

# Flooding

## in Fort Collins

### Flood Hazard

All rivers, streams, tributaries and canals—regardless of size—have the potential to flood. In Fort Collins, major sources of flooding include the Cache la Poudre River, Spring Creek, Dry Creek, Fossil Creek and Boxelder Creek. Urban street flooding is also a hazard.



*This photo and article appeared on the front page of the Fort Collins Coloradoan on June 25, 1992, following a flood in the Old Town area of Fort Collins.*

### Keeping our Drainage Systems Clean

Do not dump or throw anything into the ditches or streams. Obstruction and pollution of our waterways and ditches is a violation of City Code. A plugged channel cannot carry water. Every piece of trash contributes to flooding. Even grass clippings and branches can accumulate and plug channels.

If your property is next to a ditch or stream, please do your part and keep the banks clear of trash and debris. The debris may increase flooding on your property. City of Fort Collins Utilities has a drainage system maintenance program that inspects the channels regularly and can help you remove major blockages such as downed trees. Please report any debris or dumping in ditches or streams to City of Fort Collins Utilities at (970) 221-6700 or e-mail [utilities@fcgov.com](mailto:utilities@fcgov.com).

### Flood Insurance

Flood insurance is highly recommended and covers all surface floods. Any walled and roofed structure can be covered, and separate coverage is available for the building's contents. Most standard property insurance policies do not cover flood damage. Anyone can purchase flood insurance.

Coverage is not available for anything outside the structure, such as driveways or landscaping. Renters can purchase insurance for their belongings, even if the owner does not buy structural coverage.

Don't wait for the next flood to buy insurance; there is a 30-day waiting period before National Flood Insurance takes effect. Insurance agents sell policies under rules and rates set by the federal government.

The City joined the federal National Flood Insurance Program (NFIP) in 1979 and has participated in the Community Rating System (CRS) since 1990. The NFIP and CRS provide flood protection through increased awareness of flood hazards and minimum floodplain development design standards.

The CRS provides reduced flood insurance premiums to communities that exceed the minimum federal NFIP requirements. Fort Collins floodplain residents receive one of the lowest flood insurance rates in the country as a result of City of Fort Collins Utilities' Floodplain Management Program.

## Natural and Beneficial Functions

Under natural conditions, a flood causes little or no damage. Nature ensures that floodplain fauna and flora can survive the more frequent inundations. This is the case along the Cache la Poudre River, where many natural areas have been preserved, such as the Gustav Swanson Natural Area and the Colorado State University Environmental Learning Center.

Natural floodplain areas help to reduce flood damage by allowing water to spread over a large area. This reduces velocities and provides flood storage to reduce peak flows downstream. The City owns a number of parcels along Spring Creek and the Cache la Poudre River, permanently reserving these areas as open space and reducing the flood hazard.

Open space along the Cache la Poudre River provides natural flood and erosion control and fish and wildlife habitat. Many types of birds including the Kingfisher, Great Blue Heron and Redtail Hawk, as well as a diversity of migrant songbirds, use the Cache la Poudre River riparian corridor. Spring Creek habitats are not as diverse as the Cache la Poudre River, but the creek does have some fairly well-developed riparian areas. It is the City's job to help preserve natural areas in the floodplain.



*The Cache la Poudre River is an important habitat for the Great Blue Heron.*

## Weather Service Terms

**Flash-flood watch:** Heavy rain may result in flash flooding in the specified area. Be alert and prepared for the possibility of a flood emergency, which will require immediate action.

**Flash-flood warning:** A flash flood is occurring or is imminent in the specified areas. Move to safe ground immediately. Remember: Don't drive through flood waters!

## Flood Warning System

The City of Fort Collins has a comprehensive flood warning system. Information from streamflow and precipitation monitoring gauges is integrated with enhanced weather information. When alarm thresholds are reached, personnel from City of Fort Collins Utilities and the Office of Emergency Management are alerted to the hazard.

The public is notified of emergencies through an automatic telephone dialing system with informational messages, local radio stations and cable TV.

