

“This is a great country that was given to us and a great land. It is our job, it seems to me, to make the most of it, to make sure that we in our time plant our forests, use our water, develop our power, provide recreation for our people, do in our time to the extent that we can. . .to make sure that we take those steps now which will make it possible for those who come after us to have a better life.”

President John F. Kennedy  
Dedication of Greers Ferry (Arkansas) Dam  
October 3, 1963

**2015  
SPRING  
FLOOD  
EVENT**

**BUILDING STRONG:**  
a legacy protecting us today and tomorrow



US Army Corps of Engineers  
BUILDING STRONG.



Lavon Dam construction in Wylie, Texas, circa 1952.



Montgomery Wards Building, Fort Worth, 1949 Flood. Entire sections of downtown were ten feet under water. Levees gave way to rising floodwaters, causing considerable damage to industrial and residential properties. The following year, the Fort Worth District, U.S. Army Corps of Engineers, was established.

## The Southwestern Division U.S. Army Corps of Engineers

was created in 1937, as a result of **large and catastrophic flood events** that had led up to Congress passing the Flood Control Act of 1936. That Act recognized that flood control was a federal responsibility and authorized 211 flood control projects in 31 states. In less than 15 years, the Southwestern Division oversaw flood control in what is now its area of responsibility in all or parts of five states in the south central and southwestern portion of the United States. The Division has a robust Flood Risk Management program, with **74 flood damage reduction lakes/reservoirs; 33.22 million acre-feet of flood storage** (that's about 13,984 Cowboys Stadiums); and **\$85 billion in cumulative flood damage prevention**. These figures do not include **760 miles of local flood protection projects**. Nationally, for every **\$1 invested** (adjusted for inflation), Corps of Engineers flood protection systems **prevent about \$7.89 in damages**.

# IN MAY ALONE, THE WETTEST MONTH ON RECORD.

## 16.96

BROKE 1982 **DFW AIRPORT** RECORD



## 19.85

WETTEST IN **FORT SMITH, ARKANSAS** HISTORY



## 14.40

BROKE 1941 **OKLAHOMA** RECORD



## 19.48

NEW RECORD FOR **OKLAHOMA CITY**



## 8.81

BROKE 1941 **TEXAS** RECORD



# 35

## TRILLION GALLONS OF TEXAS RAIN

Enough to cover the entire state of **Texas** in 8 inches of water  
Enough to cover the island of Manhattan almost four times  
Enough to supply the world's population with 10,000 days of water if everyone drank 8 8-oz glasses a day

