Fact Sheet

Alhambra Creek Watershed Flooding

PRODUCED BY THE ALHAMBRA WATERSHED COUNCIL

The Alhambra Watershed Council

The Alhambra Watershed Council (AWC) was formed in response to the severe storms of 1997–98, which caused serious erosion and major flooding in the City of Martinez and other parts of the watershed. These events highlighted problems with land-use practices in the watershed and the need for coordinated watershed-wide planning to protect and conserve natural resources and the infra-structure and property of its human occupants. The AWC's goal is to address watershed problems by recommending solutions that benefit the watershed and its users.

Stakeholders

The AWC is comprised of diverse groups and interests in the water-shed. These stakeholders include residents, landowners, the City of Martinez, Contra Costa County, community organizations, East Bay Regional Park District, the National Park Service, and many more.

Alhambra Creek Watershed Management Plan

The AWC produced a watershed management plan outlining goals and many recommendations in 2001. The plan promotes striking a balance between human use of the watershed and protection and preservation of the area's natural resources.

The Alhambra Creek Watershed

The Alhambra Creek Watershed covers 16.5 square miles. Its major tributaries are Arroyo del Hambre, Alhambra Creek, Franklin Creek, and Vaca Creek. All surface runoff from the watershed flows into the main stem of Alhambra Creek, passes through downtown Martinez, and empties into the Carquinez Strait.

Flooding History

Martinez has had a history of flooding since its founding in 1849, with the most recent major flood event occurring in the winter of 1997-98. Downtown Martinez structures are built in the floodplain of Alhambra Creek and are located within the 100-year floodplain established by FEMA (Federal Emergency Management Agency). Local flooding occurs upstream of the 100-year floodplain when seasonal creeks, storm drains, and waterways become obstructed with fallen trees, trash, and invasive plants.

Flood Frequency and Severity in a Changing Climate

Climate change affects flooding frequency in at least two ways; weather is becoming more erratic, and sea levels are rising. Climatologists predict more frequent cycles of extended drought and extreme storms that will likely cause flooding. Studies vary on the rate of sea level rise, but they all conclude that sea levels are rising. Sea level rise will increase the elevation of water at the mouth of Alhambra Creek, which in turn will reduce the rate at which stormwater drains from the watershed, backing up water in the lower watershed. This will be especially pronounced during high tide. Climate change will increase the frequency and severity of flooding in downtown Martinez.

Future Flooding

The amount of rainwater that falls in the watershed and the speed with which that rainwater reaches the creek determines if and when downtown Martinez floods. As new development occurs, more hard surfaces, such as roads and roofs, accelerate and increase flood runoff. If the increased flood runoff is not managed properly, downstream neighborhoods will experience deeper floods extending into wide areas. Flood protection gained by improving the downtown creek may be lost due to increased impervious surfaces and runoff from the upper watershed.

Rev. 2022

Goals

The AWC outlined nine major goals in the watershed management plan. The following is a condensed list of goals:

- CONSERVE stormwater, soil resources, and wildlife habitat.
- REDUCE flood damage, wildland fire damage, and erosion.
- PROTECT AND IMPROVE water quality and peoples' quality of life by providing opportunities to enjoy watershed resources.
- PROMOTE a sense of watershed community.

Community Resources

There are numerous groups working toward a healthier Alhambra Creek Watershed. Please consider volunteering with or donating to these groups to ensure their efforts can continue.

FRIENDS OF ALHAMBRA CREEK

friendsofac@gmail.com
www.ccrcd.org/friends-of-alhambra-creek

NEW LEAF COLLABORATIVE

info@newleafcollaborative.org
www.newleafcollaborative.org

WORTH A DAM

mtzbeavers@gmail.com
www.martinezbeavers.org

For more information on flooding or other watershed-related concerns, contact:

Alhambra Watershed Council
c/o Contra Costa Resource Conservation District
925-672-4577
www.ccrcd.org

Cost of Living in a Floodplain

The entire community pays to clean up streets and other public property after a flood. Everyone is impacted by the disruptions to businesses and civil services. The greatest damage and recovery costs are shouldered by those who own the public and private properties in the designated floodplain. Property owners with flood insurance pay yearly even if it doesn't flood. FEMA tracks the number of policies and the costs of those polices in each floodplain.[1] Recent data indicate that our costs are going up. Since 1968, FEMA has partially subsidized the cost of flood insurance. In 2021, FEMA developed a new risk rating methodology, "RISK RATING 2.0," which includes additional factors besides the defined floodplain.[2] The objective is to more accurately predict risks while reducing subsidies. Existing insurance policies are expected to be reevaluated in coming years. FEMA provides more information for specific addresses via an internet form.[3]

Flooding at Castro and Main Streets, January 1997

What Can Be Done to Reduce Flooding and Flood Damage?

- Reduce peak runoff by: holding the water in detention basins or seasonal wetlands and allowing more water to percolate into the ground by 1) limiting/ reducing impervious surfaces, 2) installing pervious surfaces whenever possible, and 3) planting vegetation that improves soil permeability.
- Create designated overflow areas and bypasses so that floodprone areas are less vulnerable to flooding.
- Create more efficient ways to move water through floodprone areas.
- Design development to withstand flooding with less damage and disruption.
- Minimize or avoid new development in the most floodprone areas, such as floodplains. Remove or retrofit existing development in these areas.
- Restore and enhance the natural function of floodplains.

Alhambra Creek: Lifeblood of Our Watershed

Alhambra Creek, running through the heart of downtown Martinez, is the lifeblood of our watershed. It can bring flood water during heavy storms, but if we plan and develop our community with an understanding of how human activities interact with the surrounding environment, Alhambra Creek can be a beautiful riparian corridor and an asset to the community.

[1] https://nfipservices.floodsmart.gov/reports-flood-insurance-data
[2] https://www.fema.gov/flood-insurance/risk-rating
[3] https://floodfind.com/flood-zone-report/

Watershed Terms

Detention basin	An impoundment or excavated area for the short-term detention of stormwater runoff.
Floodplain	A strip of relatively flat and normally dry land alongside a stream, river, or lake that is covered by water during a flood.
Impervious surface	A surface such as pavement or asphalt that does not allow water to pass through. Pervious surfaces, such as vegetated areas or pervious pavement, allow water to infiltrate into the ground.
Peak flow	The maximum instantaneous discharge of a stream or river at a given location. Peak flows are greatly increased by impervious surfaces.
Runoff	Precipitation, snow melt, or irrigation water that flows into surface streams, rivers, drains, or sewers.
Watershed	The land area that drains to a particular stream, river, or bay, and is bounded by the surrounding highest elevations, such as ridges.