Data from the precipitation and streamflow gauges can be viewed on the Web at [www.fcgov.com/stormwater/fwsindex.php](http://www.fcgov.com/stormwater/fwsindex.php).

## Development Requirements

Before you do any construction (new development, additions, remodels, filling, grading etc.) on your building or property, contact City of Fort Collins Utilities for specific floodplain regulation requirements. Here are a few important requirements:

### Floodplain Use Permit

These permits ensure that construction projects do not cause drainage problems for other properties. According to Fort Collins' code, all new residential buildings and additions must be elevated 18 inches above the 100-year flood elevation. New non-residential buildings and additions must be elevated or floodproofed 18 inches above the base flood. The elevation/floodproofing requirements for properties in the Poudre River floodplain is two feet.

### Floodway Requirements

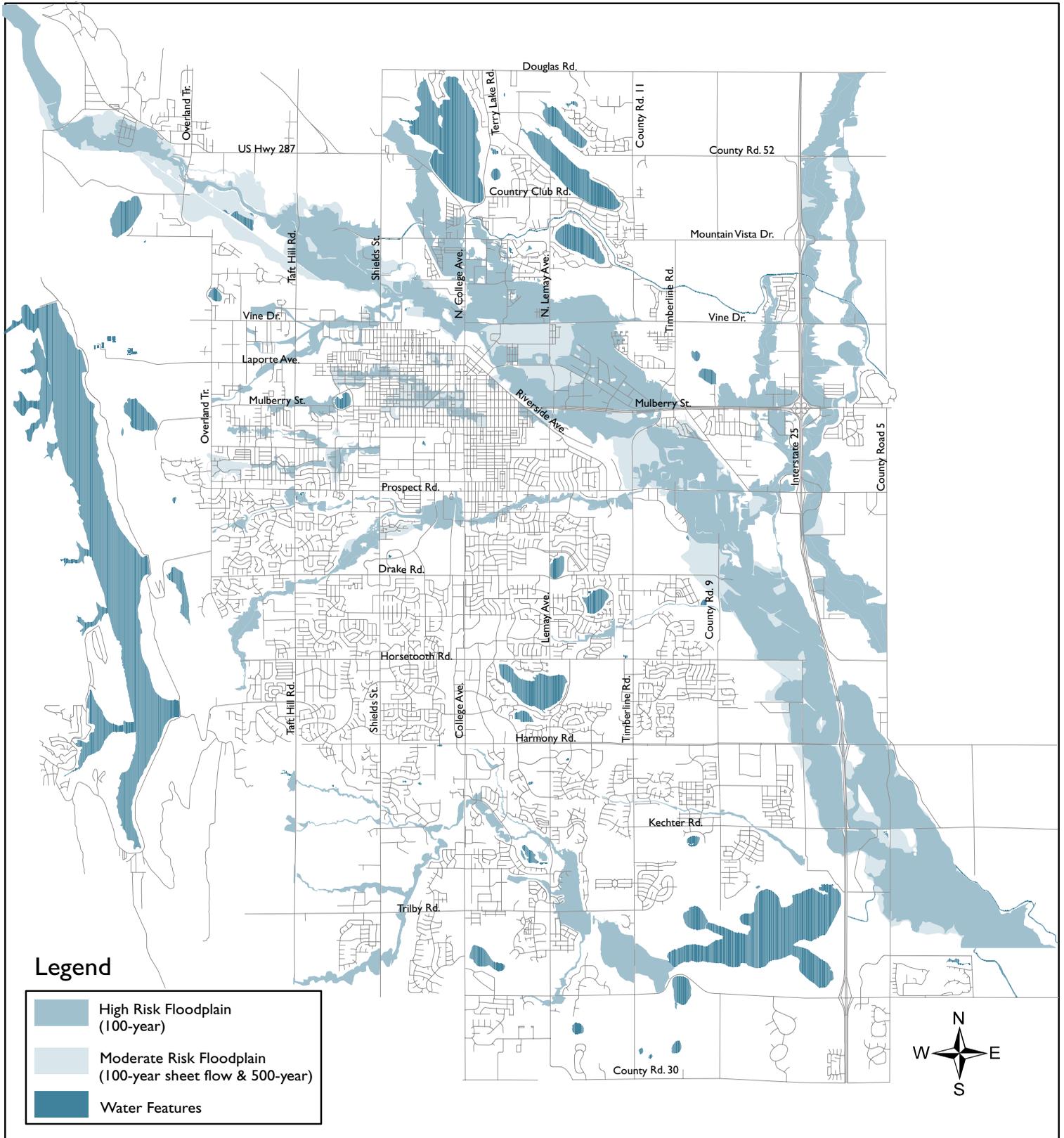
No development, including fill, is allowed in the floodway without an engineering analysis to prove that the project will not increase the base flood elevation.

