

Protect your family. All hazards emergency preparedness guide inside.

Flood Aware Flood Prepare



A local government agency collaborative publication.

Local government agencies partner to reduce flood risk, and prepare for, respond to, and recover from disasters

This annual publication, "Flood Aware, Flood Prepare" is a partnership between Yuba and Sutter counties, the Yuba Water Agency, the Sutter Butte Flood Control Agency, and the Three Rivers Levee Improvement Authority.



While each local government agency has its own governing board, they share the mission of reducing flood risk, and preparing for, responding to, and recovering from disasters.

Since the first publication in 2009, these agencies each October have published this guide to emergency preparedness and discussion of the level of flood threat in our region.

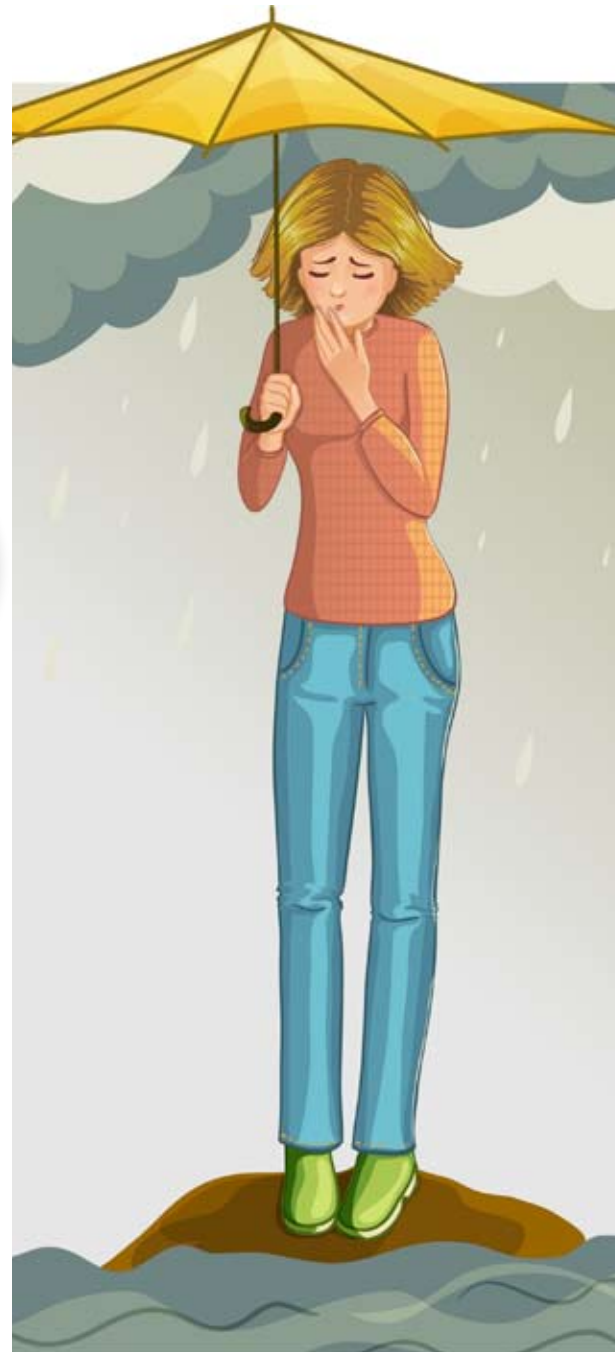


Yuba County and Sutter County are responsible for regional emergency operations, which include preparedness, response, and recovery. Each county's Emergency Management officials work cooperatively with incorporated cities in creating a prepared and resilient community.

The Yuba Water Agency operates New Bullards Bar Dam, managing the reservoir for flood risk reduction, irrigation, hydroelectricity, and



fisheries enhancement. The Yuba Water Agency provides critical funding and technical assistance to levee maintaining agencies in Yuba County, and provides grants to public safety agencies to enhance emergency response.



Three Rivers Levee Improvement Authority on the east bank of the Feather River in Yuba County, and

the Sutter Butte Flood Control Agency on the west bank of the Feather River, are joint power authorities comprised of local government agencies. Combined, they have reduced the risk of flooding in the communities of south Yuba County, and the Yuba City basin in Sutter County, through a series of construction projects over the past decade.



It is our hope you will read, keep, and share this publication. It contains information about the level of flood risk in our community and the steps we recommend you take to be prepared for any emergency. Flood threats have historically been the most significant threat, but you prepare for that emergency like you would any other.

Content for this publication is entirely the responsibility of the contributing agencies: Yuba County, Sutter County, Yuba Water Agency, Three Rivers Levee Improvement Authority, and the Sutter Butte Flood Control Agency.