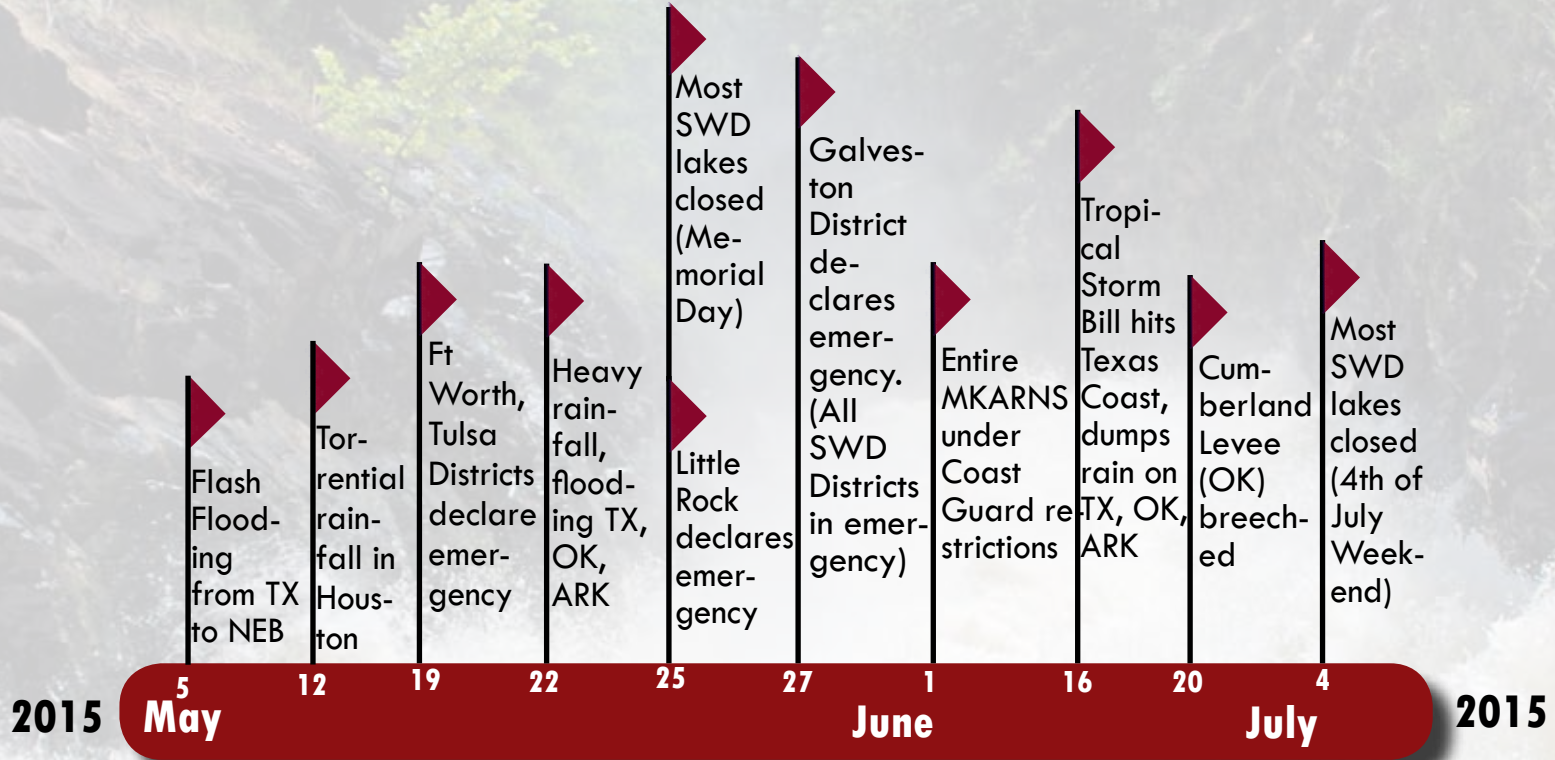
# ORDERS OF MAGNITUDE



**During this Flood Event, the Southwestern Division area had**

- ▶ **51 flood control lakes in flood pool**
- ▶ **18 flood control lakes in surcharge pool**
- ▶ **8 lakes set new pools of record**
- ▶ **In emergency operations for two months**
- ▶ **MKARNS navigation impacted for two months**
- ▶ **\$209 million in damages**
- ▶ **Recreation season cut short by 4 months**

# Spring Flood Timeline



Tulsa District Emergency Operations Center.



Keeping the public informed was a key role of leadership.

