## Local flood threats

Clark County is susceptible to flooding from small streams and four major rivers:

- Columbia River
- East Fork of the Lewis River
- North Fork of the Lewis River
- Washougal River

## River gauge stations

The National Oceanic and Atmospheric Administration (NOAA) and the Washington State Department of Ecology operate river gauges. NOAA stations also provide 4-10 day trend forecasts of near-term river levels.

These gauges allow residents to monitor river levels before, during and after a flood.

Clark County provides links to seven gauge stations at: www.clark.wa.gov/publicworks/flood/documents/rivergauges.pdf.

## You Live in a Flood Hazard Area - Are You Prepared?

- Flooding is the nation's most common natural disaster.
- During the past 30 years, flooding in the U.S. has killed an average of 85 people a year and caused $7.95 billion (adjusted to 2014 inflation) a year in property damage.
- According to national statistics, homes inside high-risk flood areas have a 26 percent chance of being damaged by flooding over the life of a 30-year mortgage, compared with a 9 percent chance of fire damage.
- Unless you have purchased a policy through the National Flood Insurance Program, you likely are not protected against flood-related losses.
- Clark County has 22,258 acres of floodplain and 1,390 individual structures that are partially or entirely within floodplains, which have a 1 percent chance of flooding in any year.

**Web Links**

Clark County Public Works
www.clark.wa.gov/publicworks/flood/index.html

Flood warnings and alerts
cresa911.org/alerts-warnings

National Weather Service
www.wrh.noaa.gov/pqr

River gauge data
www.clark.wa.gov/publicworks/flood/documents/rivergauges.pdf

Federal Emergency Management Agency
www.fema.gov

National Flood Insurance Program
www.floodsmart.gov

Washington Department of Ecology/Floodplains
www.ecy.wa.gov/programs/sea/floods

**NEED HELP?**

Clark County Public Works is available to conduct site visits to discuss flooding and drainage problems.
Call us at (360) 397-6118 ext. 4944

**Other Phone Numbers**

Flood Emergency . . . 911

Clark Regional Emergency Services . . . (360) 737-1911

American Red Cross – SW WA . . . (360) 693-5821

For other formats, contact the Clark County ADA Office
**Voice** (360) 397-2322, **Relay** 711 or (800) 833-6388,
**Fax** (360) 397-6165, **E-mail** ADA@clark.wa.gov.

Clark County Public Works
1300 Franklin Street
Vancouver, Washington 98660

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## Flood protection information

You are receiving this newsletter because you live or own property in a flood hazard area.

This mailer contains information on what you need to know to protect yourself, your family and your property from flooding. Please take a few minutes to read this important information about flooding, the nation's costliest and most destructive natural disaster.

## Clark County flooding history

Clark County has experienced several major floods in the past 100 years, including the Vanport Flood of May-June 1948 and the Christmas Flood of December 1964-January 1965.

Clark County's last big flood occurred in February 1996. Extended rainfall and early snowmelt, triggered by an influx of warm, wet weather known as the "Pineapple Express," caused many rivers and creeks to flood.

The February 1996 flood damaged or destroyed almost 300 homes and caused $25 million in property losses in Clark County. Some homes were inundated with up to 4 feet of water. More than 100 county roads and five bridges were damaged, and railways were closed in the Lakeshore area.

Residential evacuations occurred in Woodland, which was ravaged by flooding from the North Fork of the Lewis River. President Clinton visited Woodland and toured flood-damaged homes in Cowlitz County on Feb. 14, 1996.

The Columbia River crested at 27.2 feet on Feb. 9, 1996, more than 11 feet above its flood stage. The river's all-time crest, 31 feet, occurred on June 13, 1948, during the Vanport Flood.

Before accurate records were kept, the river reached an estimated 34.4 feet during the Great Flood of 1894, which would have caused flooding in much of downtown Vancouver.

More historical information on Clark County floods and what to expect when the Columbia River reaches different flood levels is available on the county's website at: www.clark.wa.gov/publicworks/flood.

## Flood Insurance Rate Maps available

Three years ago, the Federal Emergency Management Agency (FEMA) revised Flood Insurance Rate Maps for Clark County.

Revisions include updated flood hazard boundaries and base flood elevations. Detailed topographic mapping and flow data have been incorporated to better predict flood hazards.

FEMA required the county to adopt the maps as part of the its participation in the National Flood Insurance Program. Clark County has flood insurance rate maps available and encourages property owners to review them online at: www.clark.wa.gov/publicworks/flood/index.html.