The publication is coordinated, edited, and designed by the County of Sutter. For questions related to this publication, please contact Chuck Smith at csmith@co.sutter.ca.us.

We've made it easier to receive alerts about local emergencies



If you live anywhere in Yuba County go to:

bepreparedyuba.org

If you live anywhere in Sutter County go to:

bepreparedsutter.org



STAY INFORMED



You can also download the Code Red application (find it on Google Play or iTunes or scan the bar code to the right), to receive geo-targeted alerts on your smart phone whether you are in Yuba, Sutter, Butte, or Nevada counties.



CodeRED Mobile Alert App Downloads





Cooperating to reduce flood risk in Yuba City basin

Sutter County, Butte County, Yuba City, Live Oak, Biggs, Gridley, Levee District 1, and Levee District 9, formed the Sutter Butte Flood Control Agency in 2007, and broke ground on an aggressive program to rehabilitate 36 miles of levee along the west bank of the Feather River to protect the region.

The Sutter Butte Flood Control Agency (SBFCA) was created in September 2007 by the Counties of Sutter and Butte, the Cities of Biggs, Gridley, Live Oak and Yuba City, and Levee Districts 1 and 9. SBFCA is responsible for planning, financing and implementing flood protection projects that reduce flood risk for the Sutter-Yuba City Basin. The agency is overseen by a 13-member Board of Directors, each of whom is an elected official within the SBFCA service area.

In early 2009, SBFCA began planning for projects to reduce flood risk. Specifically, SBFCA's mission is to provide 200-year flood protection to urban areas (generally Yuba City north to Thermalito Afterbay), and 100-year flood protection to properties in non-urban areas (generally those south of Yuba City, to the confluence of the Feather River and Sutter Bypass). These goals are meant to reduce flood risk, meet both state and federal standards for levee design, and relieve properties from FEMA-imposed building restrictions and higher-cost, mandatory flood insurance.

In 2009, it was believed these goals could be accomplished in two parts: One, by SBFCA's repair of the west Feather River levee; and two, by the State's repair of the Sutter Bypass. State funding for levee repairs was possible under Proposition 1E passed by voters in 2007. Under that program, SBFCA was eligible for a State share of up to 71 percent of project costs. The remaining 29 percent would need to be paid with local funds. At the time, it was not believed that the community could afford repairs to both the Feather River and the Sutter Bypass levees, and legally the Bypass levees are the responsibility of the State as mandated in the State Water Code.

Although SBFCA did not have a project designed or approved for the west Feather River levee, the Agency asked property owners in June 2010 to vote on assessments to pay the local cost share of a conceptual plan to meet the stated goals and secure State funding. Property owners supported the assessments with more than 72 percent of the weighted vote. In August 2010, work began on the project design,

along with the necessary environmental review, and state and federal permitting required for a project.

Exactly three years later, SBFCA broke ground on the Feather River West Levee Project, an aggressive effort to repair approximately 36 miles of west Feather River Levee between Thermalito Afterbay and the Sutter Bypass. The project excluded areas that were previously repaired or were otherwise in compliance with state and federal standards. Initial construction started near Shanghai Bend in Yuba City, the site of a 1955 levee failure that resulted in at least 38 deaths.

Despite many challenges, including lengthy federal permitting processes, evolving State and federal standards and funding program requirements, significant cultural resources issues and related work stoppages, SBFCA's leadership refused to quit or slow down. By the end of 2017, SBFCA had completed the repair of 33 miles of levee between Thermalito Afterbay and Starr Bend, in addition to one mile of levee adjacent to Laurel Avenue. It also took on emergency repairs of

Local governments pooled resources for overhaul of the Feather River levee system

Continued from page 4

three miles of levee bordering the urban core of Yuba City that was originally excluded from the project, because it had previously been repaired by the US Army Corps of Engineers. Among other things, SBFCA's ongoing work to meet its mission includes the Oroville Wildlife Area Flood Stage Reduction Project, which will lower water levels in the upper Feather River during flood events, along with flood risk reduction studies for the small communities of Sutter and Tudor.

Over the years, SBFCA has worked to increase the State's cost share of the Feather River West Levee Project 1 to between 76 and 81 percent depending upon the location of work. In 2010, SBFCA estimated it could secure \$172.5 million in State funding. To date, the State has granted approximately \$253 million, including \$30 million in emergency repair funding. Additionally, a \$50 million federal appropriation for the federally authorized repair of the west Feather River levee between Tudor Road and Cypress Avenue was awarded to the region. Finally, SBFCA has secured more than \$25 million to improve the Oroville Wildlife Area.