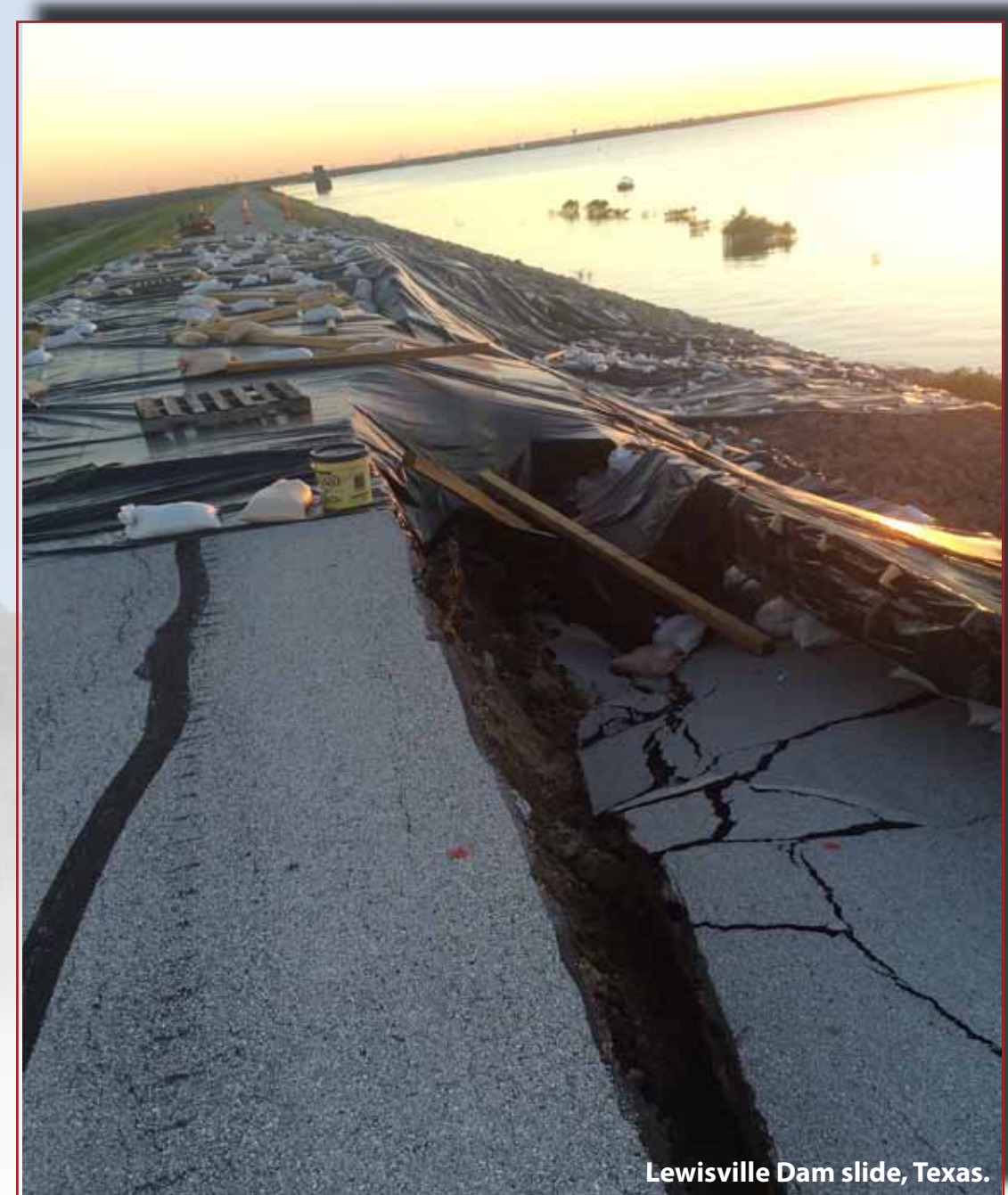
May 19 press conference, Dallas.

## 24/7 OPERATIONS

The Southwestern Division was in emergency operations for more than two months. For the first time in its history, all four Districts declared an emergency. From the coasts of Texas to the river basins throughout Texas and Oklahoma, the rains drenched the areas and filled the reservoirs, flowing downstream to the Gulf of Mexico and the Mississippi River. It created some of the highest flows ever on the McClellan-Kerr Arkansas River Navigation System.



Cumberland Levee, Okla.



Lewisville Dam slide, Texas.

## In the aftermath

With the magnitude of this event and the sheer volume of water and length of time of this rain, our infrastructure did sustain some damage, and we are working to repair and return our reservoirs and facilities to their pre-flood condition.

Most of our recreation areas were closed for two major holidays, Memorial Day and Independence Day, and the impact is still being calculated, but is estimated in the millions. We also had dam slides as well as a levee breach.



Clear Creek Park, Alma, Ark.

# McClellan-Kerr Arkansas River Navigation System

- ▶ **Industry unable to navigate for 62 days due to locks and high flows**
- ▶ **Locks were down for two weeks**
- ▶ **Under U.S. Coast Guard restrictions from mid-May and ongoing**
- ▶ **Tonnage down almost 60 percent in May and June**



W. D Mayo Lock and Dam



Damage to Lock 18 in Oklahoma.

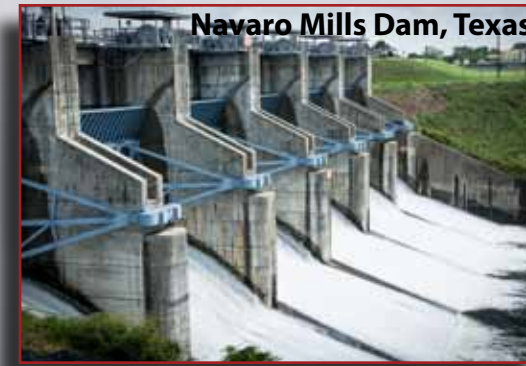
**“The duration of high flows, including a three week period of 300,000+ cfs, was the highest volume of flow experienced since the MKARNS projects were dedicated by President Nixon in 1971.”**

