EPA REGION 7 2020 YEAR IN REVIEW

Protecting Human Health and the Environment

Serving Iowa, Kansas, Missouri, Nebraska, and Nine Tribal Nations

EPA Region 7 protects human health and the environment in our nation's Heartland. Our ecosystems are numerous and the range is broad, encompassing the Sandhills of Nebraska, Flint Hills of Kansas, winding Missouri and Mississippi rivers, prairies and plains of Iowa, forests and delta of Missouri, and an abundance of agricultural lands throughout our region.

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Featured cover photos:

(Top photo): Aerial view over Dismal River meandering through Nebraska Sandhills at Nebraska National Forest.

(Photo left): A combine harvests wheat on a Kansas field.

(Photo center): Aerial views of the city of St. Louis, Missouri with the St. Louis Arch and a barge on the Mississippi River

(Photo right): Pikes Peak state park near Mississippi River in Clayton County, Iowa.

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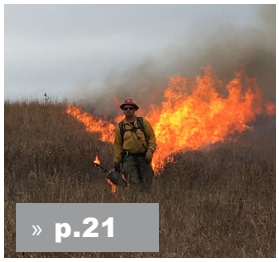
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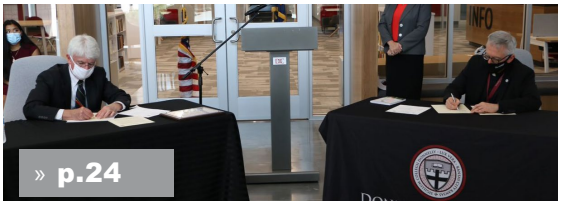
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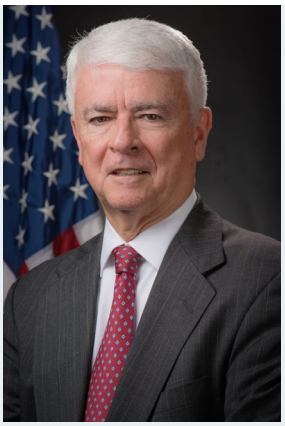


JIM GULLIFORD
Regional Administrator

EPA's 50th Anniversary

OF ENVIRONMENTAL PROTECTION AMID THE COVID-19 PANDEMIC

This year marked a historic milestone for the EPA as we commemorated EPA's 50th anniversary of protecting human health and the environment. To mark the occasion, we celebrated with activities each month, culminating with a virtual 50th anniversary celebration, which included the entire regional staff and several prior Regional Administrators. This rare opportunity to celebrate many of the Region's accomplishments over the past five decades highlighted historical achievements and recognized key staff who have dedicated their lives and careers to protecting our country's ecological health.

Notable projects recognized included the 20-year remediation of the Times Beach Superfund Site, which transformed a dioxin-contaminated town into a thriving state park, and the community-based effort to work with St. Joseph, Missouri, to protect children from the devastating impacts of lead poisoning from lead-based paint. It was humbling to recall the many EPA Region 7 staff who have worked on these projects over the decades, ensuring that everyone has access to water, air, and living environments that are clean, safe, and healthy.

Our work over the past five decades has resulted in manifest improvements in the lives and health of the people who live in our region – and it continues today. We have remained committed to the mission, we've continued to make environmental gains and serve the American people, and we've seen incredible work in every state and from every division.

Even though COVID-19 presented a tangible threat to the continuity of environmental protection for our communities over this past year, Region 7 staff pushed forward to maintain operations and continue doing the valuable work they have always done. We implemented our Continuity of Operations Plan Pandemic Annex, which relied on our existing well-tested ability to work remotely.

It has been a privilege for me to work with all the talented and innovative Region 7 staff. Truly, the work you've done has been inspirational and will be remembered. This report reflects not just our metrics, measures and accomplishments, but also the spirit and resourcefulness of the staff who continued to commit their fullest to the mission even as it seemed like the world had been turned upside down.

While it was a difficult year, I couldn't be prouder of the way EPA Region 7 folks responded and how we stuck together, supporting each other as we accomplished the work America needs us to. I hope as you read this report, you'll take a moment to reflect not just on what work we've accomplished over the past year, but also the resiliency, optimism and determination with which it was achieved.

Seven Strong!

Sincerely,
Jim Gulliford

Five Decades
OF ENVIRONMENTAL SUCCESS

EPA at 50 — Progress for a Stronger Future

THIS year, we had the privilege of celebrating the 50th anniversary of Earth Day and EPA. Over the last 50 years, the kinds of changes we've seen in our environmental programs are remarkable. We have come so far from the burning rivers and smog-choked skies of years past. Thanks to our dedicated staff, Region 7 continues to build upon EPA's legacy.

These success stories were supplied by the divisions and represent just a few that we've had in Region 7 through the years.

AIR & RADIATION DIVISION

For decades, the Air and Radiation Division, along with our state partners, have worked to address direct and fugitive lead emissions at regional facilities. We have made tremendous progress toward meeting the National Ambient Air Quality Standards in each state. And for the first time ever, Region 7 is achieving all air quality standards for lead.

LAND, CHEMICAL & REDEVELOPMENT DIVISION

And in times of natural disaster, EPA Region 7 has been there to support the nation and the communities we serve. Following the Greensburg, Kansas, tornadoes, EPA responders deployed, providing emergency support services. Some of the people in our Land, Chemical and Redevelopment Division helped Greensburg create the green sustainable section of their Long-Term Community Recovery Plan. Today, several of the plan's projects are complete. Each of the new municipal buildings (including city hall, school and county offices) meet LEED platinum standards and, most notably, the city operates completely off the grid.

SUPERFUND & EMERGENCY MANAGEMENT DIVISION

The **Times Beach** cleanup also drew significant media attention and, together with a few other cleanup sites at the time, helped spur the passage of the Superfund law. In the years that followed, our Region 7 Counsel was a leader in shaping early Superfund case law, including cases that affirmed the statute's constitutionality and liability scheme of holding parties accountable. Today, Region 7 remains at the forefront of Superfund enforcement. In particular, we've reached 73 settlements through enforcement efforts at historic lead mining sites, recovering over $431 million in cleanup costs. This enforcement work has enabled EPA to ensure that remediation work is appropriately completed and paid for by those responsible, reducing blood lead levels in the impacted communities.

In the wake of the devastating **2011 Joplin tornado**, our Superfund Program led a major response effort spanning several months. In total, EPA Region 7 collected over 104,000 hazardous materials, over

804 asbestos air samples, and conducted real-time particulate air monitoring for nearly 90 straight days. Our responders coordinated the reuse or recycling of almost all recovered items. The Office of Public Affairs also played a large role in this response. Public information officers spent weeks in the affected area. Their work netted more than 70 media interviews and hundreds of news stories.

At the **Omaha Lead Superfund Site**, since beginning work in 1999, the Superfund and Emergency Management Division has led an impressive cleanup. They have sampled over 42,000 properties and cleaned up over 14,000. A nearly $300 million settlement, led by our Office of Regional Counsel, has been used to fund the cleanup and ongoing cooperative agreements with the city and health department. To date, remediation of the site has reduced blood lead levels from 25% in 1999 to 0.46% in 2019.

ENFORCEMENT & COMPLIANCE ASSURANCE DIVISION

Our Enforcement and Compliance Assurance Programs have also been working hard for the last 15 years to tackle raw sewage discharges from old sewer systems and illegal air emissions from old coal-fired power plants, two big environmental problems in Region 7. Most big cities in Region 7 have old sewer systems that discharge massive quantities of raw sewage into rivers and streams. By working with state partners, enforceable orders for 23 communities were put in place to upgrade those systems and reduce discharges of raw sewage to rivers and streams by 19 billion gallons per year.

The region is also heavily reliant on coal-fired power plants to generate electricity, and many of those plants were illegally operating without controls. Through enforcement efforts, EPA has settlements with two of the biggest electricity producers in the region, which have reduced SO2 emissions by 92,000 tons per year. The team continues to pursue cases that will bring about more reductions, making our air safer to breathe.

MISSION SUPPORT DIVISION

Our Mission Support Division has done an outstanding job over the years developing and implementing a vision of the “workplace of the future.” They have provided first-class sustainable facilities with state-of-the-art features at our Regional Office, Science and Technology Center (lab), and COOP spaces. They also dedicated the human and dollar resources needed to ensure we have the right equipment to work from anywhere virtually. Given Region 7 has been operating remotely due to the pandemic for nine months, this has paid off.

WATER DIVISION

The Water Division has provided technical assistance and financial resources for thousands of wastewater and drinking water treatment plants built over the last 50 years. These plants have improved the water quality in our lakes, rivers and wetlands, where people enjoy leisure activities and animal species live and thrive. The Water Division’s work with state nonpoint source program partners has additionally resulted in 91 removals of water quality impairments from Region 7 waterbodies, further protecting our country’s wetlands and waterways.

LABORATORY SERVICES & APPLIED SCIENCE DIVISION

Over the past 50 years, we’ve seen incredible advancements in science and technology pertaining to environmental measurement. Through the decades, the Region 7 Laboratory has been an innovator and leader in lab sciences and technology. Today, the laboratory supports 24-hour turnarounds and emergency response field lab work like that of Hurricane Laura in 2020. Their work on whole air and drinking water analysis methods, and the new technologies they’ve engineered to shorten analysis time and make it more affordable, are just a few ways the Region 7 Lab is making a difference.

CLEAN AIR AND WATER

R7 Reduces Risk OF ETHYLENE OXIDE EMISSIONS

IN FY 2020, the Air and Radiation Division (ARD) furthered its efforts to reduce risk from ethylene oxide emissions at six facilities. ARD achieved risk reduction through a localized approach to understand, engage and communicate. As a first step for each facility, Region 7 provided technical assistance by reviewing facility operations and testing to ensure the accuracy of emission estimations. Because the facilities vary in the level of complexity, Region 7's role to provide technical assistance has been critical. In each of the six facilities, Region 7 support has resulted in revised emission estimates and, most importantly, voluntary operational changes and installation of air pollution control equipment.