Levee repairs to date have addressed some of the most dangerous sites on the Feather River, the strength of which was tested and proven during the 2016-17 storm season. While SBFCA will achieve its goal of providing 200-year flood protection to urban areas, its work is far from done. The Agency is still planning and negotiating with state and federal agencies on a way to provide 100-year flood protection to non-urban areas south of Yuba City.

As part of that effort, SBFCA is

supporting reform of the National Flood Insurance Program to more appropriately reflect flood risk in rural areas. Reform would result in lower-cost flood insurance and exemptions from flood-proofing requirements for agricultural structures. On behalf of Sutter County, SBFCA recently completed flood risk reduction feasibility studies for the small communities of Sutter and Tudor.

The study led to the identification of additional levee repairs that are needed to protect those areas. As a next step, SBFCA

Army Corps augmenting SBFCA levee work

Repairs are underway for nearly five miles of critically deficient Feather River west levee between Tudor Road and Cypress Avenue in south Sutter County. In late February, the US Army Corps of Engineers issued a \$35 million contract to Great Lakes E&I, to install cutoff walls as deep as 140 feet into the existing levee. Construction crews began work in May and repair work is expected to last two construction seasons.

The Corps is also expected to break ground in April 2020 on approximately 1.6 miles of repairs on the west Feather River levee extending south of Laurel Avenue to Highway 99. Odin Construction Solutions, Inc. was recently awarded a \$6 million contract for the project, which is expected to be completed in 2021.

"We are excited to continue the efforts to lower the risk of a historically flood-prone region. The initiative taken by SBFCA to move ahead of the Corps process has us in an excellent position to bring substantial benefits to this community much sooner," said Corps project manager

will seek state grant funding to repair critical sections of the Sutter Bypass to reduce flood risk.

In combination these efforts could help SBFCA advance its mission – reducing flood risk and the associated impact of FEMA regulations -- until a permanent fix to the Sutter Bypass is approved and implemented by the State. Those interested are encouraged to read the SBFCA Strategic Plan, posted on the Agency's website, www.sutterbutteflood.com. The Agency hotline is 530-870-4425.

Patrick Howell.

In advance of the federal projects, the Sutter Butte Flood Control Agency completed repairs on 36 miles of Feather River west levee from Thermalito Afterbay south to Starr Bend, along with nearly 1 mile adjacent to Laurel Avenue. Preceding that work, Levee District 1 constructed a new .63 mile-long setback levee at Starr Bend. The federal project will augment these repairs by tying into the Starr Bend Setback in the north and the Laurel Avenue repair in the south. Notably, the project is replacing a temporary seepage berm north of Laurel Avenue that was constructed as an emergency repair following the early 2017 storms and Oroville Spillway incident.

"The Corps is an excellent partner. We're greatly appreciative of the Corps' efforts to prioritize funding and the timely construction of repairs to some of the highest-risk levee segments in our basin," said Yuba City Mayor and SBFCA Board Chair Shon Harris. "

Marysville levee improvements making it one of lowest at-risk cities in California's Central Valley

Marysville's ring levee, which hasn't failed or been overtopped since 1875 despite several episodes of high water that have stressed the system, has been getting some much-needed reinforcement in a \$153 million project that will leave Marysville with one of the lowest risks of flooding in California's Central Valley.

The U.S. Army Corps of Engineers and its partners, the California Central Valley Flood Control Board, the Marysville Levee Commission, and the Yuba Water Agency, have been working since 2010 to upgrade the 7.6 miles of levee that surrounds Marysville, including its population of more than 12,700 residents and the region's largest hospital, Adventist Health + Rideout Regional Medical Center.

The work is being conducted in four phases, and is scheduled to be complete in 2024. To date, \$88 million has been spent, with non-federal sponsors providing in-kind services and over \$1.5 million in additional funding.

Marysville property owners approved an additional tax to pay part of the local share of the project.

The Corps of Engineers is currently wrapping up work south of the Fifth Street Bridge, where crews constructed a half-mile-long seepage cutoff wall in the levee to help prevent seepage from going through or under the levee. They're now reconstructing the embankment with an impervious slope blanket that will help prevent erosion of the levee. This work is part of the project's second phase, which also included levee improvement work completed last year just north of the Fifth Street Bridge.

In 2020, the project's third phase



(Left) The U.S. Army Corps of Engineers is completing a half-mile long slurry cutoff wall on the Marysville ring levee, south of the Fifth Street Bridge. (Below) Previously, work was completed on the eastern end of the ring levee system at East Marysville (Nadene and Johnson avenues pictured).

will see work shift to the eastern border of Marysville, constructing similar levee improvements from Jack Slough Road down to Highway 70. This work is expected to take four construction seasons to complete. (A construction season is from April 15 - October 31.)