### Substantial Improvement Requirement

If the cost of reconstruction, rehabilitation, addition, or other improvements to a building equals or exceeds 50 percent of the existing building's market value, the building must meet the same construction requirements as a new building. Substantially damaged buildings must meet the same standards. Improvement requirements are addressed during the floodplain development permitting process.

Please report illegal floodplain development to City of Fort Collins Utilities.

# City of Fort Collins Flood Risk Map



This map is only a general representation of the floodplain areas in Fort Collins and is continuously being revised. To determine if a property lies within the floodplain, call City of Fort Collins Utilities at (970) 221-6700 or view an updated, detailed map at [www.fcgov.com/stormwater/floodplain-maps.php](http://www.fcgov.com/stormwater/floodplain-maps.php).

# Flooding History in Fort Collins

In 1864, the settlement known as Camp Collins near the town of LaPorte was destroyed by a massive flood that roared down the Poudre River. The settlement was rebuilt near present-day Old Town and was named Fort Collins.

Many other floods have hit Fort Collins, including the devastating 1997 flood that killed five people, injured 54, and damaged or destroyed nearly 2,000 homes and businesses at a loss of approximately \$200 million.

Detailed flood histories for each drainage basin are available on the Web at [www.fcgov.com/stormwater/flood-history.php](http://www.fcgov.com/stormwater/flood-history.php).

Floodplains	Dates	Points of Interest
Cache la Poudre River	1844, 1864, 1891, 1904, 1923, 1930, 1976, 1983 and 1999	The three largest floods occurred in 1864, 1891 and 1904, with flood peaks of approximately 21,000 cubic feet per second (cfs). For comparison, the discharge of the Poudre at "flood stage" is about 4,000 cfs. Flooding on the Poudre River is primarily from snow melt in late May and June. A severe flood has not occurred in more than 90 years.
Spring Creek	1902, 1904, 1938, 1949, 1951, 1961, 1977, 1983 and 1997	The 1997 flood resulted in five deaths, the destruction of 120 mobile homes and damage to 2,000 homes and businesses. This flood was considered to be greater than a 500-year event.
Dry Creek	No serious flooding since about 1950.	The absence of even minor flooding is generally attributed to the network of irrigation canals that have some capacity for intercepting small to moderate Dry Creek flows.
Fossil Creek	1902, 1938, 1965, 1977, 1979, 1997 and 1999	Fossil Creek is relatively undeveloped so past floods have gone unnoticed.  Recent development pressures in the Fossil Creek basin and along Fossil Creek tributaries have increased the awareness of the flood and channel instability hazards.
Boxelder Creek	1909, 1922, 1930, 1937, 1947, 1963, 1967 and 1969	Boxelder Creek has a drainage area of 251 square miles, of which 176 square miles are now controlled by Soil Conservation Service flood control dams near Wellington, Colorado.
Old Town Basin	1904, 1933, 1938, 1951, 1977, 1983, 1988, 1992 and 1997	Street flooding is the primary problem in this basin.
Canal Importation Basin	1938, 1951, 1975, 1992, 1997 and 1999	There are several small drainage areas in this basin. Development prior to drainage criteria encroached on the channels, reducing the flow capacity and causing flooding. The irrigation canals also overflow their banks and cause flooding.
West Vine Basin	1980, 1997 and 1999 Past floods were not well-documented.	Localized flooding occurs due to encroachment on drainages and from irrigation ditch spills.