The facilities' commitment to purchase, install and operate air pollution control devices is not trivial. The investment often requires millions of dollars to capture emissions. In the case of a large commercial sterilization company, they installed additional equipment at an expense of over one million dollars to achieve 99% capture of ethylene oxide from an emissions stream. For the other sterilization company in Region 7, they are also voluntarily installing emission reduction equipment to achieve a 99% capture of ethylene oxide emissions. For chemical manufacturers who use ethylene oxide in their processes, these companies have conducted additional testing, developed a leak detection program, and installed additional monitoring equipment to reduce their emissions and ultimately reduce risk.

Not only did Region 7's approach deliver voluntary ethylene oxide emission reductions, it also demonstrated successful engagement with public officials and other stakeholders. With support from across the region, ARD actively communicated air quality information during several engagement sessions, meetings with local and congressional officials, and presentations to a city council meeting in fall 2019. With focused involvement, Region 7 earned positive local media coverage on the issues and successfully shared information in a clear and consistent manner. Region 7 continues to implement its approach to understand, engage, and proactively communicate regarding air toxics issues throughout Region 7.

R7 Workshops Increase
DERA APPLICANTS

THE national Diesel Emissions Reduction Act (DERA) Program is an annual competition open to eligible states, local governments, and other nonprofit entities seeking EPA funding to replace or retrofit eligible diesel-powered vehicles or equipment with emission reduction technology.

In order to meet the Agency priority of addressing ports with DERA funding, Region 7 partnered with Region 5 and EPA Headquarters staff to hold DERA workshops in St. Louis and Davenport, Iowa. These are substantial port communities where the Agency could reach private operators and public entities eligible to apply for DERA grants.

Region 7 leveraged an existing Headquarters contract to help plan and conduct the workshops. The outcome was an increase in Region 7's applications from two to 12, the most ever regionally to date, resulting in nine awards. Region 7 awarded over $3 million to eligible applicants.

The proposed projects include retrofitting locomotives with alternative power units and replacing long haul trucks, county dump trucks, and school buses, bringing proposed Lifetime Diesel Emission Reductions of nearly 9,000 short tons of particulate matter, nitric oxide, hydrocarbons, carbon monoxide and carbon dioxide combined.

Clean Air Act Settlement
REDUCES SULFUR DIOXIDE EMISSIONS

REDUCING risks from accidental releases of hazardous substances at industrial and chemical facilities is a top priority for EPA and was identified as one of the National Compliance Initiatives in 2019.

EPA Region 7 and the state of Kansas filed a Consent Decree with HollyFrontier El Dorado Refining to address Clean Air Act violations resulting from serious exceedances of emission limits and failure to comply with chemical accident requirements that were a cause of a fire and fatality at its El Dorado, Kansas, refinery.

Under the terms of the agreement, HollyFrontier will pay a $4 million civil penalty and make improvements to the refinery that will greatly reduce harmful air emissions of sulfur dioxide and particulate matter, two pollutants that can cause serious respiratory problems. The company will also improve its risk management practices.

The penalty will be shared equally with the state of Kansas, as a co-plaintiff. The amount of injunctive relief is estimated to be at least $12 million and is expected to reduce SO2 emissions by 8.7 tons per year. The El Dorado refinery is one of the largest in the Midwest, and HollyFrontier is among the largest independent petroleum refiners in the United States.

Keeping Tabs on HABs:

RESEARCH REDUCES RISK IN REGION 7

Visiting freshwater lakes is one of the most refreshing activities on a sweltering summer day. These days often sap our willpower to leave the air conditioning behind, but outdoor activities are essential to human health. In Kansas, the presence of harmful algal blooms (HABs) produced by 3.5-billion-year-old bacteria, known as cyanobacteria, can complicate an easygoing trip to the lake.

CYANOBACTERIA AND HARMFUL ALGAL BLOOMS

Cyanobacteria, also known as blue-green algae, are aquatic bacteria that can produce toxins in excessively hot environmental conditions. Over 2,000 species of cyanobacteria exist. These bacteria are believed to be the first to produce oxygen on earth. They live in both freshwater and saltwater and gain energy through photosynthesis. Harmful algal blooms occur in warm, stagnant water and are exacerbated by changes in the environment and weather patterns, which increase the prevalence and number of blooms.

Nutrient pollution, characterized by excessive amounts of phosphorus and nitrogen in the water, is also a significant cause of HABs. In Kansas, nutrient pollution is often caused by fertilizer runoff, which is washed into the lakes by heavy rain events. Fertilizers help crops grow but also contribute to uncontrolled growth of plants in nearby bodies of water. This is particularly problematic when considering the growth of harmful algal blooms.

Scientists at EPA are concerned about the increasing presence of HABs because they are poisonous to humans and animals and damage local ecology. When exposed, some toxins can cause gastrointestinal illness and liver damage. Eating shellfish contaminated by toxins from algae can also result in paralytic shellfish poisoning, which can cause seizures, diarrhea, vomiting, short-term memory loss, or even death when consumed at high levels.

In 2019, HABs affected 38 lakes in Kansas, rendering these bodies of water unsafe for use and resulting in the issuance of 27 warnings.

PARTNERING WITH UNIVERSITY OF KANSAS

“Kansas, in particular, has some of the most toxic blooms in EPA Region 7,” said Dr. Ted Harris, assistant research professor at the University of Kansas’ Kansas Biological Survey (KBS).

The increasing presence of blooms prompted scientists at KBS to conduct

research on HABs at Milford Lake in 2017. Milford Lake, a federal reservoir in central Kansas and the state's largest lake, experienced recreational advisories for harmful blooms 41% of the time between the years 2010 and 2017.

Harris contacted EPA Region 7 scientists in 2017, hoping to partner with them to research these blooms. Together, in 2018, scientists from KBS, EPA, and the University of Missouri collaborated on the Milford blooms tank research project at the KU Field Station in Lawrence, Kansas.

For this research project, scientists collected samples from Milford Lake, aiming to grow blooms in their tanks at the KU Field Station.

"We worked with the Kansas Biological Survey at the field station in Lawrence during 2018 for a couple of months," said Chemist Laura Webb, Laboratory Services and Applied Science Division, EPA Region 7.

> **"THE IDEA IS TO KILL OFF THE CYANOBACTERIA BUT MAINTAIN THE HEALTH OF OTHER SPECIES IN THE LAKE,"**
>
> *– Laura Webb, Laboratory Services and Applied Science Division, EPA Region 7*

"KBS filled the tanks with water from Milford Lake and then changed nutrient parameters for each of those tanks, adding extra nitrate, extra phosphate, or extra ammonia to the different tanks," she said. "EPA worked with KBS to collect samples to help produce data. We visited the field station seven or eight times collecting samples, which we then processed using EPA's advanced analytical techniques to help produce data for that study."

One of their goals was to observe the blooms so they could better learn how to predict them in the future. Accurate bloom prediction helps scientists warn the public about potential health risks and increases the amount of time available for treating affected areas before blooms grow out of control.

"It is much easier and more cost-effective to treat blooms before they cover the entire surface area of a lake," Harris said.

FUTURE RESEARCH

EPA scientists plan to continue their research on HABs. They are involved in a number of ongoing projects, including Regional Applied Research Effort (RARE) and Cyano HAB Evaluation and Prediction (CHEAP). Additionally, Webb and her team traveled to Milford Lake again in late July 2020, in coordination with the state of Kansas, for another research project.

"We visited Milford Lake to assist in a peroxide treatment with the state of Kansas. Peroxide breaks apart the cyanobacteria cells. The idea is to kill off the cyanobacteria but maintain the health of other species in the lake," Webb said. The team collected samples to characterize the microbiological community and evaluate the effectiveness of the treatment.

One of the difficulties in treating harmful algal blooms is that a solution that works for one lake may not work for any other lake in the region.

In February 2020, Regions 5, 7 and 8 partnered for the Great Plains and Midwest Harmful Algal Blooms Workshop in Overland Park, Kansas. Participants of the workshop discussed next steps and key actions that programs can take to address common HAB-related goals, needs and challenges.

EPA & KCK Reach Precedent-Setting

COMBINED SEWAGE OPERATIONS SETTLEMENT

IN combined sewer systems, one pipe carries sanitary wastewater and stormwater to the wastewater treatment plant (WWTP). When it rains and the pipe to the WWTP is full, combined sewer overflows (CSOs) go to a river or stream. Other times, CSOs can be caused by blockages, line breaks, and/or mechanical issues. Raw sewage discharged by CSOs contains pathogens such as bacteria, viruses and parasites and can pose human health risks.

The Clean Water Act (CWA) requires municipalities to treat sewage before it is discharged and to control pollutants in stormwater discharges, but many municipalities are not complying with these requirements. EPA's national compliance initiative focuses on reducing discharges of raw sewage and contaminated stormwater into our nation's rivers, streams and lakes, and has resulted in agreements by many cities to remedy these problems, but the problem remains in many other cities.

In Region 7, the United States; the Unified Government of Wyandotte County and Kansas City, Kansas; and the state of Kansas reached a settlement in 2013 to address CWA violations related to the Unified Government's sewer and stormwater systems. The Consent Decree provided a partial settlement with the objective of reducing the Unified Government's CSOs, sanitary sewer overflows (SSOs), and discharges of pollutants from municipal separate storm sewer systems.

In FY 2020, EPA; the Unified Government of Wyandotte County and Kansas City, Kansas; and the state of Kansas reached agreement on a novel and innovative adaptive management approach to sewer overflow remedial work. The parties did so by successfully concluding dispute resolution proceedings regarding the injunctive relief required under the CWA Consent Decree entered in 2013.