The fourth and final phase of work will connect each of the first three phases by closing the gaps between the constructed levee improvements, completing the flood risk management project around the city.

The first phase, between Jack Slough Road and Marysville High School was completed in 2013, and construction at Binney Junction was completed in 2017.



According to the U.S. Army Corps of Engineers Marysville Ring Levee Project website, the project is being designed and constructed to meet the state's requirement of 200 year-level flood risk for urban areas - or a 1-in-200 chance of

flooding in any given year. Due to the elevation of the levees, the project will surpass that criteria making Marysville one of the lowest at-risk cities in California's Central Valley after all flood

reduction measures are constructed.

For more information on the Corps' Marysville Ring Levee project, you can visit www.spk.usace.army.mil/Missions/Civil-Works/Marysville-Ring-Levee



EMERGENCY PREPAREDNESS GUIDE



Don't assume we have your number already. Register your address and phone for emergency alerts in:

Yuba County
www.bepreparedyuba.org

Sutter County
www.bepreparedsutter.org

Or download the mobile app from the App Store or the Google Store, or by using QR code scanning software on your smartphone to scan the QR code in the photo.



Cómo hacer un plan de emergencia para tu familia en caso de desastre

Los desastres naturales y aquellos provocados por el hombre pueden producirse en cualquier momento. Aun con una advertencia anticipada, cualquier desastre, desde un huracán, tornado o ataque nuclear, puede sorprenderte y ponerte en grave peligro. Contar con un poco de planificación y práctica antes de correr algún peligro puede ayudarte a ti y a tu familia a sobrevivir aun en los desastres de mayor consideración.

www.ready.gov/es

In which direction do we evacuate?

Except in rare cases, evacuation routes are not pre-selected. If local emergency officials call for an advisory or mandatory evacuation during a disaster, the routes will be chosen based on safety factors.

In a flood emergency, for example, possible escape routes cross multiple flood basins, and some highways could be closed due to flooding. The same goes for fires. No one will be instructed to evacuate on a route not considered to be safe.

In an emergency, we will rely on local media to help keep the public informed. Listen to these local radio stations for current conditions during a disaster:



93.3 FM
98.1 FM
103.1 FM
1500 AM
1530 AM
1600 AM

KETQ Yuba City/Marysville
KUBA Yuba City
KKCY Yuba City
Emergency Transmitter
KFBK Sacramento
KUBA Yuba City

9 STEPS TO READY

YOU CAN DO THIS!

To help you evacuate or shelter-in-place* in the event of an emergency, collect enough of these nine essential items to last at least three days:

*Shelter-in-place: To remain inside a building or vehicle.

1 WATER



One gallon per person, per day.

2 FOOD



Enough non-perishable foods for each person (canned or packaged).

3 CLOTHES



One change of clothes and shoes, per person. Other items depending on weather conditions: rain jacket, gloves, hat, scarf.

4 HEALTH SUPPLIES



Prescription and other medications. Medical supplies and other equipment, including syringes, hearing aid, oxygen tank, inhaler or concentrator.

5 PERSONAL CARE



Basic items like soap, toothbrush, toothpaste, toilet paper, tissue, hand sanitizer, baby wipes and glasses or contact lenses.

6 SAFETY SUPPLIES



A first aid kit, emergency blanket, whistle, plastic trash bags, paper towels and household bleach (to sterilize items as needed).

7 ELECTRONICS



Cell phone with charger or portable battery, chargers for other electronics, extra batteries, flashlight and radio. Other items: laptop, tablet, hard drive back-up.

8 TOOLS



Extra cash, spare sets of keys, manual can opener, local maps and multipurpose tool (acts as a knife, pliers and screwdriver).

9 DOCUMENTS



Copies of emergency contacts, photo IDs, SSN, insurance and immunization cards, insurance policies, financial records, property records, vital medical information and other important documents (wills, trusts, deeds, certificates).

*Other Items to Consider:

- Additional emergency kits to keep in common places (home, car, workplace, on-the-go)
- Full tank of gas for vehicles (recommended to fill-up at half tank of gas)
- Baby supplies (bottles, formula, baby food, toys, blankets and diapers)
- Games and activities for children
- Pet supplies (food and water, leash, carrier, medicine and medical records, a photo of your pet, bowls, litter box, grooming items and toys)

HAVE A PLAN.

