



FloodWise WINTER 2018

PROTECTING LIVES AND PROPERTY IN OUR COMMUNITY SINCE 1927

Flood Control System Shines Through Record-Setting Year

If you thought last year's rainy season was one for the record books, you were right.



The water year that ran from October 1, 2016, through September 30, 2017 was Sacramento's third wettest year since record keeping began in 1877. At just shy of 34 inches, compared to about 19 inches in an average year, last rainy season was bested only by 36.57 inches in 1982-83 and 34.6 inches in 1889-90.

But local rainfall is only part of the story when it comes to flood potential. Sierra Nevada snowmelt runoff presents an even greater flood risk—and the water content of last year's snow was 190 percent of normal. The Northern Sierra Eight-Station Index, which measures rain and snow in Sierra locations across the Sacramento, Feather, and American river basins, reached its highest-ever level since the index began in 1921. All told, the heavy rain and snow put last year into the record books as Northern California's wettest year on record.

The heavy rain and snowmelt poured into Folsom Lake, requiring releases that joined with local rain runoff to send the American River rushing at more than 85,000 cubic feet per second in February (compared to summer's average of about 2,000 cubic feet per second). Though there was no imminent danger of neighborhoods flooding, the river rose to its highest level in more than 20 years and put large sections of the American River Parkway under water.

Here at the American River Flood Control District, the intense rains and runoff brought on 24-hour levee patrols looking for any signs of weakness. We knew that, despite our best maintenance efforts, the volume and speed of water flowing through would test our system.

We're happy to report that the system passed the test with flying colors. Every aspect functioned just as it should, with no signs of trouble. That success is a testament to the U.S. Army Corps of Engineers' levee strengthening projects, our year-round maintenance efforts, and your cooperative support.

As we move further into this year's rainy season, we look forward to plentiful rain and snow and another trouble-free year for our flood control system.

#1

Northern California's wettest year on record.

33.95 INCHES

Total rainfall, water year 2016-2017.

190% OF NORMAL

Water content of Sierra Nevada snow.



Best New Idea of the Year

YOU MIGHT SEE OUR CREW MEMBER, ELVIN, standing on or near a levee holding what looks like a video gaming device. While he might look like he's out having fun, he's actually hard at work mowing the steep levee slopes with our new robotic mower. The lightweight and nimble slope mower uses a rubber track-drive system that allows Elvin to remotely maneuver it on slopes and into hard-to-reach places. The robotic mower is much safer to operate and easily pays for itself by reducing the number of hours needed to hand cut areas we can't get to with ride-on mowers and arm mowers.

Let Us Know if You See Trouble

During times of heavy rains or high river levels, we patrol the levees 24 hours a day looking for signs of levee weakness. But we can't be everywhere at all times.

That's why we're asking you to let us know if you see any of the following:

- Water boiling or bubbling up on the dry side of a levee. These leaks, called boils, indicate a weak spot in the levee structure.
- Water seeping through or pouring out of the side of the levee.
- A portion of the levee slope that has slipped away.
- A section of the levee top that has washed out or settled to a height lower than other sections.

Most issues can be managed with simple measures, but it's important to get to them as quickly as possible.

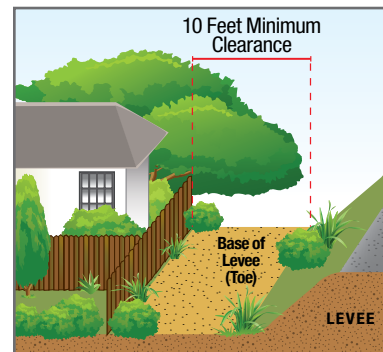
If you see any of the problems outlined above, call us at 916-929-4006. You can also call the State-Federal Flood Control Center at 1-800-952-5530. Calls to these lines are answered 24 hours during times of heightened flood risk.

Why We Sometimes Trim Back Trees

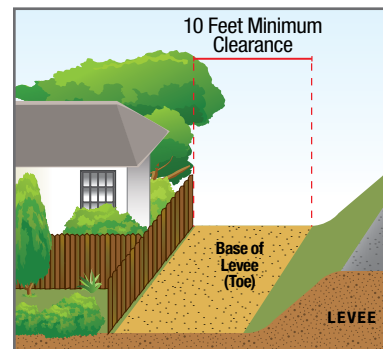
ONE OF THE HARDEST AND MOST CRITICAL ASPECTS OF OUR WORK IS MAINTAINING A CLEAR LINE OF VISION TO ALL PORTIONS OF OUR LEVEES.

We simply have to be able to see every inch of the levees and easements as we check for problems that could one day lead to a levee breach. In fact, the base of the levees (also called the toe) in the easement is often where boils appear—and a boil is the most common sign of a levee problem.