This groundbreaking settlement is the first of its kind. This win-win approach to structuring these massive infrastructure improvement settlements provides flexibility to the Unified Government to redesign and swap projects over the 25-year life of the deal as it learns and as technology changes, while ensuring through performance criteria that environmental progress is maintained. Under the settlement, raw sewage discharges will be reduced by 85% (millions of gallons per year) at an estimated cost of $900 million.

CLEAN WATER ACT SETTLEMENT REDUCES POLLUTION IN CENTER CREEK & MISSISSIPPI RIVER

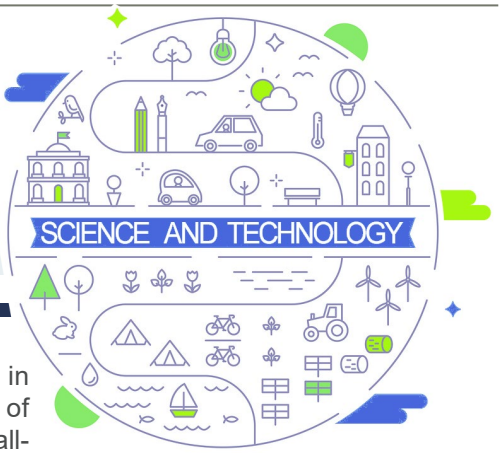
In FY 2020, EPA and Dyno Nobel Inc. reached a settlement to address long-running and serious violations of the Clean Water Act (CWA) and the Resource Conservation and Recovery Act (RCRA) at Dyno Nobel's explosives manufacturing facility in Carthage, Missouri, and its ammonium nitrate facility in Louisiana, Missouri.

Under the settlement, Dyno Nobel will make extensive improvements to both facilities, which will prevent future releases and discharges of explosives, nitrogen, and other pollutants, ultimately reducing pollution levels in Center Creek (adjoining the Carthage facility) and the Mississippi River (adjoining the Louisiana facility).

The controls required by the settlement will result in reductions of over 3.8 million pounds per year of nitrogen; nearly 257,000 pounds per year of heavy metals such as zinc, aluminum and iron; nearly 187,000 pounds per year of oxygen-demanding material; and 103,500 pounds per year of suspended solids entering Missouri waterways. Dyno Nobel will also pay a civil penalty of $2.9 million to the United States.

R7 Implements Three New Technologies

TO ANALYZE SAMPLES



REGION 7 chemists have been hard at work improving the way samples are analyzed at the laboratory, resulting in increased efficiency and less waste. Historically, groups of similarly structured materials have been extracted and analyzed together. With new technology, more analytes (substances being analyzed) can be positively identified in a single analysis. As a result, Region 7's analytical limitations have changed. Instead of looking at similarly structured compounds like acid herbicides, Region 7 chemists are looking at properties such as whether the analyte is soluble in water or heat-sensitive.

Region 7 has implemented three innovative technologies to analyze samples. One technology is used to determine the presence of water-insoluble analytes present in water samples without the use of hazardous organic solvents. This all-in-one analysis is used for 98 analytes, including pesticides, herbicides, hormones, PCBs, and others. Historically, four separate analyses on two different instruments would have been required.

Another new technology can examine the water-soluble analytes in water samples, again without the use of hazardous organic solvents or the need for sample preparation. This method is used for 51 analytes, including pesticides, herbicides, personal care products, algal toxins, and pharmaceuticals.

The third technology looks at a variety of analytes present in soil samples. This method is used for 114 analytes, including pesticides and others, with a single sample preparation.

All these methods require less original sample material, little to no organic solvents, and less analyst time to produce more than double the sample data. Additional benefits include reducing the amount of storage space needed for original samples, minimizing hazardous waste volumes, and freeing up time for analysts to evaluate the added volume of sample data. This year, Region 7 received International Organization for Standardization (ISO) certification for all three methods.

LAND REVITALIZATION

EPA & Partners Continue to Build ON BROWNFIELDS REDEVELOPMENT SUCCESS

FOR decades, lots on the 3800 block of Euclid Avenue sat vacant in the Ivanhoe neighborhood of Kansas City. In Kansas City's urban core, such sights are not entirely uncommon. For these environmentally contaminated sites, known as brownfields, redevelopment can be costly and complicated.

In the greater Kansas City area, EPA Region 7 continues to support several partners who are committed to the revitalization of neighborhoods in the urban core. These partners include the city of Kansas City, Missouri; Unified Government of Wyandotte County and Kansas City, Kansas; Jackson County, Missouri; and Mid-America Regional Council.

Over the past few years, EPA funding has supported the establishment of affordable housing and redeveloped land for a grocery store in the Ivanhoe neighborhood – a much-needed addition to a neighborhood once considered a food desert.

Today, Kansas City redevelopment groups are actively working to revitalize these areas and have leaned into support from EPA's Brownfields Program. In May 2020, EPA's Kansas City area partners received a total award of $1.4 million in EPA funding for cleanup planning, community engagement, and brownfield site assessments.

This includes the construction of eight senior cottages in the Ivanhoe neighborhood. Plans to develop mixed-use buildings for commercial businesses and apartments on additional brownfield sites have kicked off. The city of Kansas City, Missouri, performed the environmental site assessment and cleanup with EPA Brownfields funding.

> **"TO BREATHE LIFE BACK INTO THESE PLACES WILL NOT ONLY REMOVE ANY POTENTIAL CONTAMINATION THAT LINGERS, BUT IT WILL ALSO HELP TO REMOVE THE STING OF DISINVESTMENT AND DISENFRANCHISEMENT MANY OF THESE COMMUNITIES HAVE FACED."**
>
> *– DeAndre Singletary, director of EPA Region 7's Land, Chemical and Redevelopment Division*

"To breathe life back into these places will not only remove any potential contamination that lingers, but it will also help to remove the sting of disinvestment and disenfranchisement many of these communities have faced," said DeAndre Singletary, director of EPA Region 7's Land, Chemical and Redevelopment Division.

The targeted areas are in Qualified Opportunity Zones in Kansas City and Jackson County, Missouri; and Kansas City, Kansas. Priority sites include brownfield sites in old historic corridors, heavy industrial areas, and petroleum industry sites.

Nebraska Communities

DISCOVER HIDDEN TREASURES IN PLAIN SIGHT

IN communities across the Heartland, brownfield sites remain hidden treasures full of untapped potential just waiting for new life. Through grit, tenacity and a little imagination, these sites can become community catalysts that spark economic growth, preserve greenspace, and prevent sprawl.

In the last year, Nebraska communities have done just that by transforming blighted sites into new entertainment, fitness, and downtown living opportunities.

Thanks to the support of local, state and federal partners, brownfields across Nebraska continue to be recognized as hidden treasures full of untapped potential just waiting to be restored.

"Each successfully completed brownfield project benefits all Nebraskans by increasing the community tax base and property values, attracting businesses and investors, beautifying the communities, removing potential health hazards, and saving green space," said Taryn Serwatowski, Nebraska Department of Environment and Energy (NDEE) Brownfields coordinator and Voluntary Cleanup coordinator. "Remaining brownfields across the state should be looked at as opportunities, not as fruitless obstructions."

"This program has been particularly beneficial to Nebraska's small and rural communities that didn't have a sufficient tax base to begin with to address their brownfield properties," said Serwatowski.

> **"REMAINING BROWNFIELDS ACROSS THE STATE SHOULD BE LOOKED AT AS OPPORTUNITIES, NOT AS FRUITLESS OBSTRUCTIONS."**
> *– Taryn Serwatowski, NDEE Brownfields coordinator and Voluntary Cleanup coordinator*

Since the start of Nebraska's brownfield and voluntary cleanup program, over 70 properties have been made ready for reuse, resulting in 552 jobs and $120 million in leveraged cleanup and redevelopment for Nebraska communities.

And efforts continue in northwestern Nebraska, where an EPA grant is supporting brownfields assessment work in communities throughout the Nebraska Panhandle.

Recognizing the pivotal role states have when it comes to brownfields redevelopment, EPA provides funding to programs like NDEE's to support communities, developers and landowners in the assessment, cleanup and redevelopment of brownfield sites.

By working together, these partnerships generally result in "quicker and more cost-effective cleanups, while ensuring protection of public health and the environment," said Susan Klein, EPA Region 7 Brownfields coordinator.

A Redevelopment Boom
IN SPRINGFIELD MISSOURI

SPRINGFIELD, Missouri, the birthplace of Route 66, has worked with EPA for over 20 years to revitalize industrial and automotive sites around the city. The city has leveraged over $8 million in Brownfields funding and technical assistance to redevelop mills, bulk oil stations, auto salvage and recycling facilities, filling stations, a quarry, and rail sites. In total, the city has conducted over 300 environmental site assessments.

Springfield's first Brownfields redevelopment project began in the 1990s as community members conceptualized Jordan Valley Park, a large community gathering place that would transform a blighted, abandoned industrial corridor. Using EPA Assessment Grants, the city identified the types of environmental contamination present at the former industrial plants and an old limestone quarry. After identification, the city addressed pollutants and transformed the land into a community green space.

"COMMUNITY MEMBERS WANTED IT TO BE A 'GRAND CIVIC GESTURE' FOCUSED ON RECREATION, GATHERING PLACES, AND BEAUTIFULLY LANDSCAPED CORRIDORS. THE IDEA WAS THAT THE REDEVELOPMENT WOULD PROVIDE INVESTOR CONFIDENCE IN BOTH PUBLIC AND PRIVATE INVESTMENT THROUGHOUT THE ENTIRE CITY."

– Olivia Hough, senior planner and Brownfields coordinator, city of Springfield.