- ✓ Start a conversation with your family members or caretakers about what to do in case of an emergency.
- ✓ Consider the specific needs of each family member, such as dietary restrictions, medicine, assistive devices, pets and service animals, children, older adults, etc.
- ✓ Complete an emergency plan with your family that includes:
 - Emergency phone numbers (family members, doctors, vets, etc.)
 - Out-of-the-area point of contact for the family in case evacuation is necessary
 - Transportation resources that you and your family could use; include how you would evacuate from the county
 - Medication lists, health condition records, medical supplies and/or equipment
 - Mapped out escape routes for the home (and your community)
 - Meeting places near and outside of the neighborhood
 - Places to go to if you can't stay home (friend/family's homes, hotel, etc.)
 - Additional items to consider, if applicable:
 - Pets and service animals: emergency contacts, medical records, a place to go if they can't stay home
 - Caretaker: who to contact if your primary caretaker isn't available
- ✓ Be sure to practice your emergency plan before an actual emergency occurs!

MAKE A KIT.

- ✓ Consider making emergency kits for the workplace, car, home and on-the-go.
 - *See Sample List of Supplies – 9 Steps to Ready Flyer*
- ✓ Pack items in easy-to-carry containers with clear labels, and store them in easy-to-reach places.
- ✓ Include important documents! This can be stored electronically on a flash drive or cloud.
 - Examples: vital records, insurance policies, property records, medical information, financial records
- ✓ Don't forget charging cords for your electronic and medical devices and/or equipment.
- ✓ Remember, certain items like medications and paper documents need to be kept in waterproof containers.
- ✓ Check expiration dates on food, water, medicine, first aid supplies and batteries every six months.
Replace any expired items.

BE INFORMED.

- ✓ Find out where your gas, electric and water shut-off locations are and how to turn them off.
- ✓ Learn about the potential natural and/or man-made dangers or obstacles in and around your home, neighborhood and community.
- ✓ Sign up for emergency notification alerts for where you live, work and play. You can sign up for more than one!
 - For more information and to sign up, visit BePreparedYuba.org or BePreparedSutter.org

FOR MORE INFORMATION, PLEASE VISIT: BePreparedYuba.org or BePreparedSutter.org



'Turn Around Don't Drown'

Words of wisdom about flood safety from the National Weather Service

The National Weather service recommends you monitor the NOAA Weather Radio, or your favorite news source for vital weather related information.

If flooding occurs:

- Get to higher ground. Get out of areas subject to flooding. This includes dips, low spots, drainage ditches, canyons, washes etc.
- Avoid areas already flooded, especially if the water is flowing fast. Do not attempt to cross flowing streams. Turn Around Don't Drown™
- Road beds may be washed out under flood waters. NEVER drive through flooded roadways - you do not know the condition of the road under the water. Turn Around Don't Drown™
- Do not camp or park your vehicle along streams and washes, particularly during

threatening conditions. Move to higher ground if heavy rain or rising water occurs. Creeks and streams can rise very rapidly during heavy rainfall.

- Be especially cautious at night when it is harder to recognize flood dangers.
- If you must evacuate your home, secure your home and if possible, turn off utilities at the main switches or valves if instructed to do so. Disconnect electrical appliances. Do not touch electrical equipment if you are wet or standing in water.
- Do not walk through moving water. Six inches of moving water can make you fall. If you have to walk in water, walk where the water is not moving. Use a stick to check the firmness of the ground in front of you.
- Do not drive into flooded areas. If floodwaters rise around your car,

abandon the car and move to higher ground if you can do so safely. You and the vehicle can be quickly swept away.

- Six inches of water will reach the bottom of most passenger cars causing loss of control and possible stalling.
- A foot of water will float many vehicles.
- Two feet of rushing water can carry away most vehicles including sport utility vehicles (SUV's) and pick-ups

Additional flood safety tips

- Stay away from power lines and electrical wires. The number two killer after drowning is electrocution. Electrical current can travel through water. Report downed power lines to PG&E or local officials.
- Shut off gas and electricity and move valuable contents upstairs. Be prepared in advance with a detailed checklist because warning of an impending flood may provide little time for preparation prior to evacuation.
- Do not use electrical appliances or motors that have gotten wet. Have your electrical appliances and motors taken apart, cleaned and dried before resuming use.
- Look for animals - especially snakes. Small animals that have been flooded out of their homes may seek shelter in your homes or out-buildings. Use a pole or stick to poke and turn things over; this will help scare away small animals.
- Look before you step. After a flood, the ground and floors are covered with debris including broken glass and nails. Floors and stairs that have been covered with mud may be very slippery.
- Be alert for gas leaks. Use a flashlight to inspect for damage. Do not smoke or use candles, lanterns, or open flames unless you know the gas has been turned off and the area has been ventilated.

5 times more likely your home will flood than burn

90% of presidential declared disasters involve flooding

No matter how much work has been done on the levees near where you live, Sutter and Yuba counties recommend you maintain flood insurance. Don't assume you have it.

