



FLOOD HAZARDS IN SAN JOAQUIN COUNTY



January 31, 2008

Dear San Joaquin County Resident:

This pamphlet is for informational purposes, because significant portions of San Joaquin County are subject to the possibility of flooding. The County is working on ways to improve and increase its circulation of and accessibility to information that pertains to floodplain areas, in an effort to better educate and assist its citizens living in the floodplain. Please take the time to read the information below, and if you have further questions, or would like additional information, please use the contact information supplied in this document.

Overview

San Joaquin County features several large rivers and smaller tributaries, streams, canals, and sloughs that are susceptible to annual flooding events that can pose threats to life and safety and cause significant property damage. Large rivers include the San Joaquin, Stanislaus, Calaveras, and Mokelumne Rivers. Major streams include Bear, Corral Hollow, Dry, Duck, Littlejohns and South Littlejohns, Lone Tree, Mosher and Lower Mosher, Stockton Diverting Canal and Mormon Channel, Paddy, Middle Paddy and South Paddy, and Temple Creeks. Major sloughs include French Camp, Jahant, Mormon, and Walker Sloughs. The construction of levees in our County began in the early 1860s. Our county currently has more miles of levees than any other county in the United States. Besides the waterways named here, the western portion of the County has additional streams and watercourses, comprising a major portion of the Sacramento-San Joaquin Delta.

Recent Flooding Events

San Joaquin County has experienced major flooding several times during the 20th Century. The City of Stockton experienced flooding in 1955 and 1958. In 1980, without any storm or high tide conditions, levee breaks in the Middle River area caused approximately \$32 million in damage. 1983 saw area wide local flooding due to record rainfall combined with large upstream reservoir releases, extremely high tides, and wind-driven waves, causing levee failures in the Delta and along the San Joaquin River with damages amounting to more than \$20 million and more than 16,000 acres inundated. In 1986 flooding affected Delta islands, and the Town of Thornton and vicinity were flooded following a levee break. The flooding along the San Joaquin River near Tracy and Manteca in 1997, and the (dry) summertime flooding of Jones Tract east of Stockton in 2004 represent the most recent significant flooding.



Causes of Flooding in San Joaquin County

Flooding occurs when weather patterns, geology, and hydrology combine to create conditions such that river, stream, and channel water flow volumes cannot be contained within their usual course. In San Joaquin County, the combination of these factors can create seasonal flooding conditions. Although levee failures resulting from high tides, high stream outflow from rains, and Sierra snowmelts cannot be reliably predicted, their future occurrence can be expected. Wind-generated waves during the winter months increase erosion and levee overtopping. Some sort of seasonal flood-related damage occurs nearly every year. Flooding is most common from November through April. San Joaquin County receives approximately 14.6 inches of rain on average each year. Larger floods typically result from heavy rains that continue over the course of several days, augmented by snowmelt at a time when the soil is near saturation from previous rains.

Flood Insurance

San Joaquin County participates in the National Flood Insurance Program (NFIP) that makes available federally backed flood insurance for all structures, whether or not they are located within the floodplain. More than 25 percent of NFIP claims are filed by properties located outside the 100-year floodplain, also known as the Special Flood Hazard Area (SFHA). Following the purchase of flood insurance, NFIP imposes a 30-day waiting period, so residents should purchase insurance before the onset of the rainy season to ensure coverage during the flooding season.

Membership within NFIP—and the availability to County residents of flood insurance – requires the County to manage its floodplain in ways that meet or exceed standards set by FEMA. NFIP insures buildings with two types of coverage: structural and contents. Structural coverage includes walls, floors, insulation, furnaces and other items permanently attached to the structure. Contents coverage may be purchased separately to cover the contents of an insurable building. Flood insurance also pays a portion of the costs of actions taken to prevent flood damage.

Since July 1, 1997, all NFIP policies include Increased Cost of Compliance coverage that assists with bringing structures into compliance with current building standards, such as elevating structures 1 foot or more above the height of the 100-year flood. The limit of this coverage is \$30,000.

Federal financial assistance requires the purchase of flood insurance for buildings located within the SFHA – a requirement that affects nearly all mortgages financed through commercial lending institutions. This mandatory requirement stipulates that structural coverage be purchased in an amount equal to the amount of the loan (or other financial assistance), or for the maximum amount available, which is currently \$250,000 for a single family residence.

While the mandatory flood insurance purchase requirement has been in effect for many years, not all lending institutions required flood insurance in the past. Today, however, most institutions are now requiring the flood insurance purchase, and some are reviewing all mortgage loans to determine whether flood insurance is required and should have been required in the past. Upon refinancing a loan, nearly all lending institutions will enforce the flood insurance requirement. It is the lender's responsibility to check the Flood Insurance Rate Map (FIRM) to determine whether a structure is within the SFHA.

