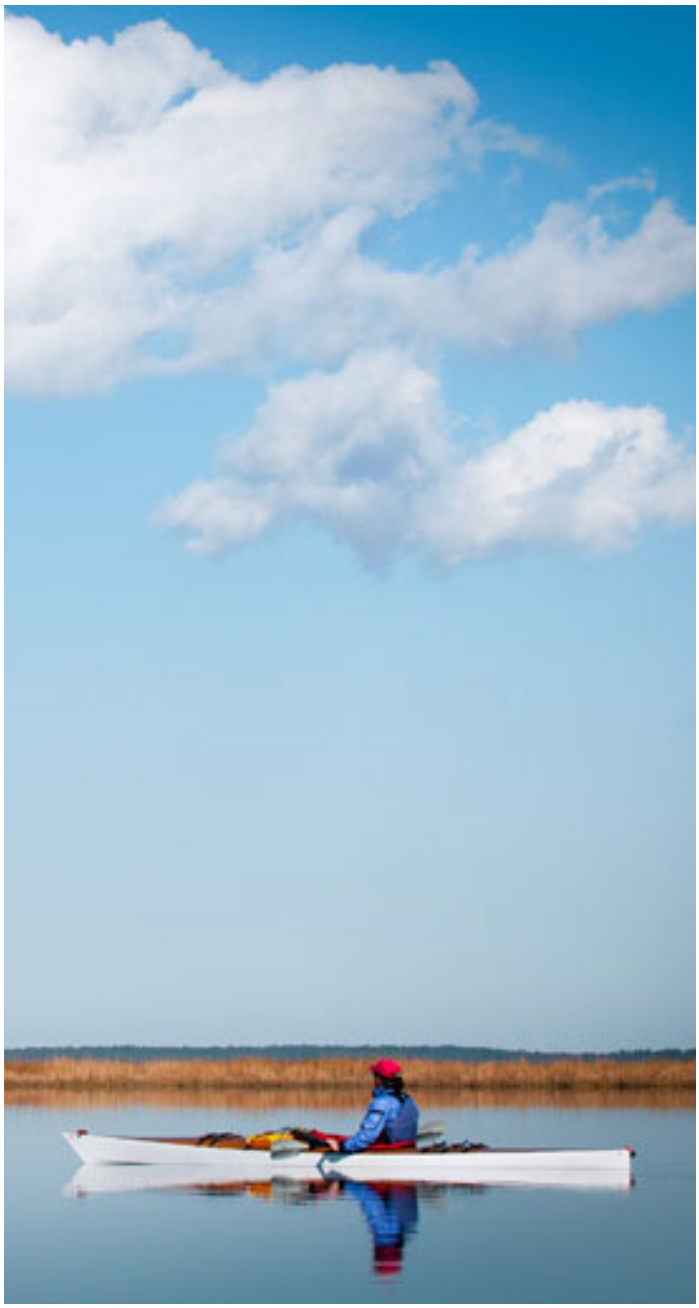
adequately address potential water quality issues as well as community concerns regarding these temporary increases in discharge volumes. In addition, many of these impoundments are not lined and have long term uncontrolled seepage discharges to nearby waters that have not been authorized by NPDES permits. The Industrial Branch worked with OECA and the EPA Regions to help address these discharges in NPDES permits and provide technical assistance in associated enforcement actions on these previously unauthorized discharges.

2017 Construction General Permit Proposed

The draft 2017 Construction General Permit (CGP) was proposed on April 11, 2016. The permit authorizes the discharge of stormwater from construction sites that disturb one or more acres of land, and from smaller sites that are part of a larger common plan of development. This will be the sixth issuance of the CGP. The draft 2017 CGP is similar to the existing 2012 CGP and includes effluent limitations (i.e., requirements for erosion and sediment controls, and pollution prevention controls) and requirements for self-inspections, corrective actions, staff training, and development of a Stormwater Pollution Prevention Plan. The 2017 CGP, once finalized, will replace the existing permit, which expires February 16, 2017.

Offshore Oil & Gas: Significant Contributions and Assistance to Regions 4 and 6 in their Issuance of Offshore Oil and Gas Permits

Regions 4 and 6 maintain NPDES general permits that authorize discharges from over 3,000 offshore oil and gas facilities. Complex technical issues have arisen as the industry evolves and moves more and more into ultra-deep waters of the Gulf of Mexico. The Industrial Branch provided technical assistance in understanding these issues in light of the historical context of the permits and the evolution of the technology. In partnership with the EPA Regions, we have authorized appropriate discharges while ensuring protection of the marine environment.



United States Environmental Protection Agency
Office of Wastewater Management
1200 Pennsylvania Avenue NW (4201M)
Washington, DC 20460

EPA PUBLICATION NUMBER 123456

September 2016

www.epa.gov/owm