Flooding is nature's most common natural disaster. The average homeowner is five times more likely to incur flood damage than fire damage. The chances only increase if you live in medium or high risk zones. Homeowner's policies may not cover the flood damage, and the out-of-pocket costs can be burdensome.

There are many factors that can add to flooding, including debris in the waterway, small culverts and bridges, frozen or saturated ground, and others.

All communities in Yuba and Sutter counties participate in the National Flood Insurance Program by adopting, and enforcing, floodplain management ordinances to reduce future flood damage. In exchange, the NFIP makes federally subsidized flood insurance available to homeowners in these communities. Community participation in the NFIP is voluntary.

Flood insurance is designed to provide an alternative to disaster assistance to reduce the escalating costs of repairing damage to buildings and contents caused by floods.

Flood insurance is designed to provide an alternative to disaster assistance to reduce the escalating costs of repairing damage to buildings and their contents caused by floods.

You've got a 1 in 4 chance of flooding during the life of your 30-year mortgage. You're also 5 times more likely to experience flooding than fire. And you don't have to live in a high-risk zone to be a victim. Almost 25 percent of all flood claims come from low- to moderate-risk



areas. In fact, 90 percent of all presidential declared disasters involve flooding. Even minor flooding can cause damage. If

you have a federally backed mortgage on a home located in a high-risk zone, federal law requires you to purchase flood insurance to secure a loan.

While your homeowner's policy may cover fire, tornado or even earthquake damage, most EXCLUDE damage caused by flooding--nature's most common natural disaster. Those that cover SOME flood damage only do so by a specific endorsement, and only for a certain dollar amount. Check with your insurance agent.

www.floodsmart.gov

www.ready.gov

New flood risk reduction and dam safety enhancements underway at New Bullards Bar

Yuba Water Agency is embarking on the largest project its undertaken to reduce flood risk since the building of New Bullards Bar Dam in the 1960s. The agency expects to fully implement three major programs and projects in the next six years, which, when fully operational, will significantly reduce this region's flood risk and improve its climate change resilience.

The completion of a new, approximately \$160 million secondary spillway at New Bullards Bar Dam, when combined with Forecast-Informed Reservoir Operations for the Yuba and Feather rivers, and an update to the U.S. Army Corps of Engineers' Water Control Manual for New Bullards Bar will improve the safety and operational capabilities of Yuba Water's facilities, with a range of promising benefits.

The documentation, permitting and design phase of the secondary spillway project is underway, with construction expected to begin at the dam in 2022. The new spillway gates will be 31.5 feet lower than the existing gates. When combined with improved forecasting and changes to the way water is managed at the dam with the updated Corps manual, Yuba Water will have greater flexibility and control over water releases in preparation for major storm events, ultimately creating additional room in the reservoir for the storm flows.

Other benefits of these flood risk initiatives include:

- An ability to release an additional



A second spillway at New Bullards Bar Reservoir is expected to be completed in 2025.

45,000 cubic feet per second in advance of and during storm events, creating additional space in the reservoir to contain storm water runoff and snowmelt from the watershed.

- An ability to more accurately track, monitor and predict precipitation, snowfall and water inflow to the reservoir by several days, with special emphasis on more precise and longer-term forecasts of atmospheric rivers. This will give dam operators extra time to manage water during storm events.
- Enhanced dam safety with a redundant option for water releases, one that could handle the 1997 storm of record on its own.
- Reducing the flood stage in the lower Yuba River, near the City of Marysville, by up to 3 feet during storm events as large as the 1997 flood.
- The potential to improve water sup-

ply storage and management at the reservoir and increase carbon free hydropower generation, both critical assets in light of the impacts of climate change.

Yuba Water Agency coordinates releases during significant storm events with the Department of Water Resources Flood Operations Center as well as its Oroville Dam Operations, the National Weather Service and the U.S. Army Corps of Engineers for public safety and in an effort to minimize impacts downstream. These new efforts will take that coordination to a much higher level.

Construction of the secondary spillway at New Bullards Bar Dam is expected to be complete in 2025. The research related to Forecast-Informed Reservoir Operations, which will result in the new operations guidelines, is underway now, with the goal to have all three initiatives complete when the secondary spillway construction ends.

Yuba Water Agency celebrates 60 years of reducing flood risk in Yuba County

Vote by Yuba County voters returns big flood risk reduction

Reducing flood risk for the people of Yuba County was the single most important motivation for the creation of Yuba Water Agency.

This year, the agency celebrated its 60th anniversary, marking six decades of reducing flood risk, generating carbon-free energy, supporting recreation opportunities at New Bullards Bar Reservoir, providing reliable water supplies to local irrigation districts and groundwater management programs to ensure a reliable valley groundwater aquifer.