The mandatory flood insurance purchase requirement does not apply to loans or financial assistance for items that are not eligible for flood insurance coverage, such as vehicles, business expenses, landscaping and vacant lots. The requirement also does not apply to loans for structures not located in a SFHA, even though a portion of the lot may be within a SFHA. Persons located within SFHAs who received disaster assistance after Sept. 23, 1994 for flood losses to real or personal property must purchase and maintain flood insurance coverage, otherwise future disaster assistance will be denied.

Floodplain Understanding and Regulation

Maintaining the flow capacity in streams that cross County properties requires cooperation and assistance to prevent flooding and bank erosion. Following are some suggestions and information for understanding the ways that floodplains function, and how the County regulates the floodplain in order to protect property and lives, while affording County citizens the ability to obtain floodplain insurance at discounted rates.

Do not dump or throw anything into ditches or streams: A plugged channel cannot carry water, and when it rains, the excess water must go somewhere. Trash and vegetation dumped into a stream degrades water quality of both the stream itself and its receiving waters, and every piece of trash can contribute to flooding. **All surface water management agencies serving the County have adopted and enforce regulations that prohibit the dumping of material into any natural or manmade component of the drainage system. Additionally, the County as a whole has adopted and enforces regulations that prohibit the illegal dumping of material, including material dumped into ditches, streams or other drainageways.** Please report any observations of the dumping of debris or other objects into streams, drainageways, or rivers to the **San Joaquin County Code Enforcement Department at (209) 468-3141.**



Remove debris, trash, loose branches and vegetation: Keep banks clear of brush and debris to help maintain an unobstructed flow of water in stream channels. Do not stack burn piles on or near levees. Levee strength is seriously compromised by burrowing animals that live under burn piles, and also by the “baking” effect of the heat generated during burning. Vegetation that is actively growing on a stream bank should not be removed without permission. Streamside vegetation is tightly regulated by local, state and federal regulations. Before undertaking any removal of streamside vegetation or to report any observations of the clearing of vegetation or trees on stream banks, contact the **San Joaquin County Channel Maintenance Division at (209) 468-9698**.

Obtain a floodplain development permit and/or building permit, if required: To minimize damage to structures during flood events, the County requires all new construction in the floodplain to be anchored against movement by floodwaters, resistant to flood forces, constructed with flood-resistant materials and flood-proofed or elevated so that the first floor of living space, as well as all mechanical and other services, are at least one foot above the elevation of the 100-year flood. These standards apply to new structures and to substantial improvements of existing structures. The County defines a Substantial Improvement as any reconstruction, rehabilitation, or addition to an existing structure, the cost of which exceeds 50 percent of the structure’s appraised or market value (whichever the builder chooses to use). Additionally, most other types of construction within the floodplain also require a floodplain alteration permit, such as grading, cut and fill, installation of docks, steps, riprap or other bank stabilization techniques. County staff is available to undertake site visits, if requested, to review flood, drainage, and stormwater issues.

For further information, and prior to undertaking any activity within the floodplain, or if you see non-permitted building or filling in the floodplain, contact the San Joaquin County Flood Management Division at (209) 468-3060 .

Recognize the natural and beneficial functions of floodplains to help reduce flooding: Floodplains are a natural component of the San Joaquin County environment. Understanding and protecting the natural functions of floodplains helps reduce flood damage and protect resources. When flooding spreads out across the floodplain, its energy is dissipated, which results in lower flood flows downstream, reduced erosion of the streambank and channel, deposition of sediments higher in the watershed and improved groundwater recharge. Floodplains are scenic, valued wildlife habitat, and suitable for farming. Poorly planned development in floodplains can lead to streambank erosion, loss of valuable property, increased risk of flooding to downstream properties, and degradation of water quality.

Reduce risk of damage to homes: Practical and cost-effective methods for reducing or eliminating the risk of flooding are available to property owners whose homes have experienced damage from flooding in the past, or may experience damage in the future.