More information is available by calling the FEMA Map Information eXchange, (877) 336-2627, or by visiting FEMA's website: www.floodmaps.fema.gov/fhm/fmx_main.html.

Flood hazard studies are being prepared for the Washougal River and the Little Washougal River. These studies will result in additional changes to Flood Insurance Rate Maps.

FEMA is scheduled to release draft maps during the winter of 2015-16. The public will be able to review the maps before the county considers adopting them.

## Clark County Hazard Mitigation Plan

During the next year, Clark Regional Emergency Services Agency will develop a plan for reducing risks from natural hazards, including floods and earthquakes. Completing this federally mandated plan will ensure the area is eligible to receive federal grants for risk reduction projects.

The plan will assess hazards, pinpoint vulnerabilities and identify strategies for reducing risks. For flood-prone areas, strategies may include elevating or moving flood-prone structures, buying out vulnerable properties and increasing flood awareness.

Clark County residents can participate in the process by sharing local knowledge of vulnerabilities, along with their ideas for mitigating these hazards. Residents are encouraged to provide input on all phases of the plan's development. More information is available at: cresa911.org/hazmitplanproject.

## Flood safety: Before a flood

- Prepare an evacuation plan and an emergency supplies kit. Have an evacuation plan for all household members that includes a meeting place outside your house, as well as an escape route away from flood waters.
- 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 sustained damage from flooding in the past or may sustain damage in the future. Such techniques include elevating the home, relocating the home to higher ground, constructing floodwalls or berms and protecting utilities. Fuel tanks can become floating bombs. All fuel tanks in flood-prone areas should be anchored. Contact the Clark County Building Division at (360) 397-2375 ext. 4912 or find information online at: www.fema.gov/protecting-homes.

## Flood safety: During a flood

- Don't walk through a flooded area. Drowning is the No. 1 cause of flood-related deaths, mostly during flash floods. Currents can be deceptive; 6 inches of moving water can knock you off your feet. If you must walk in standing water, use a pole or stick to probe for stable ground.
- Don't drive through a flooded area. More people drown in their cars than anywhere else. Don't move or drive around road barriers. The road or bridge ahead may be washed out, something you may not see in the dark.
- Stay away from power lines and electrical wires. The No. 2 flood killer, after drowning, is electrocution. Electrical current can travel through water. Report downed power lines to Clark Public Utilities at (360) 992-3000.
- Shut off gas and electricity and move valuable contents upstairs. Be prepared with a detailed checklist because you may have little warning prior to evacuation.
- Look out for animals. Small animals that have been flooded out of their homes may seek shelter in yours.
- Look before you step. The ground likely will be covered with debris, including broken glass and nails. Floors and stairs can be coated with mud and may 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.
- Tune to local radio stations. Use a battery-operated or hand crank radio to get the latest emergency information. Periodically check your batteries' expiration dates.

## Flood safety: After a flood

Although floodwaters may recede, dangers still exist. A few things to remember in the days after a flood:

- Roads may still be closed because they have been damaged or are covered with water. If you come upon a barricade or flooded road, go another way. A flood is not the time to take unwarranted risks.
- Keep listening to the radio for news about what to do, where to go or places to avoid.
- Emergency workers will be assisting people in flooded areas. You can help by staying off roads and out of the way.

If you must walk or drive in flooded areas:

- Stay on firm ground.
- Avoid standing water. It may be electrically charged from underground or downed power lines or be contaminated with chemicals or sewage.
- Use caution. Flood waters often erode roads and walkways. Flood debris may hide animals and broken glass.
- Play it safe. Additional flooding or flash floods can occur. Listen for local warnings and information.
- If your car stalls in rising waters, get out immediately and climb to higher ground.

Listen to the radio or TV and do not return home until authorities say it is safe to do so. When you return home, be sure to follow these safety tips:

- If your home, apartment or business has sustained damage, file a claim with your insurance company right away.
- DO NOT use candles, cigarette lighters or any other open flame in or around structures since gas may still be trapped inside. Use a flashlight instead.
- Turn off the electricity at the main breaker or fuse box, even if the power is off in your area. DO NOT turn power back on until an electrician has inspected your system.
- Flood waters can pick up sewage and chemicals from roads, farms and factories. When your home is flooded, protect your health by cleaning up your house right away. Throw out food and medicine that may have been in flood waters.
- Until authorities say your water supply is safe, vigorously boil water for drinking and food preparation for at least 1 minute.
- Be careful walking around and watch out for debris.