Yuba Water Agency works with local, state and federal agencies, Congress and many others to bring real results in reducing flood risk to Yuba County. Through partnerships with the U.S. Army Corps of Engineers, Three Rivers Levee Improvement Authority and the Marysville Levee District, Yuba County's flood risk is now among the lowest of the urban areas in this region, and is getting better every day.

Yuba Water Agency has committed well over \$50 million to help leverage more than \$450 million in state and federal funding for levee repairs and other work to minimize flooding in the area.

Several major flood risk reduction accomplishments include:

- Construction of New Bullards Bar Dam and Reservoir in 1970
- Secured \$90 million in Proposition 13 funds for Yuba-Feather flood

Yuba Water Agency constructed New Bullards Bar Dam and has helped secure funding for Marysville's ring levee improvement project, the Feather River setback levee, and other flood risk reduction projects.



risk reduction for RD 784 levee and associated environmental improvements

- In partnership with Yuba County, issued \$78 million in bonds to pay for the local share of the Feather River Setback Levee
- Helped secure funding to construct the Marysville Ring Levee improvements

While the agency has accomplished a lot, it remains focused on ensuring that current and future projects, programs and investments will enhance the quality of life and spark economic development in Yuba County.

Yuba Water invests millions through grants, loans and staff time to support local levee maintaining agencies, and remains laser focused on its own infrastructure improvements to ensure our dams remain in excellent condition. The goal in all of this effort is to reach a 500-year level of protection in Yuba County's urban areas.

Five hundred-year protection does not

mean the levees will be guaranteed for 500 years, as so many mistakenly believe. It means there is a 1-in-500 chance in any given year that a storm will come along that is bigger than the system was designed for. Which is why, even then, it is recommended that residents carry flood insurance, even if it's not required by their mortgage.

To further reduce the risk of flooding, enhance dam safety and provide climate resilience for Yuba and Sutter counties, Yuba Water Agency is in the midst of the permitting and design phase of an estimated \$160 million spillway at New Bullards Bar Dam (see previous page).

Yuba Water has come a long way in the last 60 years. There is much more work to be done, but Yuba County's flood risk is lower than ever before - among the best in the Central Valley - and it's due, in great part, to the vision of its founders who created this little agency all those years ago.

FEMA asked to keep low flood insurance rates in South Yuba

Linda, Olivehurst, Arboga and Plumas Lake would benefit from levee accreditation renewal

The Three Rivers Levee Improvement Authority (TRLIA) is seeking FEMA re-accreditation for 33 miles of Reclamation District 784 levees for a 15-year period. If approved by FEMA, the majority of properties in Linda, Olivehurst, Arboga and Plumas Lake will remain in a FEMA low-to-moderate risk flood zone through 2034. During that period, property owners will maintain eligibility for lowest-cost flood insurance and be free of any building restrictions. The system's existing FEMA accreditation, which took effect in 2010, is set to expire in 2020.

"The certification represents to the residents of Yuba County the highest level of flood protection promoted through the most current levee engineering standards and construction," stated TRLIA Board President Sarbdeep Atwal. "We have worked extremely hard to achieve this through regulatory and environmental hurdles, and this sets a positive precedent for other surrounding counties."

TRLIA, a joint powers authority of Yuba County and Reclamation District 784, was formed in 2004 to finance and construct levee improvements to meaningfully reduce flood risk and ward off FEMA-imposed regulations for properties in high-risk flood zones. These include mandatory, higher-cost flood insurance and building restrictions that can result in complete moratoriums on new and replacement construction. TRLIA embarked on a four-phase program resulting in approximately \$500 million in levee improvements, the bulk of which are being paid for by the state. The local share is largely being



Next year, TRLIA will break ground on a levee tying into the Yuba Goldfields, the last project to reach 200-year flood level protection

covered through a prior bond sale by Yuba County and Yuba Water Agency, for which Yuba Water Agency continues to pay approximately \$5.5 million per year in bond debt.

TRLIA's improved, and in some cases new, levees along the Upper Yuba, Feather and Bear rivers and the Western Interceptor Canal are designed to meet federal and state regulatory requirements to provide 100-year and 200-year flood protection, respectively. The majority of TRLIA's levee improvements were completed in 2010, providing the basis for FEMA's accreditation of those levees through 2020. By 2016, TRLIA had completed additional improvements to extend the Upper Yuba River levee from Simpson Lane to the Yuba Goldfields, the final requirement for 100-year flood protection. In 2020, TRLIA will break ground on a new levee that will tie into the existing Upper Yuba River levee at the Goldfields and stretch 2.5 miles to the east, the final project necessary to meet state requirements for 200-year flood protection.