# Flood Preparedness and Safety

## Before a Flood Protecting Your Property

- Elevate the building and regrade your lot so that flood water does not reach or enter any portion that could be damaged.
- Construct barriers around window wells or other building openings to keep flood waters from entering the building.
- Make the building walls and floor watertight by “dry floodproofing.” (This method is not recommended if water will get over three feet deep.)
- Modify the structure or relocate the contents so that when water enters the building, there is little or no damage.
- Prevent basement flooding from sewer backup or sump pump failure.

## During a Flood

### Depending upon how much time you have:

- Move valuables to upper floors or higher elevations.
- Fill bathtubs, sinks and jugs with clean water in case regular supplies are contaminated.

### Do not walk through flowing water

Drowning is the number one cause of flood deaths. Currents can be deceptive; six inches of moving water can knock you off your feet. Use a pole or stick to ensure that the ground is still there before you go through an area where the water is not flowing.

### Do not drive through flooded areas

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 second leading cause of flood deaths is electrocution. Electrical current can travel through water. Report downed power lines to City of Fort Collins Utilities at (970) 221-6710.

### Have your electricity turned off

Some appliances, such as televisions, keep electrical charges even after they have been unplugged. Don't use appliances or motors that have gotten wet unless they have been taken apart, cleaned and dried.

### 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 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 the gas has been turned off and the area has been ventilated.

### Remember that carbon monoxide kills

Use a generator or other gasoline-powered machine outdoors. The same goes for camping stoves. Charcoal fumes are especially deadly—cook with charcoal outdoors.

### Clean everything that got wet

Flood waters can pick up sewage and chemicals from roads, farms, factories and storage buildings. Spoiled food, flooded cosmetics and medicine can be a health hazard. When in doubt, throw them out.

### Take good care of yourself

Recovering from a flood is a long process. It is tough on both the body and the spirit. The effect a disaster has on you and your family may last a long time.

## After a Flood

- Call the insurance agent who sold you your flood insurance policy. List and photograph perishable items before disposing of them. Take photographs of the damage and keep records of repairs.
- Do not visit disaster areas until authorized to do so. Flood dangers do not end when the water begins to recede. The structural, electrical, plumbing, gas lines and water wells should all be inspected for safety before entering your home.
- Tune into a battery-powered radio for advice and instructions on where to obtain medical care and where to get assistance for such necessities as housing, clothes, food and counseling for stress.



*High water mark on Spring Creek, July 28, 1997 flood.*

The City of Fort Collins will make reasonable accommodations for access to City services, programs and activities and will make special communication arrangements for persons with disabilities. Please call (970) 221-6700 or TDD (970) 224-6003 for assistance.

7/03

Dear City of Fort Collins Utilities Customer:

Spring and summer weather in Colorado can bring flooding from intense thunderstorms and snow melt in nearby mountains. We are sending you this brochure as a reminder that your property is located in or near a floodplain and may be at risk. Due to the drought, we have not experienced much flooding during the past few years, but flooding can happen at any time. This brochure includes information about the risks associated with floods and what you can do to be prepared.

As you know, there have been many changes to our floodplain maps in the last eighteen months. We met with many property owners during our open houses to discuss the drainage basin master plans and the proposed changes to the City's floodplain regulations. There is still time for you to provide input on the proposed regulations and master drainageway plans. Please visit our website at [www.fcgov.com/stormwater](http://www.fcgov.com/stormwater) to find out more about the review process.

The City of Fort Collins Utilities manages and administers the City floodplains. We take our responsibility seriously and want you to be informed of the hazard. For more information, please call us at 221-6700, send e-mail to [utilities@fcgov.com](mailto:utilities@fcgov.com) or visit our Website at [www.fcgov.com/stormwater](http://www.fcgov.com/stormwater).

Sincerely,

Michael B. Smith  
General Manager