Since then, Springfield has been highly successful in incorporating Brownfields land revitalization into broader redevelopment plans. The city's portfolio of Brownfields projects includes Hammons Field – home of the Springfield Cardinals, the History Museum on the Square, the reclamation of the West Meadows former railyard, a health center, many affordable housing developments, and numerous businesses along or near the Commercial Street Historic District.

"EPA's Brownfields Program has been a key implementation tool in achieving our community's vision for the city," said Olivia Hough, senior planner and Brownfields coordinator, city of Springfield.

EPA's funding and technical assistance has spurred over $460 million in public and private investments toward the revitalization of former brownfields, with more projects underway.

Today, over 20 years after plans for Jordan Valley Park kicked off, the city intends to redevelop brownfield sites in other industrial corridors as they look to the next 20 years. One major project will be the revitalization of Grant Avenue Parkway, which will connect the downtown area to the Wonders of Wildlife National Museum and Aquarium with various neighborhoods, parks, and greenway connections in between.

EPA & DES MOINES TAKE A BIG STEP FORWARD ON PATH FROM SUPERFUND SITE TO COMMUNITY ASSET

DECADES of blight and uncertainty are coming to an end as the city of Des Moines agreed to take ownership of the Des Moines TCE Superfund Site in fall 2020, known locally as the Dico site. This agreement is a major milestone that continues protection for the city's water supply and moves the site one step closer to productive reuse for local residents.

To get to this point, a place where a Superfund site can be restored to productive use, is a major accomplishment. It required the United States to reach a settlement with DICO Inc. and its corporate affiliate, Titan Tire Co.

As a signatory to the settlement, the city of Des Moines will accept the property title and Dico will transfer the property at no cost to the city. In exchange for the property, the city will operate and maintain the groundwater remediation system; maintain the asphalt cap (or enhance the existing cap with the addition of several feet of clean fill material); and implement land use controls to protect those on-site from any potential exposures.

The settlement represents a win, not just for EPA, but for Des Moines citizens and American taxpayers. After almost a decade of contentious litigation, the U.S. will receive $11.5 million from Dico/Titan in a settlement of the judgments owed to the U.S. With the funds, a special account will be established with $2.9 million for EPA to conduct necessary site cleanup work. The remaining $8.6 million will go to the Hazardous Substance Superfund.

The Dico site is appropriate for various types of reuse, which the city will ultimately decide. The remedies in place and institutional controls on the site will ensure protection from potential exposures. EPA will work closely with the city to ensure the protectiveness of the planned reuse and will ensure that it is compatible with the environmental protection remedies in place.

Collectively, these measures not only provide the necessary protection of human health and the environment, but also clear the path for site redevelopment. This is a big win for the Agency, for city government, and for proud Iowans who call this community home.

From Carburetors to Golf:

ST. LOUIS CELEBRATES SUPERFUND SITE CLEANUP

OVER 100 YEARS have passed since the Carter Carburetor Corporation opened its doors as a manufacturing plant in St. Louis. After shuttering for good in 1984 following a shift in the automotive industry, the property sat vacant for years while local and federal partners worked to address environmental contamination at the site.

In September 2020, EPA Region 7 joined the community to celebrate a successful cleanup that has readied the site to be revitalized as a youth sports facility for the Boys & Girls Club.

What was once an environmental hazard will now serve the Boys & Girls Club of Greater St. Louis as a youth golf training and mentoring facility. In partnership with the Gateway PGA REACH organization, they will build the facility on most of the site property. The St. Louis Land Reutilization Authority owns part of the site, which it wants to develop into a pollinator park, urban prairie feature, or community garden to support the surrounding reuse.

HISTORY

In its prime, Carter Carburetor was an energetic manufacturing plant, boasting 480,000 square feet of space in the heart of the city. The plant housed numerous buildings for offices, testing and manufacturing of carburetors for gasoline- and diesel-powered engines.

William Carter founded the company in 1909. Famed St. Louis architect Hugo K. Graf later designed the factory, which was built in 1915 on a 10-acre plot on North Spring Avenue. Carter stayed with the company until 1924 when he sold it to the American Car and Foundry Company (ACF).

During its tenure, Carter Carburetor supplied parts to major companies across the United States, including Chevrolet, Buick, Oldsmobile, Chrysler and Packard. A major employer in St. Louis with over 3,000 workers, the company created the Jeep waterproof Y-S single-barrel carburetor of the World War II era, as well as the first four-barrel carburetor on the market.

The company supplied carburetors until 1984, when ACF closed the factory following automakers' switch from carburetors to electronic fuel injection. The property was then deeded to the Land Reutilization Authority of St. Louis.

CONTAMINANTS LEFT BEHIND

Contaminants found at the site include polychlorinated biphenyls (PCBs), trichloroethylene (TCE), and asbestos. EPA initiated removal actions, including demolishing the

former die-cast building and placing a temporary cap on the die-cast soils; constructing a security fence to prevent exposures to individuals who entered the former dilapidated buildings; and asbestos and debris removal to prepare the buildings for demolition.

In 2013, EPA entered into a $35 million settlement agreement with ACF Industries Inc. to pave the way for the site cleanup, building demolition and, ultimately, productive reuse. Cleanup of the site began that year with the removal of asbestos and hazardous debris from buildings on the property. Demolition and removal of the buildings began in 2015. Additional waste removal work, on-site waste treatment, and other cleanup work continued into 2017. EPA and ACF completed site work in May 2020. As a part of the site cleanup, ACF conducted removal actions to address dilapidated buildings on-site that were heavily contaminated with PCBs and asbestos.

CLEANING UP FOR THE FUTURE

Federal, state and local partners celebrated the completion of the decades-long cleanup effort on Sept. 16, 2020, at the Boys & Girls Club of Greater St. Louis.

Attendees of the event included EPA Administrator Andrew Wheeler; EPA Region 7 Administrator Jim Gulliford; William Lacy Clay, U.S. Representative from Missouri's 1st congressional district; Dr. Flint Fowler, Boys & Girls Club of Greater St. Louis, president; Wendell Kimbrough, Area Resources for Community and Human Services CEO; and Ozzie Smith, Gateway PGA REACH president.

"Today is a historic day, not only for St. Louis, but also the Boys & Girls Club and this entire community," Dr. Fowler said. "Today we will be signing the prospective purchaser's agreement with EPA, providing the appropriate protection for the Boys & Girls Club as we move forward to secure the land from ACF and develop a project that will be beneficial to our program."

"TRANSFERRING THIS PROPERTY TO THE BOYS & GIRLS CLUB ALLOWS THEM TO PROVIDE ANOTHER EXPERIENCE TO THE CHILDREN OF THE COMMUNITY – THE EXPERIENCE OF LEARNING GOLF AND ALL OF THE DISCIPLINES AND SKILLS THAT IT TAKES TO PLAY GOLF," GULLIFORD SAID.

"It is exciting to see something go from a conversation to a concrete concept," Kimbrough said. "We are now going to have a wonderful new place that is going to give young people exposure to a game that they will be able to play from 10 years old to 100 years old. It also gives us an opportunity to eliminate an eyesore and create a fun place for young people to play."

At the event, Administrator Wheeler announced the completion of the cleanup at the Carter Carburetor Superfund Site and transferred ownership to the Boys & Girls Club of Greater St. Louis, who will work with Gateway PGA REACH to plan the construction of the youth golf training and mentoring facility.

LAND REVITALIZATION

LEAD ACTION PLAN

R7 Continues Work with St. Joseph
TO REDUCE LEAD EXPOSURE

SINCE 2017, Region 7 has worked with the city of St. Joseph, Missouri, to build and strengthen relationships with community partners whose goal it is to reduce lead poisoning in children.

Region 7's work in St. Joseph combines several priorities: reducing exposure to lead, children's health, environmental justice, and environmental education. Building on recent efforts, knowledge and experience, EPA Region 7 reached 100% of day cares and more than 600 families in the ZIP code with the highest levels of lead in St. Joseph (among the highest in Missouri).

This was accomplished by providing Lead Poisoning Prevention Training to 30 home day care and child care center teachers; conducting one-on-one meetings with day care and nonprofit directors; providing outreach and education materials to each home day care and child care center; holding a demonstration outreach and education event that served 75 families and tested 17 children; and coordinating with United Way so that lead poisoning prevention information is included in take-home materials with every family leaving the hospital with a newborn in the city.

Region 7 has continued their lead poisoning prevention work in St. Joseph throughout 2020, despite the obstacles the current COVID-19 pandemic poses.

EPA facilitated meetings with the St. Joseph Health Department; Kansas City, Missouri Health Department; and Region 7 U.S. Department of Housing and Urban Development (HUD) staff. These meetings resulted in $100K being committed from HUD's Lead Abatement and Healthy Homes resources for work on low-income family housing in 2020, and a memorandum of understanding between St. Joseph and Kansas City health departments providing access to future funding to reduce lead hazards for low-income families living in pre-1978 housing.

The city of St. Joseph has also increased its commitment to addressing lead poisoning in young children by passing an ordinance for rental property that focuses on ensuring safe and healthy housing.

Home Renovation Shows
HELP DRIVE LEAD SAFETY COMPLIANCE

TO PROTECT the health and safety of families from the hazards of lead-based paint, Region 7 actively engages with contractors and home remodeling experts to ensure compliance and to help educate homeowners on proper lead-safe renovation procedures.

In 2020, two home renovation TV programs, "Rehab Addict" and "Bargain Mansions," reached settlements with EPA for violations of the Toxic Substances Control Act's Lead Renovation, Repair, and Painting Rule (RRP Rule). Episodes of these shows depicted several improper work practices for the safe handling and disposal of lead-based paint.

Common renovation activities such as sanding, cutting and demolition can create hazardous lead dust and chips when disturbing lead-based paint. Exposure to lead-contaminated dust from chipped or peeling lead-based paint in these older homes is one of the most common causes of elevated blood lead levels in children.