"The certification of the levee system is a historic accomplishment, one that

marks the completion of a vision to protect the community from devastating floods like those in 1986 and 1997," said Paul Brunner, TRLIA's longtime executive director. "It represents a great deal of effort and dogged determination, both of which were necessary to deal with the ever-changing regulatory environment and funding challenges as we moved forward with project design and construction."

Earlier this month, property owners within RD 784 boundaries approved a property assessment to provide adequate funding for the operations and maintenance of the levees and the district's internal drainage system. Ongoing compliance with state and federal regulations for the operations and maintenance is a condition of certification, and ultimately FEMA accreditation.

TRLIA has, and continues to partner closely with Yuba County, Reclamation District 784, the Yuba Water Agency, the California Department of Water Resources, the Central Valley Flood Protection Board, FEMA and the US Army Corps of Engineers on its levee improvement program. For more information, please contact TRLIA Executive Director Paul Brunner at (530) 749-5679.

Some Q&A from Yuba County Office of Emergency Services

Q: Is there a special plan in place for Senior Care Homes?

A: Each care home is required by law to have their own plan. We have found through the Oroville Spillway incident that some of the care homes did not and they relied upon public transit to evacuate. In Yuba County, we're going to step in if there is not a plan. We have spoken with Yuba-Sutter Transit and the school district and have been told they will be there to help evacuate our folks with access and functional needs, our elderly, people with disabilities. If you're concerned about a specific facility, ask an administrator for their plan. If not, get in contact with the California Department of Public Health.

Q: How do you plan to evacuate the people who occupy the riverbed if there's an emergency along the Feather or Yuba rivers?

A: In the event of a slow-rise flood event, each County notifies – typically through law enforcement officers – these people down at the riverbottoms and advises them that they should leave. This is done as soon as the County gets notification or forecast of rising rivers. But officials don't necessarily have the authority to force them to leave—we can only advise. Many of them know we don't have the authority to physically remove them. It's not just during a slow-rise event—we notified the populations at the riverbottoms this spring when Bullard's Bar started releasing water that the water level would rise four or five feet and that it would be very cold and moving swiftly.

Q: What evacuation routes should a person use in the event of an emergency?

A: Yuba-Sutter has three rivers that rise and fall with fast-rising creeks, with the potential to inundate roadways. At some point throughout Yuba County, all of our major highways traverse one of these bodies of water. That being said, every disaster is dynamic and the evacuation routes are going to be very dependent on the disaster we are facing. Your best option is to be familiar with evacuation routes: know your roadways; know the back ways to get out of the areas you are frequently in; know multiple ways out; have a plan; and in the event of a disaster, look towards officials to be able to provide you with information regarding the conditions of those roads. We coordinate very heavily with Caltrans and Public Works during our disaster times and we have folks that have eyes on the ground who can notify you if a road has been inundated. In a fire situation, it is a moving target and it's very important not only for fire purposes but for inundations, to be signed up for CodeRED. You can do all the preparation you want, but if you're not signed up for notifications from your County—you could be asleep, you could be watching TV, not get the notification and end up in a bad situation, which we do not want. We want you prepared; we want you ready to go so when you received that phone call you're out the door.

Q: Will we get a true and accurate inundation map?

It depends on what the situation is. There are maps for different incidents like a partial or total dam failure. It's hard because of topography and we don't know where a breach would occur. Without that, it is really impossible to provide an inundation map. Maps are only as good as a series of assumptions and every storm is different and has to be created within that moment and forecast. The best thing to do is if we're advising of a voluntary or mandatory evacuation, please heed the warning.



Dozens gathered on the Yuba City levee demanding a swift levee fix at Yuba City below Oroville Dam in the months after the dam was damaged.

Response to Oroville outcry: A Citizens Committee To Oversee Dam Operations

One good thing came out of the 2017 mass evacuation, more transparency and oversight of Oroville Dam.

The Oroville Dam Citizens Advisory Committee held its first meeting Sept. 30. Established within the California Natural Resources Agency, its 19 members represent the state, and Butte, Yuba and Sutter counties. It is tasked with discussing maintenance, reports and upcoming actions related to the Oroville Dam complex including the Feather River Fish Hatchery and Oroville-Thermalito Complex.

The Commission will publish a report at least once every three years. Local representatives are Sutter County supervisors Mat Conant and Dan Flores (530-822-7100); Yuba County supervisors Gary Bradford and Doug Lofton (530-749-7510); Yuba County Sheriff's Lt. Joe Million; Sutter County Sheriff's Deputy Andre Licon; Assemblymember James Gallagher and Senator Jim Nielsen.

Contact Elizabeth Williamson, Deputy Director for External Affairs for California Natural Resources Agency at Elizabeth.Williamson@resources.ca.gov



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