# Our structures stood strong

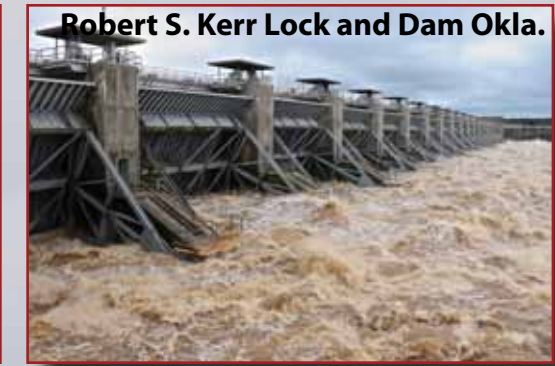
Unprecedented rainfall in May and June of 2015 put our flood risk management structures to the test. Our structures were built strong, and they stood strong. Our people—engineers, hydrologists, park rangers, and others—professionals all—were dedicated to ensuring the safety of the people and communities they serve. This historic event captured the strength of our structures, and the dedication of our people.

Many of our reservoirs were constructed more than a half century

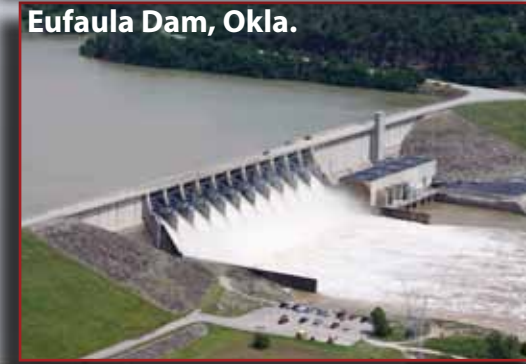
ago, and new generations have marveled at the insight and skills of their forebears in building these great reservoirs that have fought the floods and tamed the rivers. Structures that many had thought of as a backdrop to their recreational pursuits—if thought about at all—are now seen for what they truly are: through their flood risk management role, the first and most significant benefit that Army Corps of Engineers lakes provide as a value to the Nation.



Navaro Mills Dam, Texas



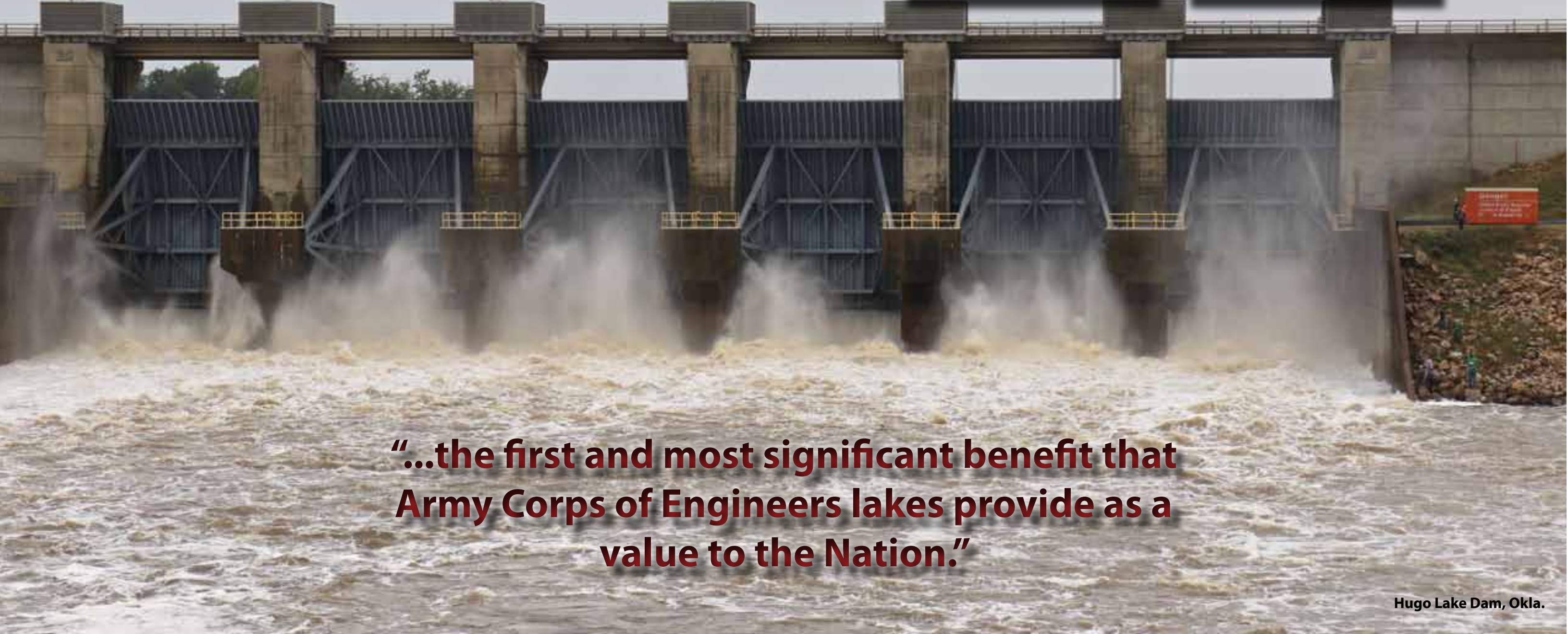
Robert S. Kerr Lock and Dam Okla.