The RRP Rule requires that companies and contractors renovating homes and child-occupied facilities built before 1978 be certified by EPA and follow lead-safe work practices to contain dust in the renovation work area and contain the waste during its disposal. The rule is intended to reduce lead exposure from toxic lead dust and debris that can be generated during renovations.

The hosts of the programs, Nicole Curtis of "Rehab Addict" and Tamara Day of "Bargain Mansions," later worked with EPA to learn about compliance with lead-based paint regulations for renovation projects on their shows.

As required by the settlements, both hosts are educating the public on lead-safe renovations through videos, social media postings, and public events. Promoting safe renovations on a national stage encourages homeowners everywhere to ask for and ensure that these vital work practices are in place when renovations occur.

EPA Region 7 staff worked with both shows, providing compliance assistance on their videos and blog posts to ensure that the information is accurate and complete. Tamara Day, a Kansas City area resident, has also received RRP firm certification for her own company, Growing Days. Additionally, several companies who worked on the shows were brought into compliance with the RRP Rule.

Home renovation shows can help drive compliance by demonstrating the necessity to renovate correctly and safely to protect children and adults from exposure to lead-based paint. Businesses and individual contractors have an obligation to abide by the RRP Rule, and families should be empowered with the knowledge and resources to address lead paint hazards in their home.

GEOGRAPHIC INITIATIVE FOCUSES ON LEAD OUTREACH IN SPRINGFIELD, MISSOURI

Region 7 launched a new Springfield, Missouri, Lead Geographic Initiative (SLGI) and has adjusted its outreach efforts to continue reaching as many people as possible during the COVID-19 pandemic.

Through innovative use of technology and community partnerships, the SLGI team successfully reached over 3,000 people, exceeding the expected number of outreach activities during the year by hosting 15 events via webinars and video conferencing, and partnering with approximately 50 entities. Two in-person events conducted prior to the pandemic reached 300 individuals. This outreach promoted blood lead screenings and raised awareness of the hazards of lead poisoning.

The SGLI team also provided training to certify renovators and remodelers for the Renovation, Repair and Painting (RRP) Rule, and reached nearly 400 people using electronic outreach materials.

Region 7 Announces
DELETION OF LEAD SUPERFUND SITES

ON Oct. 29, 2020, Region 7 announced deletions from the National Priorities List (NPL) of lead Superfund sites, as part of the Agency's Lead Poisoning Prevention Week activities. EPA deleted the Annapolis Lead Mine Superfund Site in Missouri, and deleted more than 100 properties that were part of the Omaha Lead Superfund Site in Nebraska. Deletion from the NPL benefits communities as it marks the completion of the remediation and formal documentation and, in some instances, allows for reuse and redevelopment.

The 200-acre Annapolis Lead Mine Superfund Site is in a rural area approximately 1 mile east of Annapolis, Missouri. Lead mining activities from 1919 to 1940 generated over 1 million tons of mining wastes, contaminating soils and sediments with heavy metals, primarily lead.

Short-term remedy approaches included excavation and containment of contaminated soils. The long-term remedy consisted of in-stream stabilization techniques to prevent heavy metals from washing into the river. EPA has also implemented institutional controls to regulate the use of contaminated soils and future development on the site. The site is ready for potential reuse.

With the partial deletion of the Omaha Lead Superfund Site, EPA has removed an additional 117 properties from the NPL. The site, consisting of approximately 27 square miles of property within the metro area of Omaha, Nebraska, is the single largest residential lead contamination site in the nation.

Soils across a broad swath of Omaha were contaminated with lead during more than a century of activity, primarily from the operation of a major lead smelter situated along the west bank of the Missouri River, which sent particulate lead aloft from its smokestacks and deposited it across the landscape. Other sources of lead contamination at the site included a former paint manufacturer, former lead battery plant, and the decay of lead-based paint from homes and other structures.

Since 2013, EPA has deleted 2,166 residential properties at the site from the NPL. EPA plans to continue partial deletions in 2021 at qualifying properties.

LEAD ACTION PLAN STATS

CERCLA Removal

877
Lead-contaminated residential properties restored.

Mine Lead Waste Removal

480,000
cubic yards of lead waste removed

1 NPL deletion

117 NPL partial deletions

$52 Million
for investigations and remedial actions

3 Years
with no lead NAAQS violations in the 3 nonattainment areas

LEAD ACTION PLAN

Providing Regulatory Clarity

FOR ANHYDROUS AMMONIA FACILITIES

AGRICULTURE

GOOD chemical accident prevention, preparedness and response is a shared partnership between all levels of government, first responders, industry, and the public.

Partnering with the agribusiness community and building on the success of three chemical accident prevention workshops in the prior fiscal year, EPA Region 7 conducted a virtual compliance assistance webinar joined by 89 participants (about four times the attendance at a typical in-person workshop). Additionally, the recording of the webinar garnered 130 online views (as of Sept. 30, 2020).

The presentation focused primarily on how recent changes to Section 112(r) of the Clean Air Act affect agricultural facilities. This section requires facilities that have threshold quantities of regulated substances to develop risk management plans (RMPs) to prevent accidental releases that can cause serious harm to the public and the environment.

This type of compliance assistance provides important clarity and certainty for anhydrous ammonia retail facilities required to comply with provisions of the Clean Air Act.

Following the presentation, EPA Region 7 conducted an interactive question-and-answer session with webinar participants, providing them with support for their specific needs and concerns. An added benefit of the virtual nature of this event is that the information presented was recorded, so interested individuals unable to join the live webinar or participants wanting to review it can access the recording.

Keeping a facility compliant with regulatory requirements and industry standards is complex, which makes compliance assistance like this so important.

Studying Fire in the Flint Hills:

PARTNERSHIPS PROVIDE TOOLS TO RANCHERS & THE PUBLIC

In the early 2000s, air quality monitors in the Midwest drew attention when they recorded unusually high levels of ozone during the month of April.

"We wondered why ozone levels exceeded EPA's National Ambient Air Quality Standards (NAAQS). During a typical Kansas spring, temperatures are cooler, cloud cover is constant, and winds are high. April is not the time of year we expect to see monitors reading high for ozone," said EPA Region 7 Agricultural Air Coordinator Gina Grier.

Ozone levels are usually highest during summer months because high temperatures, sunlight, and stagnant air react with oxides of nitrogen and volatile organic compounds to create ozone pollution. High levels of ozone can cause health problems for people with asthma, children, older adults, or those who work outdoors.

"After analyzing weather pattern models, we were able to confirm that the smoke emissions from the Flint Hills fires were impacting air quality in downwind Kansas and Missouri communities," Grier said. "That's when Region 7's Air Quality Planning Branch began considering what to do about it."

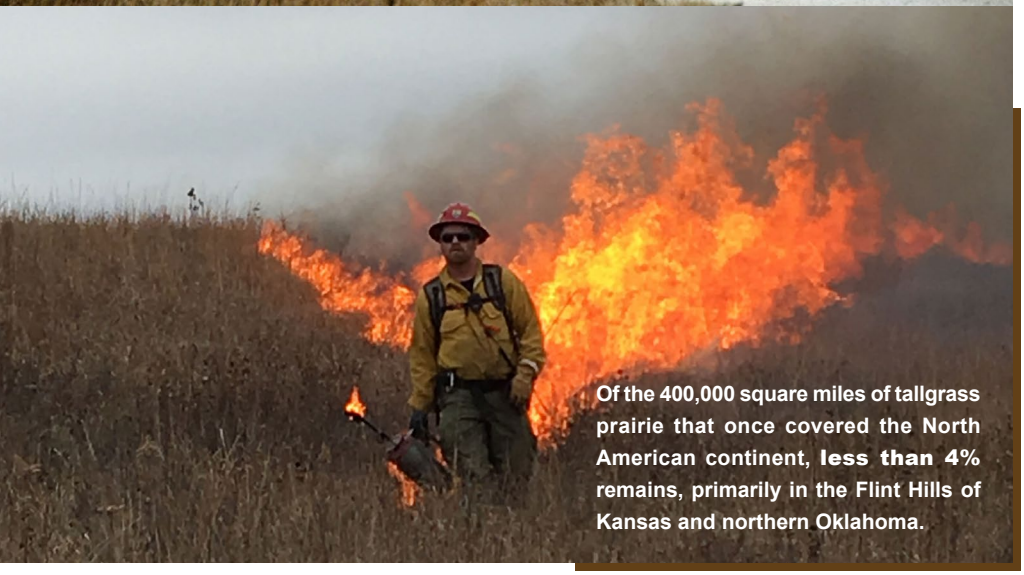
TACKLING AIR QUALITY CONCERNS THROUGH RESEARCH

In the 1960s, research concluded that burning in early April was the best time to promote the growth of desirable grazing grasses, just prior to stocking beef cattle on the native prairie rangelands. As a result, most ranchers today burn during that time. When over 500,000 acres burn in a condensed time frame, and winds are light and cloud cover is heavy, stagnant smoke conditions can lead to unhealthy air quality impacts on downwind communities like Topeka, Wichita, Kansas City, and Lincoln.

However, new research suggests that spring may not be the only season when prescribed burning can productively take place. In fact, ongoing studies show that expanding the "burn window" into late summer and early fall has the potential to better manage invasive species and reduce the impact of smoke emissions on public health.

STUDYING THE AIR

Since 2016, EPA has conducted air sampling during both the traditional spring peak burn season, as well as during fires in the fall. Researchers collect data on key air pollutants, including particulate matter, which can have severe health consequences for vulnerable populations,



Of the 400,000 square miles of tallgrass prairie that once covered the North American continent, **less than 4%** remains, primarily in the Flint Hills of Kansas and northern Oklahoma.

like children with asthma or adults with chronic obstructive pulmonary disease (COPD).