Such techniques include elevation of the home, relocating the home to higher ground, constructing floodwalls or berms, and flood-proofing and protecting utilities. For further information, contact the **San Joaquin County Flood Management Division at (209) 468-3060**, or the **Federal Emergency Management Agency, Region IX at (800) 621-FEMA**. During times of flooding, homes that have not been retrofitted can be protected during emergencies by the installation of sandbags and plastic sheeting. For further information about sandbags and the locations of sites where sandbags are available during flooding, contact the **San Joaquin County Office of Emergency Services at (209) 468-3962**, or visit their Web site at: www.sjgov.org/oes. **In case of an emergency, call 911.**

County Floodplain Information Services: The County can determine the relationship of a particular property to the floodplain, including: 1) whether the property is located within the Special Flood Hazard Area; 2) Flood Insurance Rate Map (FIRM) Zone for the property; 3) Base Flood Elevation for the property, if available; and 4) whether the property is located within a floodway. The County also maintains previously filed elevation certificates for review.

FIRMs can be viewed online at FEMA’s website: <http://www.fema.gov/hazard/flood/index.shtm>. Once at this website, click on “Flood Maps.”

You can also contact the San Joaquin County Flood Management Division at (209) 468-3060 for further information, and go to our website at: www.sjgov.org/pubworks. Our website also has additional helpful links to FEMA information.

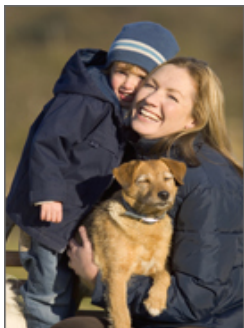
Flood Safety Tips

The San Joaquin County Office of Emergency Services has flood warning information available that can be accessed by calling them at **(209) 468-3962**, or through their Web site at: www.sjgov.org/oes. The Web site includes information about sandbag locations during flood events, and ways to contact and listen to the National Weather Service. It also has an informational brochure that explains how people can prepare for an emergency. Additionally, **CALTRANS** has a hotline that features road conditions, road closures, and road hazards. Call **1-800-427-7623**.

Other helpful hints for emergency safety include having a **portable battery operated radio**, an evacuation kit, and a plan for family pets and animals. Having a portable battery operated radio is essential because emergency officials will use the radio to relay important information regarding any emergency conditions in your area. The Emergency Alert System (EAS) utilizes radio station **KFBK 1530AM** to provide information. San Joaquin County has emergency radio transmitters used to broadcast to threatened neighborhoods. KFBK 1530AM will mention the AM frequency to tune to, for each neighborhood, in its warning message. Emergency information about different neighborhoods will be broadcast on different AM frequencies. KFBK will tell you which frequency to tune to for your specific neighborhood.



Having an **evacuation kit** is another essential item for emergency preparedness. This kit consists of copies of family prescriptions, insurance papers in ziplocked plastic bags, an emergency contact list that includes names and contact numbers of family, employers, and friends that officials can use to help you. Other important items are **a first aid kit and water**. These items can be conveniently stored in a small wheeled suitcase or portable bag.



A final helpful tip is to plan ahead for any family **pets or animals**. It is important to have an animal carrier and practice using it. It is also recommended that pets have a license and collar. Include a photo with the name, height, and weight of your pet to be included in the ziplocked plastic bag.

These are just a few helpful hints to help you get started to prepare in the event of an emergency.

We acknowledge the following sources for information contained in this document:

- Federal Emergency Management Agency 12-16-05 Flood Insurance Study #060299V001A
- FEMA National Flood Insurance Program Community Rating System
- Insurance Services Office, Inc.
- San Joaquin County Office of Emergency Services.

Some important considerations to follow during times of flooding:

Prepare an evacuation plan: Before the floodwaters hit, develop an evacuation plan among all members of a household that includes a meeting place outside of the house, as well as an escape route out of the floodplain and away from floodwaters.

- **Do not walk through flowing water:** Drowning is the number one cause of flood deaths, mostly during flash floods. Currents can be deceptive; six inches of moving water can knock you off your feet. If you walk in standing water, use a pole or stick to ensure that the ground is still there.
- **Do not drive through a flooded area:** More people drown in their cars than anywhere else. Don't drive around road barriers; the road or bridge may be washed out.
- **Stay away from power lines and electrical wires:** The number two flood killer after drowning is electrocution. Electrical current can travel through water. **Report downed power lines to Pacific Gas & Electric (800) 743-5000, or the Office of Emergency Services (209) 468-3962.**
- **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.
- **Look out for animals, especially snakes:** Small animals that have been flooded out of their homes may seek shelter in yours. Use a pole or stick to poke and turn things over and scare away small animals.
- **Look before you step:** After a flood, the ground and floors are covered with debris including broken bottles and nails. Floors and stairs that have been covered with mud can be very slippery.
- **Be alert for gas leaks:** Use a flashlight to inspect for damage. Don't smoke or use candles, lanterns, or open flames unless you know that the gas has been turned off and the area has been ventilated.