Clark Regional Emergency Services Agency has flood warning information available through its website at: cresa911.org/alerts-warnings.

The website includes information about the emergency alert system, hazard mitigation and disaster recovery. It also has tips for how to prepare for a flood or other emergency.

## Flood insurance

To assist residents in purchasing flood insurance, Clark County participates in the National Flood Insurance Program (NFIP).

The program makes federally backed flood insurance available for all structures, whether or not they are within floodplains.

Communities participating in the NFIP agree to adopt and enforce ordinances that meet or exceed FEMA requirements to reduce the risk of flooding.

Please understand that:

- Standard homeowner's insurance does not cover flooding.
- Homes and buildings in high-risk flood areas with mortgages from federally regulated or insured lenders are required to have flood insurance.
- Homes and businesses in moderate- to low-risk areas that have mortgages from federally regulated or insured lenders are typically not required to have flood insurance. However, insurance is recommended because 25 percent of all flood claims are in moderate- to low-risk flood areas.
- A lender can require flood insurance, even if it is not federally required.
- Following the purchase of flood insurance, the federal program imposes a 30-day waiting period. Residents should purchase insurance before the onset of rainy weather.

Contact your insurance agent for more information. You also can contact the NFIP, (888) 379-9531, or: www.floodsmart.gov.

## Community Rating System

Clark County also participates in the NFIP Community Rating System. This is a voluntary incentive program that recognizes and encourages floodplain management that exceeds minimum NFIP requirements.

Flood insurance premiums are discounted through a points-based program for improved flood data management and community outreach.

For participating communities, flood insurance premiums are discounted in increments of 5 percent; i.e., a Class 1 community receives a 45 percent premium discount, while a Class 9 community receives a 5 percent discount.

Since October 2009, Clark County has had a Class 5 community rating, which means a 25 percent discount.

## Floodplain management

Clark County's program is designed to prevent and reduce flood damage. Components include reviewing development and building permits, conducting public education and encouraging owners of flood-prone properties to purchase flood insurance.

Clark County regulates development within floodplains under Unified Development Code, Section 40.420.

The NFIP requires that buildings "substantially damaged" in a flood (the cost of repairs is 50 percent or more than the building's pre-flood value) be raised above the base flood elevation during repairs. This requirement is enforced through the county's floodplain management program.

## The value of floodplains

Floodplains are a natural component of the Clark County environment. Understanding and protecting their natural function can reduce flood damage and protect people and property.

The benefits of preserving floodplains include:

- Flood and erosion control. Floodplains are natural sponges, storing and slowly releasing flood waters. This reduces the height of a flood and the speed of a river. When a river is cut off from its floodplain by levees and dikes, flood heights often increase and downstream damage can be greater. Floodplains also reduce sedimentation, namely soil and pollutants in the water, that can harm aquatic life.
- Water quality improvement. As water travels through floodplains, plants serve as natural filters, trapping sediments and capturing pollutants. They also help to moderate temperature fluctuations that can harm aquatic life.
- Groundwater recharge. Floodplains promote infiltration and recharge of the aquifer.
- Fish and wildlife habitat. Floodplains maintain biodiversity. They provide breeding and feeding grounds, create and enhance waterfowl areas, and protect habitat for rare and endangered species.

As buildable land becomes scarce with ongoing urban development, pressure builds to develop in floodplains.

Building homes and businesses in floodplains not only puts people in harm's way, but it reduces the environmental benefits of floodplains.

## What you can do to help

Maintaining the flow and flood storage capacity in streams requires cooperation and assistance of all residents.

- Do not dump or throw anything into ditches or streams. A plugged channel cannot carry water. Trash and vegetation dumped into a stream degrades water quality. The county enforces regulations that prohibit illegal dumping of material into ditches, streams and other drainage ways.
- Report anyone dumping debris into streams, drainage ways or rivers to Clark County Code Enforcement at (360) 397-2375 ext. 2408. Remember: What is dumped upstream can affect your property.
- Do not remove growing vegetation from stream banks. Streamside vegetation is tightly regulated by local, state and federal regulations. If you have questions, contact Clark County Environmental Services at (360) 397-2121 ext. 4152. Report vegetation or tree clearing on stream banks to code enforcement at (360) 397-2375 ext. 2408.
- Obtain a floodplain permit and/or building permit. To minimize damage to structures during floods, the county requires all new construction and substantial improvements inside floodplains to be flood-proofed, elevated or otherwise protected. This includes not only structures but the placement of fill and other grading activities, along with the storage of materials and equipment.

CLARK COUNTY, WASHINGTON