Data collected from aerial and ground sampling systems provides critical emissions data that allows researchers to predict the best times, locations, and conditions to burn. For example, researchers have been able to determine the best weather conditions for smoke dispersal, encouraging ranchers to burn on days when smoke is less likely to linger in the air and impact downwind communities.

STUDYING THE LAND

It's understood that spreading out burning throughout the year, instead of only during the condensed April time frame, can reduce air quality impacts. But the question remained: Would burning during another time period provide the same agricultural benefits as burning in April? Research has shown that it might.

Researchers from Kansas State University and Oklahoma State University have studied pastures that burn in the growing season and found that cattle still benefit from the nutrition that the grasses provide, specifically when rangeland is burnt between Aug. 15 and Sept. 15.

Additionally, late-season burns may be more effective at controlling invasive species, namely sericea lespedeza (*Lespedeza cuneata*), an aggressive legume that was planted for ground cover along roadways.

"Sericea lespedeza is a statewide noxious weed. By burning late summer or early fall, when the plant is at its height of maturity and the seeds are developed, there's greater potential to stress the plant and minimize the seed bank," Grier said.

This discovery could result in significant cost savings for ranchers. To control an invasive species, pesticides can cost upwards of $40 an acre. Fire, however, costs less than a dollar an acre. Ranchers can now use this research to maximize their control over this species that is replacing high-quality native grasses and depleting the prairie ecosystem.

LOOKING AHEAD

For over a decade, EPA Region 7 has conducted outreach to encourage landowners to spread out prescribed fires over time, rather than a compressed time frame each spring. Doing so can improve public health outcomes while continuing to provide stakeholders with the ability to preserve the fragile and nutrient-rich tallgrass prairie ecosystem.

In FY 2020, EPA Region 7 conducted 16 outreach events in rural and urban communities focused on minimizing the impact of smoke and spreading out prescribed fires over time.

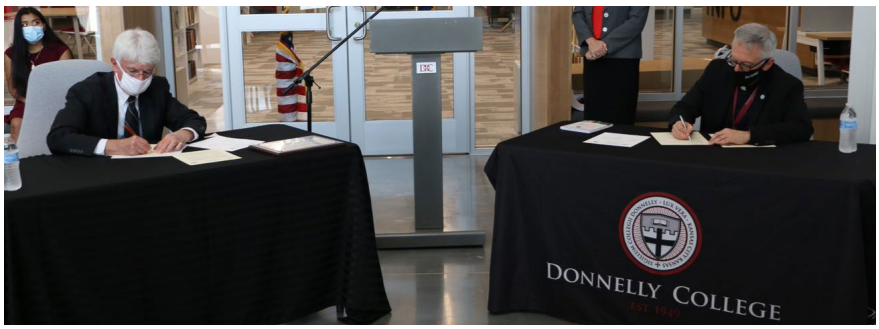
EPA Region 7 also intends to continue creating analytical tools that can be used to promote the best smoke management practices. These management tools empower stakeholders to use scientific research findings to preserve the tallgrass prairie as a productive ecosystem and grazing resource, while also minimizing smoke emissions from prescribed burns.

Without regular burning, it is estimated that the tallgrass prairie would be permanently overtaken by invasive species in just 30 years. This makes prescribed fire not only an important agricultural tool, but a crucial part of conserving the Flint Hills.

AGRICULTURE

WORKING TOGETHER

Promoting Educational & Career Opportunities
FOR LOCAL STUDENTS



EPA Region 7 and Donnelly College of Kansas City, Kansas, renewed their partnership and commitment to environmental education by resigning a Memorandum of Agreement (MOA) on Sept. 21, 2020. The five-year MOA seeks to provide environmental educational and career opportunities for the college's students.

Donnelly College is the only college in Region 7's four states (Iowa, Kansas, Missouri, Nebraska) designated as a Hispanic Serving Institution that offers a four-year degree option. The school has a proud tradition of being an invaluable resource to address the problem of underrepresentation of Hispanics in science, mathematics, information technologies and engineering fields, in addition to the participation of Hispanic students in national environmental programs.

The goals of the MOA are to increase the integration of environmental education and awareness into school programs, as well as provide pathways for those interested in environmental projects and careers.

The MOA outlines nine areas of cooperation between EPA Region 7 and Donnelly College, including:

- **Identifying mutually beneficial joint research projects**
- **Facilitating student internships and employment at EPA Region 7**
- **Supporting on-campus environmental awareness projects**
- **Communicating about mini-courses, lectures, and seminar speakers**
- **Encouraging faculty research participation**
- **Conducting outreach at college-sponsored career fairs and other outreach events**

Through this partnership, EPA Region 7 has reaffirmed its commitment to supporting diverse and innovative students who are pursuing work in the environmental field. This MOA is also an example of just one way that EPA Region 7 seeks to collaborate with regional institutions in order to achieve mutually beneficial outcomes.

Indian Country
UNDERGROUND STORAGE TANK ASSISTANCE

GRANTS REVIEW RESULTS IN $1.4M DISBURSEMENT TO MESKWAKI TRIBE

"MESKWAKI NATION"

This past year, Region 7's Mission Support Division (MSD) reviewed several years of backlogged reimbursement financial data for the Meskwaki Tribe. MSD's team established and executed a review methodology that ultimately led to the disbursement of over $1.4 million in funding. These efforts ensured that tribal staff received pay for environmental work performed, and provided a framework for future reviews.

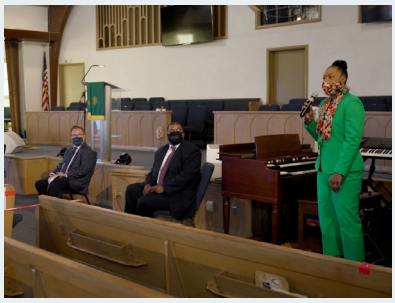
THIS year, the Region 7 Underground Storage Tank (UST) Program staff developed and implemented a compliance assistance initiative in Indian country. This effort consisted of distributing compliance materials specific to each facility that included UST/Leaking UST compliance assistance binders and calendars for owner/operators, and conducting compliance assistance visits, monthly calls, and training opportunities for owner/operators and tribal personnel in Indian country.

Since the COVID-19 pandemic complicated the ability to conduct some components of the compliance assistance visits, the program staff quickly transitioned to conducting virtual meetings with owner/operators of UST facilities located in Indian country. This allowed 26 people affiliated with five of the nine tribes in Region 7 to participate in four virtual meetings held between June and August 2020. Participants also included tribal environmental officials and/or representatives from other tribal government offices, including facilities and operations.

The compliance assistance materials were distributed among all owner/operators in Indian country and all tribal environmental offices. This work was well received by the tribes in Region 7, who have highlighted EPA's efforts on national calls. As a result, several other EPA Regions have consulted with Region 7 as they develop their own Indian country UST compliance assistance efforts.

Regions 7 and 5 Partner to Share

ECO-FRIENDLY PRACTICES WITH FAITH-BASED ORGANIZATIONS



MANY of EPA's finest accomplishments occur when interagency collaboration takes place. In response to a request for assistance from EPA Administrator Wheeler, Region 7 joined forces with Region 5 (Great Lakes), the Office of Environmental Justice, Office of Pollution Prevention and Toxics, and local utilities to provide St. Louis area faith-based organizations with information on energy efficiency and eco-friendly practices in houses of worship.

The interagency workgroup developed and presented a three-part webinar series from Sept. 9 to 29, 2020, garnering participation from nearly 50 churches and faith organizations in the St. Louis area. Topics included energy conservation strategies and ENERGY STAR®, local energy conservation resources and funding opportunities, and indoor environmental health concerns.

In offering this free webinar installment, EPA succeeded in providing faith-based organizations with tangible actions that will help them lower their utility bills, conserve energy, and promote safe and eco-friendly building maintenance.

Many houses of worship were built decades or even over a century ago and may benefit from upgraded, energy-efficient technology. They may also contain environmental conditions that pose increased risks to the health of congregants and staff.

Region 7 staff are now leading follow-up discussions with participants regarding additional steps that can be taken to address environmental and health concerns in places of worship.

EPA Honors St. Louis University

FOR EXCELLENCE IN GREEN POWER USE

The U.S. Environmental Protection Agency (EPA) announced St. Louis University as one of 12 top Green Power Partners in the 20th annual Green Power Leadership Awards program. Other companies across the country recognized included Aldi, Equinix, Fifth Third Bank, Lundberg Family Farms, Microsoft, QTS Realty Trust, and Target Corporation.

"The 2020 Green Power Leadership Award winners are leaders in spurring innovation and promoting growth in the U.S. renewable energy market," said Anne L. Austin, principal deputy assistant administrator of EPA's Office of Air and Radiation. "We commend their efforts, which help protect our environment and improve our air quality."

St. Louis University (SLU) greatly increased its green power use through a student-led initiative. The university established a student renewable energy fee for green power purchases. The students aligned the institution's electricity use with the SLU mission of "higher purpose, greater good," achieving 100% green power.

Recognizing the Work
OF EPA EMERGENCY RESPONDERS

DURING environmental emergencies and disasters, EPA plays a vital role in protecting human health and the environment by working closely with federal, state and local first responders. Agency responders are often on the frontline of these crises, conducting crucial sampling efforts, air and water quality monitoring, spill containment, debris cleanup, and community recovery activities.

In the 1980s, dioxin contamination and EPA's response in Times Beach, Missouri, garnered national attention. The next decade brought record flooding across the Midwest, and Region 7 personnel were called upon to recover oil tanks and drums along the banks of the Mississippi and Missouri rivers. Later, in the immediate aftermath of 9/11, regional staff monitored for toxins at Ground Zero and worked to ensure the health of first responders.

Over time, the nature of EPA's emergency and disaster response work has evolved. In some cases, change was spurred by significant events or the passage of groundbreaking laws like the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). In others, however, new technology caused tools like bag phones to be replaced by iPhones.