Eufaula Dam, Okla.



Tenkiller Dam, Okla.



Hugo Lake Dam, Okla.

**“...the first and most significant benefit that Army Corps of Engineers lakes provide as a value to the Nation.”**

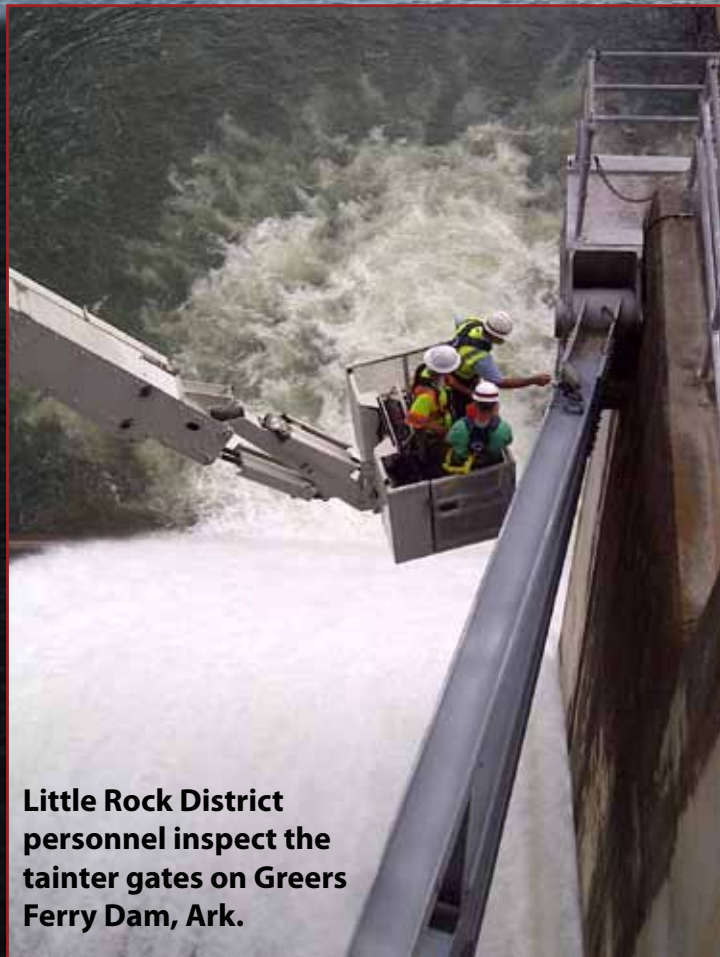


Park Rangers check for safety hazards at Lewisville Lake, Texas.

## USACE team members respond strong

No engineering system is worthwhile without the people who operate it. Our cadre of professional and dedicated engineers, hydrologists, and operators worked around the clock to monitor our reservoirs, coordinate with stakeholders, sponsors and local and state officials, share with the news media, and through them, the public. They released water when needed, and held it when possible, if that was what the downstream communities needed.

They worked with the communities, because they are part of the communities. Dam and levee safety personnel walked the dams and levees and provided technical advice to local officials when requested. Park rangers monitored the lakes and assisted the public. Emergency operations worked hand in hand with local, state and federal officials. Our entire workforce walked that extra mile, worked that extra hour, gave it their all.



Little Rock District personnel inspect the tainter gates on Greers Ferry Dam, Ark.