Unfortunately, our need to inspect and access the levee and easement areas means that we must sometimes trim back trees, bushes, and other vegetation that extends into the levee easement from neighboring yards. We apologize for the inconvenience and ask for your understanding and support in helping us take the necessary actions to protect against floods.



BEFORE:
Trees and vegetation block a straight line of vision to some part of levee or easement.



AFTER:
Allows us to get a clear, unobstructed view of the levee crown, slope, and toe.

Steps Taken to Maintain Federal Funding for Our Levees

IT'S HARD TO IMAGINE TODAY, but stories from the early 1800s tell of a vast inland sea that submerged much of our region for weeks or months. Sacramento and surrounding communities owe their very existence to the complex system of levees, reservoirs, flood basins, and other flood-control mechanisms constructed over the last 160 years.

However, maintaining a system that can withstand powerful floodwaters is not easy. It's a costly, never-ending job that local agencies can only do with the support of state and federal partners that fund and provide services needed to rehabilitate the region's aging system.

One of our major sources of emergency repair funding is provided under Public Law 84-99, which allows the U.S. Army Corps of Engineers (USACE) to supplement local flood-control system rehabilitation efforts. To qualify for federal funding and service support, local agencies must do their part to maintain system integrity, which includes bringing systems into compliance with current regulations. The USACE verifies compliance by performing continuing eligibility inspections (CEIs) every few years to identify issues local agencies must correct to maintain PL 84-99 funding.

In 2016 and 2017, the USACE inspected the Dry Creek, Robla-Arcade, and American River North and South levee systems, which we maintain. Not surprisingly, since the levees were constructed a hundred years ago and contain sections built to much earlier standards, USACE inspectors identified a number of problems. Most significant are several levee encroachments, such as drainage and wastewater pipes that run through the levees. Other encroachments include structures built within the levee easements—a swimming pool, buildings, and retaining walls that were built under permits issued decades ago.

Because each system's grade is determined by its lowest-rated segment, we expect these items to impact the systems' ratings when the USACE issues its CEI report. To outline and prioritize our levee rehabilitation actions, we prepared two system-wide improvement framework (SWIF) letters of intent for the following:

- **AMERICAN RIVER SOUTH:** Maintenance Area 09 – City of Sacramento – American River Left Bank Levee System

- **NORTH BASIN:** American River North, Robla-Arcade, and Dry Creek Levee Systems

The letters of intent outlined the issues, our progress on correcting them, and interim actions we are taking until long-term solutions can be implemented. Following the USACE's acceptance of our letter of intent for the American River South section, we prepared and submitted the final SWIF documents for approval. We will do the same when we receive approval for the North Basin letter of intent. Taking these steps proactively allows us to maintain PL 84-99 funding as we await approval of the SWIFs and, once approved, implement the remaining SWIF actions.

To learn more about the problems identified by the USACE and the risks they present, as well as to view the SWIF documents, go to arfed.org/notices.



This photo of K Street was taken during the flood of January, 1862.



FloodWise: A publication of the American River Flood Control District.

OFFICE: (916) 929-4006 **EMAIL:** info@arfcfd.org **www.arfcfd.org**

BOARD OF TRUSTEES

Brian F. Holloway
Bettina C. Redway
Cyril A. Shah
William J. Pavão
Steven T. Johns

GENERAL MANAGER

Timothy R. Kerr, P.E.

SUPERINTENDENT

Ross Kawamura

OFFICE MANAGER

Malane Chapman

BOARD OF TRUSTEES' MEETINGS

Open to the public
Second Friday of every month at 11:00 a.m.

185 Commerce Circle
Sacramento, CA 95815

Employee Spotlight

Thank you, Richard

If you've ever talked to one of our people in the field, there's a good chance that person was Richard Marck. Richard began working with us in 1991 and rose through the ranks to become superintendent in 2009. He retired this year to enjoy traveling, spending time in the great outdoors, and cooking. We congratulate him on a successful career and wish him a long and happy retirement.

ROSS KAWAMURA, another valuable, long-time member of our crew has stepped into the role of superintendent. Please feel free to say hello and get to know Ross the next time you see him in the field.



Numbers to Keep Handy

- **American River Flood Control District (ARFCD)**
(916) 929-4006 • www.arfcfd.org

- **The Sacramento Area Flood Control Agency (SAFCA)**
(916) 874-7606 • www.safca.org

- **County of Sacramento**
3-1-1 • www.saccounty.net or www.sacflood.org

- **City of Sacramento**
3-1-1 • www.cityofsacramento.org or www.cityofsacramento.org/utilities

Boardroom Dedicated to Long-Time Advocate

This year, we dedicated our boardroom to Karolyn W. Simon in honor of her tireless efforts on behalf of flood protection in our region. Karolyn served on the District's Board of Trustees from 1994 to 2017. Her unflagging dedication to monitoring District operations and advocating for the people we serve was truly remarkable and very much appreciated by all who had the honor of working with her.