In celebration of EPA's 50th anniversary and to highlight the critical work of regional response teams, Region 7's Office of Public Affairs partnered with several EPA offices to gather stories for an interactive, multimedia-rich ArcGIS story map, titled "EPA Region 7 Emergency & Disaster Response Timeline," which walks viewers through the remarkable history of EPA Region 7's response team. By watching historic videos, listening to oral history interviews with EPA staff, and searching interactive GIS maps, viewers learn more about the incredible advancement of emergency and disaster response at EPA.

You can view the full story map at the link below:

https://storymaps.arcgis.com/stories/10f90b3b191c4a4c977b8e6eaa4c03e5

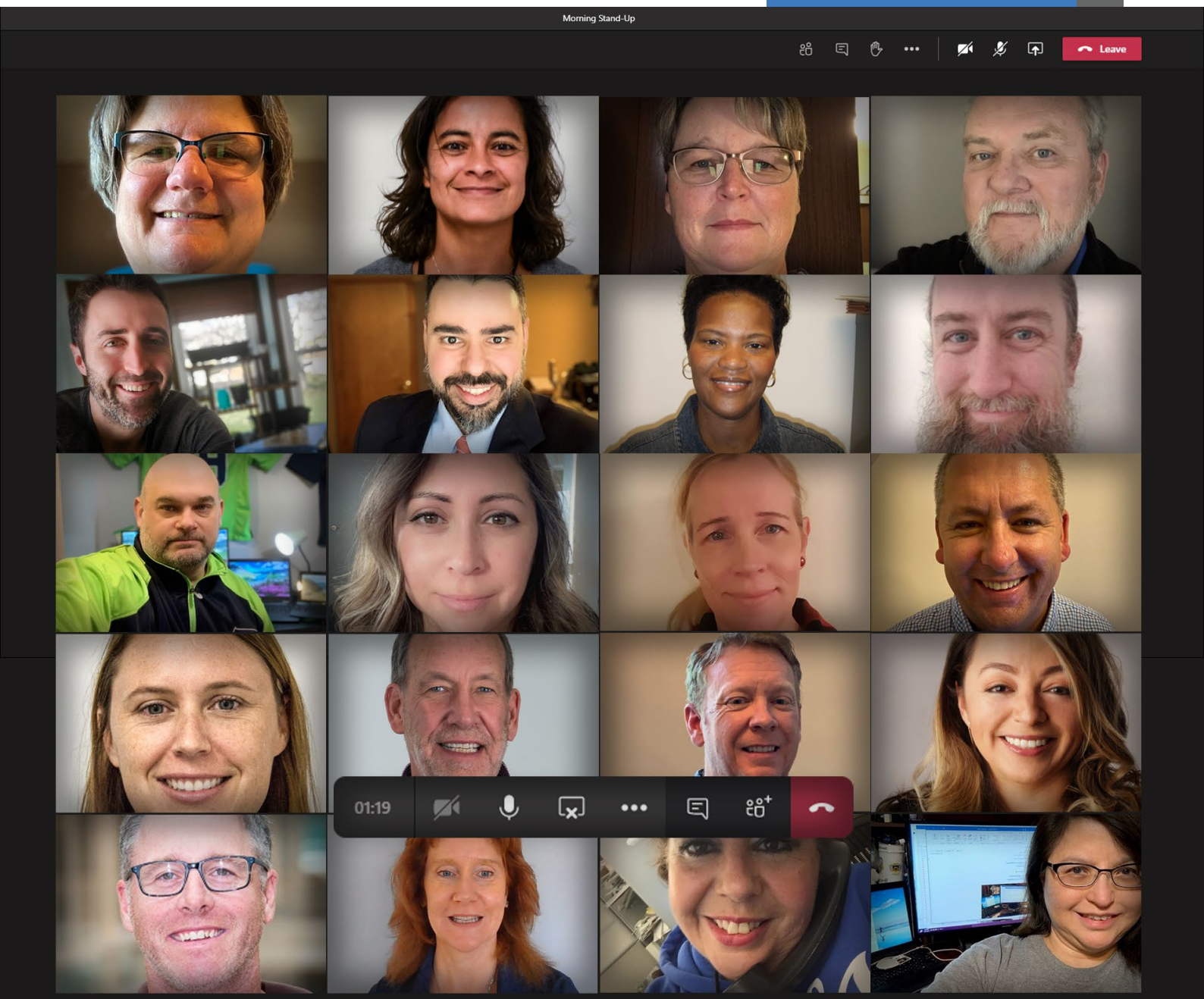
Region 7 Responds
TO HURRICANE LAURA

HURRICANE LAURA struck land on Aug. 27, 2020, near Cameron, Louisiana, as a Category 4 hurricane. The storm caused the deaths of at least 42 people in the United States and inflicted an estimated $10 billion in damages throughout Louisiana and Texas.

The city of Lake Charles, Louisiana, was hard hit, losing power across the city and sustaining damage to their drinking water facilities and water utility laboratory. The Lake Charles water utility, with approximately 420 miles of water lines throughout the distribution system, issued a boil advisory immediately. The state of Louisiana, through FEMA and EPA Region 6, requested the assistance of the EPA Region 7 Mobile Bacteria Lab to help return safe drinking water to the city.

EPA Region 7's Laura Webb and Regina Klepikow loaded the mobile lab on Sept. 1, and were on the road within 24 hours of the official request. The mobile lab was stationed at one of the drinking water facilities in Lake Charles and was ready to accept and analyze samples by Sept. 3. Region 7 staff also shipped additional office supplies, personal protective equipment, and EPA logo apparel to the EPA teams on-site. Steven Baker was deployed in mid-September to continue the mission when Webb demobilized.

The EPA mobile lab analyzed 438 samples for total coliforms and *E. coli* from 138 drinking water sampling taps located throughout the city. The mobile lab staff also assisted the Lake Charles Water Utility staff in the collection of these samples. The boil advisory was then lifted on Sept. 21. Additionally, Klepikow provided valuable assistance to the Lake Charles water utility laboratory as they completed the certification process to re-establish their lab.



Continuous Operations:

MAINTAINING MISSION FUNCTIONS DURING COVID-19

Region 7 staff often have projects planned out far into the future. So when the COVID-19 pandemic sent EPA into Continuity of Operations Plan status (COOP), all program offices had to quickly adapt. Fortunately, the Region has done it seamlessly, adjusting important programs to the virtual space and ensuring that mission-critical, in-person activities are carried out safely.

SUPPORTING EMPLOYEES WORKING REMOTELY

In less than 24 hours, the Mission Support Division (MSD) smoothly transitioned the Region's 450 employees from a traditional work environment to a fully telework environment by activating the Regional COOP Plan.

For the duration of the pandemic, MSD has provided critical communication updates on topics related to Information Technology and Human Resources to help employees adjust to working from an alternate location on a regular basis.

MSD continues to develop content for the Regional Administrator's weekly all-hands calls, which provide Region 7 staff with updates on the pandemic and Agency operations. MSD also set aside funding for technological support, so the calls run smoothly, and allocated additional resources for closed-captioning services to ensure accessibility for hearing-impaired employees.

PROTECTING EPA STAFF DURING MISSION-CRITICAL, IN-PERSON PROJECTS

While much of EPA's work has been carried out from home offices and dining room tables in recent months, there are some mission-critical operations that require working in a specific physical location. Such operations have continued at all four regional facilities through a "rotating facility support approach."

For example, when Region 7 entered a COOP environment on March 26, 2020, the Laboratory Services and Applied Science Division (LSASD) had many samples that still needed processing.

Because lab analyses are not portable, the chemists developed protocols for conducting their work safely during the COVID-19 pandemic. Initially, they received Superfund samples only, but in July, sampling analyses for other programs resumed. The team faced many challenges, including:

- ***Staff limitations in the building***
- ***Adapting sample receiving procedures to protect staff***
- ***Adding disinfection procedures for building entry, as well as lab and instrument usage***
- ***Being patient with connectivity issues for remote access to data and instruments***
- ***Challenges of obtaining laboratory supplies from vendors through shipping companies***

To overcome these hurdles, lab staff worked extra hours, performed as many remote duties as possible, and boosted their communication efforts.

In August, several short-turnaround projects were received in the same week. The lab team of eight chemists processed twice the normal load of samples that month, with 43 projects and over 1,500 field samples all meeting the sample data delivery time. This was possible because Region 7 staff had embarked on a very important goal of achieving 80% electronic data by December 2020. Because the lab team was closely approaching this metric in March, the transition to electronic data in light of the pandemic was easy. The team met the metric completely in August and September, five months prior to the original goal.

REIMAGINING THE R7 TRAVEL PROCESS

Along with the need for in-person laboratory analyses, Region 7 recognized that several mission-critical projects require an in-person travel component. To ensure that critical travel could be carried out, a team of 12 experts from MSD and the Superfund and Emergency Management Division (SEMD) created a process and series of protocols that assured, to the greatest extent possible, safe travel by EPA employees with compelling needs to fulfill Agency missions.

Since May 2020, over 160 traveler trips (representing seven divisions and the Regional Administrator's office) have been processed utilizing this process, which included thoughtful travel checklists that were scrutinized and approved at multiple levels of the Region. A user-friendly dashboard was developed that provided quick analysis of COVID-19 data from the traveler's origin and destination counties.

BRINGING INTERNS INTO THE FOLD

When people think back to their first internships, memories of being assigned a cubicle or nervously shaking hands with a boss may come to mind. However, this year's class of EPA interns will have memories of learning how to meet virtually, working from home in their childhood bedroom, or receiving a government laptop via priority mail.

MSD planned, organized and led the 2020 Summer Internship Program for the 27 interns, who were spread across most of the divisions. MSD's efforts included early coordination with Region 7 managers, targeted outreach efforts to minority-serving institutions and STEM-focused student organizations, and ultimately, intern onboarding and summer education programs.