Lake Texoma Park Rangers checks water levels.

# **“Thank you from the bottom of our hearts.”**

--Steve Fitzgerald

Harris County Flood Control District



*“We had another severe flood on May 25-26. If it wasn’t for the work already completed on Brays Bayou with both Federal and local funding, far more homes, businesses, and roadways would have flooded. Even though the 6 hour rainfall amounts on Sims Bayou (about 6” average) were less than on Brays (about 8-9” average), the nearly completed Sims Federal project prevented many homes and roads from flooding. Thank you from the bottom of our hearts.”*

Steve Fitzgerald  
Harris County  
Flood Control District



*“The Army Corps of Engineers and our Flood Control District did a major overhaul of Brays Bayou after Tropical Storm Allison. It’s wider, it’s deeper, it moves water better, it holds water better. I hate to think what would have happened had we not done the billions of dollars of infrastructure we have done across the city over the last 15 years.”*

Mayor Annise Parker  
City of Houston

Buffalo Bayou, Houston

# “The Army Corps of Engineers went above and beyond to protect our citizens”

--Judge Mark Allen  
Jasper County, Texas



*“The Arkansas Department of Emergency Management is very appreciative to the Little Rock District office of the Corps of Engineers for the reservoir control reports that they provided to us during the spring flood event. This combined report provided a very good common operating picture of the basins for the entire state. We are very pleased to have such a great partner to work with during events which impact our state.”*

**Carol Walton, Operations Branch Manager  
Arkansas Department of Emergency Management**

*“I have to commend the Corps of Engineers for the tremendous work here with the [Texoma] dam and the spillway and evacuating people and making sure people knew that the water was rising.”*

**Governor Mary Fallin  
State of Oklahoma**



*“The Army Corps of Engineers went above and beyond to protect our citizens. I know they were worried about the 173 level [Sam Rayburn Reservoir] and held on a little longer for us and it worked and it saved lives and saved property.”*

**Judge Mark Allen  
Jasper County, Texas**



# SWD Region Damages Prevented: \$27.7 billion

(Calendar Year 2015)

## \$16 billion

### Trinity River projects

(most damages prevented)

Grapevine Lake \$2.9 billion - Ray Roberts Lake \$5.5 billion

### Lewisville Lake \$5.8 billion

(provided the majority of the benefits)

## \$2.7 billion

### Buffalo Bayou reservoirs

(Addicks and Barker)

## \$166 million

### Red River Basin projects

(Include parts of Oklahoma, Texas, Arkansas and Louisiana)

## \$479 million

### Arkansas River Basin projects

(Include parts of Kansas, Oklahoma and Arkansas)

## \$8.4 billion

### Houston Flood Channel Improvements

Brays Bayou \$7.7 billion -- Sims Bayou \$700 million

## Our Commitment: Rebuild Strong and Stay Strong!

The Army Corps of Engineers flood risk reduction infrastructure—constructed, operated, and maintained with our great partners at all levels—and the benefit that it delivers to our Nation came to the forefront during this year's extreme rainfall event. This flood risk reduction is the first and most significant benefit our lakes provide, along with the key benefits of hydropower, water supply, and recreation.

All of these benefits have been impacted in some way by this year's heavy rainfall. In addition to several dam slides and a levee breach, our lakes have sustained much damage to the recreation areas, which are a particular benefit that local communities connect with on a recurring basis. Moreover, we live and operate in a part of the United States that has a history of flood and drought—one of the reasons this infrastructure was built in the first place—and we must ensure that our reservoirs continue to function as designed, whether in flood or drought—whether as a flood control system or as a water

supply system.

Our priorities are simple: life safety, economic impact, and quality of life, to include our recreation projects that our communities have come to enjoy and rely on. Our dedication and commitment are unlimited, but our funding is not; therefore, it could be several years before all these projects and their features and benefits are fully restored.

Together with our partners, we will work to make the hard choices out of our existing budget and future budgets to repair these damages, assist with repairs under PL 84-99, and strengthen our partnerships with other federal agencies.

Partnership is key, and we greatly appreciate our federal, state and local partners for all their sustained and often heroic efforts that helped minimize the impacts on the communities that we jointly serve. We look forward to continued strong partnerships to restore these projects to their pre-event condition, as we work together to Rebuild Strong and Stay Strong!



Brig. Gen. David Hill, Commander Southwestern Division