Like most EPA employees, almost all Region 7 interns worked entirely remotely during summer 2020. However, LSASD wanted to ensure that their four chemistry interns could fully experience the division's unique work while maintaining social distancing.

Their first three weeks were filled with virtual training about safety, quality assurance, and standard operating procedures. From there, the LSASD interns were tasked with virtual data cleanup and file formatting so information could be easily archived and retrieved during a laboratory audit. They also developed an electronic system to assemble and digitally display sample results related to the CyAN Data Project, which maps lakes with potential harmful algal blooms (HABs).

Once procedures were put in place so the interns could safely report to the lab in person, they spent five weeks working with real samples and assisting analysts. The interns were also able to use their field safety training to help the Field Services Branch take samples in the field.

EPA LEAN MANAGEMENT SYSTEM

Continuous Improvement:
DEVELOPING FASTER, MORE EFFICIENT PROCESSES

EPA Lean Management System (ELMS) is an Agency-wide systematic approach to continuous process improvement. It is based on lean principles used for years by the private sector and is comprised of six components: visual management, standard process, cascading performance measures, problem-solving, business reviews and huddles, and leader behaviors. EPA implementation of each of these elements has allowed the Agency to make significant improvements to the speed and quality at which it delivers its services to the American people.

IN 2020, Region 7 exceeded the national ELMS deployment goal with 83% of the Region regularly using visual management for huddles, process tracking, and performance measurement. Region 7 currently has 106 ELMS process and performance visual tools, which is a 34% increase over fiscal year 2019. In response to changing conditions during the COVID-19 pandemic, the Region converted 95% of these tools to an electronic format over a six-month period.

Region 7 also completed nine problem-solving projects that achieved a 25%-plus process improvement, including inspection reporting, laboratory purchase streamlining, grant funding reviews, tribal quality assurance plans, Superfund remedial project planning, and water database reporting. In the spirit of continuous improvement, Region 7 managers also implemented 56 employee ideas (155% over target).

Other notable improvements made in Region 7 include cutting the backlog of Freedom of Information Act requests to zero and exceeding the target number of Brownfield sites made ready for anticipated use by 54%.

WATER DIVISION INCREASES TMDLS APPROVED

One of EPA's top priorities is to ensure that waters are clean through improved water infrastructure and, in partnership with states and tribes, sustainably manage programs to support drinking water, aquatic ecosystems, and recreational, economic and subsistence activities.

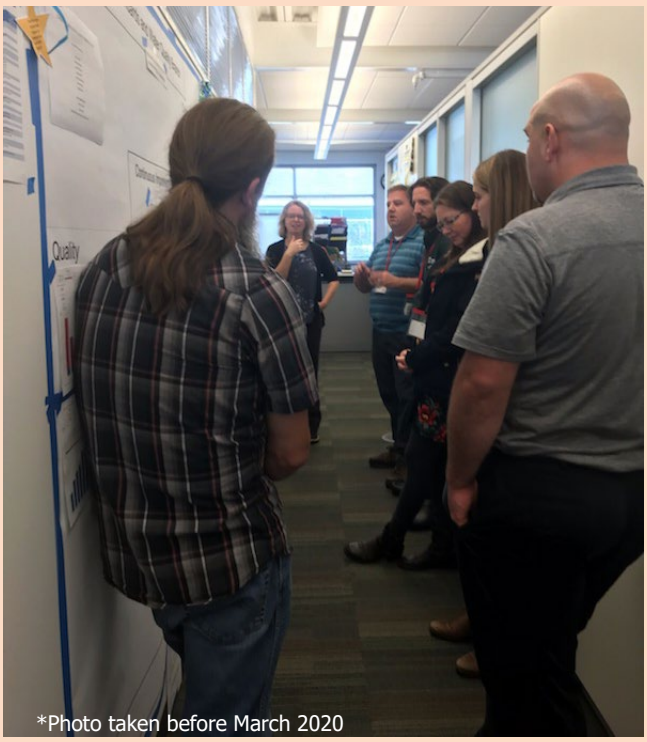


*Photo taken before March 2020

The Water Division used ELMS practices to significantly improve the number of state-submitted Total Maximum Daily Load calculations (TMDLs) approved by Region 7 from 42 in fiscal year 2018 to 202 in fiscal year 2020. A TMDL is the calculation of the maximum amount of a pollutant allowed to enter a water body so it will meet and continue to meet water quality standards for that particular pollutant. The project team also used ELMS to build regional capacity to reduce the TMDL backlog, increasing the number of trained staff assisting with TMDL reviews by 77%.

BROWNFIELDS PROGRAM INCREASES NUMBER OF SUCCESSFUL GRANT APPLICATIONS

The Brownfields program and their state counterparts used ELMS to focus on how to increase the number of Region 7 communities selected for Brownfields grants. In 2019, those communities received three of the 151 grants awarded, totaling $1.8 million of $64.6 million awarded nationally. Region 7 set a goal of obtaining at least 5% of either the number or amount of grants awarded by developing a strategy to identify, recruit and develop successful Brownfields grant applications.

The Brownfields program exceeded both goals for the number and grant amounts awarded, including:

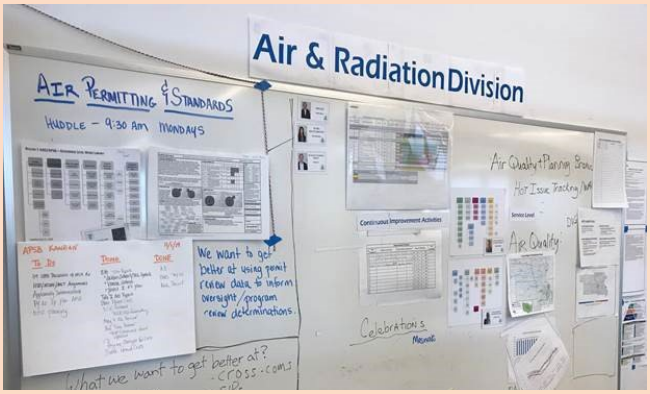
• Eight of the projected 155 applications recommended nationally to be funded = 5.2%

• $3.5 million awarded of $65 million recommended nationally to be funded = 5.3%

• Eight of the 13 (62%) Region 7 applications were selected for funding, the highest success rate among all 10 EPA regions.

AIR AND RADIATION DIVISION TACKLES STATE IMPLEMENTATION PLAN PROCESSING

During the last fiscal year, thanks to ELMS implementation, Region 7 processed a record number of State Implementation Plan (SIP) submittals, approving 38 total SIPs while also proposing approvals of several others. A SIP is a collection of regulations and documents used by a state or local air district to maintain or reduce air pollution, in order to meet National Ambient Air Quality Standards (NAAQS), or visibility standards.



States submit changes to their SIPs for EPA approval, which requires the opportunity for public input and comment and publication in the Federal Register. SIPs provide a plan for implementation, maintenance and enforcement of the NAAQS in each state.

Some of the notable SIPs processed included four revisions that impacted permitting thresholds for ethanol facilities in the Region, bringing them in line with national rulemaking. These Ethanol SIP approvals addressed Region 7's oldest backlogged SIPs, with some of the original state submittals dating back to 2008. These actions help provide permitting certainty to our states and the regulated ethanol industry and also paved the way for other EPA regions to take similar action.

ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION IMPROVES INSPECTION REPORT ON-TIME DELIVERY

The ECAD division conducted an ELMS project that led to an increase in the percentage of inspection reports sent back to inspected facilities on time. In 2019, only 38% of reports were returned to facilities within the allotted 70-day time frame. During the project, ECAD consolidated 10 different processes used within two reporting tools into a single data entry process. The division then developed a data team to support this work. This project resulted in Region 7 achieving 90% returns within the 70-day time frame.

LABORATORY SERVICES AND APPLIED SCIENCE DIVISION STREAMLINES INSTRUMENT UPGRADES

To track the progress of the installation of lab instrument computers and associated electronic data completion, the division developed a new ELMS tool to supplement their existing one. By using this added tool early in the computer upgrading process, the project team had a list of instruments that could be utilized to test and refine the production of fully electronic data.

Since these upgrades were completed for 95% of the instruments, the division has greater flexibility of working remotely because such access was included as a feature on EPA-networked computers. Analysts can load samples and start instruments at the lab, then evaluate the data at their office desk or remote work location, allowing for uninterrupted work when staff are discouraged or not allowed to enter EPA offices due to inclement weather or emergencies.

SUPERFUND AND EMERGENCY MANAGEMENT DIVISION STREAMLINES RESIDENTIAL LEAD DATABASE

Remedial pipeline activities are often not completed in accordance with planned dates. As a result, activities often accumulate in the 4th quarter of each fiscal year, which strains process resources at the Regional and Headquarters level and can result in missed targets.

In March 2020, SEMD set out to increase the completion of Region 7 Superfund remedial targets from 20% to 45% by September 30. The team met and analyzed current processes related to Superfund remedial target planning and execution. They evaluated current/historical practices to identify what contributes to missed targets and identified strategies to improve project planning and accuracy.

Based off the team's findings, SEMD came up with the following proactive solutions:

- *Enhance consistent use and management of Microsoft® Project for site planning*

- *Re-vamp the approach to site planning and management meetings with internal and external partners*

- *Regularly track and discuss progress towards achieving targets in order to more quickly identify site-specific issues and countermeasures.*

These efforts allowed SEMD to increase the completion of remedial targets from 20% to 62%, a 200% Improvement.

EPA Region 7 protects human health and the environment in our nation's Heartland. Our ecosystems are numerous and the range is broad, encompassing the Sandhills of Nebraska, Flint Hills of Kansas, winding Missouri and Mississippi rivers, prairies and plains of Iowa, forests and delta of Missouri, and an abundance of agricultural lands throughout our region.

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