



## GENERAL FLOODPLAIN INFORMATION

### Overview

Lane County features several large rivers and smaller tributaries and streams that are susceptible to annual flooding events. The flooding of these waterways threatens life and safety and can cause significant property damage. Large rivers include the Willamette (Main Stem, Middle and Coast Forks) the McKenzie (including the South Fork), the Siuslaw (including the North Fork) the Row River and Lake Creek. Smaller streams and tributaries susceptible to frequent flooding include the Mohawk, Long Tom, Fall Creek, Little Fall Creek, Camp Creek, Horse Creek, Coyote Creek, Mosby Creek, Poodle Creek, Siltcoos River and Tenmile River.

Lane County has nearly 140,000 acres of land in the floodplain. This is equivalent to well over 200 square miles! Over 11,000 individual parcels are partially or entirely located within the floodplain. Statewide, Lane County has more river miles of floodplain than any other county and ongoing development along these rivers continues to displace natural areas that have historically functioned to store excess water during flood events.

### Flooding Events

While some type of seasonal flood-related damage occurs nearly every year, the flooding and associated landslide events of February and November 1996, and January 2012 represent the most recent significant flooding. In February 1996, prolonged precipitation accompanied by an early snowmelt, caused by a warm-weather trend known as a “Pineapple Express,” caused many rivers and creeks throughout Lane County to rise to 100-year flood levels. Flooding was particularly severe along the Siuslaw and Mohawk Rivers. Damage to Lane County businesses, residences and infrastructure was estimated to be roughly \$19 million dollars.

Although the floods of 1996 represented a large-scale disaster, they are not unprecedented within the recent past. The Christmas Flood of 1964 caused \$157 million in damage statewide, and 20 Oregonians lost their lives. In addition to the 96’ and 64’ floods, Lane County has experienced several other significant floods since records have been kept. In 1972, flooding along the Siuslaw River caused extensive damage within the community of Mapleton. The floods of 1945, 1942 and 1927 caused severe damage to the City of Eugene and the surrounding areas. Early records indicate that the Southern Willamette Valley flooded often in the mid to and late 1800’s, with major flooding occurring in 1850-51, 1861, 1881 and 1890. While the 1996 events were devastating to the entire region, the floods of 1861, 1890, and 1964 exceeded the 1996 event in terms of velocity and volume of water. All three floods are estimated to have exceed the so-called “100-year flood,” or Base Flood in Lane County, and all within a time frame of about 100 years.

### Causes of Flooding in Lane County

Flooding occurs when climate, geology, and hydrology combine to create conditions where river and stream waters flow outside of their usual course and “overspill” beyond their banks. In Lane County, the combination of these factors, augmented by ongoing development, create chronic seasonal flooding conditions. Lane County spans a wide range of climatic and geologic regions from the Pacific coast to the high Cascades. This diversity results in considerable variation in precipitation. The average annual precipitation ranges from less than 40

inches in the Willamette Valley to over 100 inches in the coast range and Flood Hazards in Lane County 2 along the west slope of the Cascades. Snowmelt from the central cascades provides a continuous water source throughout the year, and can contribute significantly to flooding.

Flooding is most common from October through April, when storms from the Pacific Ocean bring intense rainfall to the area. Larger floods 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.

The Army Corps of Engineers operates 13 multi-purpose water projects (also known as dams) in the Willamette Valley with nine of those projects situated in Lane County. The primary purpose of these dams is flood control, although they only control 50% of the tributaries in the Willamette Basin. Reservoirs behind the dams are drained every November to create storage capacity for water from heavy winter and spring rains. Therefore, most flooding in Lane County occurs on tributaries that do not feed these reservoirs or along rivers with no flood control devices, such as the Siuslaw. It is important to recognize that even if you live downstream of a dam, flooding is possible. During prolonged and intense flood events reservoirs do fill up. In these situations, the Army Corps must release flood waters from the reservoirs.

### **Lane County's Flood Program**

Lane County is a participating member of the National Flood Insurance Program or NFIP. In order to participate in the NFIP, Lane County is required to adopt and enforce floodplain management ordinances aimed at reducing the likelihood of future flood damage to new construction within the regulated flood plain, also known as the Special Flood Hazard Area (SFHA). The county must manage land within SFHA in ways that meet or exceed standards set by the Federal Emergency Management Agency (FEMA). Oversight of the county flood program is the responsibility of the Land Management Division.

### **Flood Insurance**

The NFIP is a Federal program that enables property owners within participating communities to purchase flood insurance at a reasonable cost. Through the NFIP, federally backed flood insurance is available for all structures, whether or not they are located within the 100-year floodplain. Research has shown that over 25 percent of all NFIP claims are filed by properties located outside of the mapped floodplain. 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 flood prone months.

The NFIP insures building with two types of coverage: structural and contents. Structural coverage includes walls, floors, insulation, furnace 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. This coverage 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 Flood Hazards in Lane County 3 coverage be purchased 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.

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 and reduces the capacity of the stream to carry flood waters. Every piece of trash placed in a stream contributes to flooding. Lane County and the State of Oregon have both adopted and enforce regulations that prohibit the illegal dumping of materials into ditches, streams or other drainage ways. Please report any observed dumping of debris or other objects into road drainage ways, ditches or culverts to the Lane County Nuisance Abatement Program at (541) 682-4533. The Oregon Department of State Lands (DSL) responds to the illegal placement of any materials within wetlands and waters of the State. Contact DSL to report observed dumping in wetlands at (503) 986- 5200. To report all other illegal dumping contact the Lane County Land Management Division - Code Compliance Program at (541) 682-3724.

Leave natural debris, such as stumps, fallen trees and boulders in the stream. DO NOT, remove vegetation that is actively growing on a stream bank. Streamside vegetation is tightly regulated by local, state and federal regulations. Before undertaking any removal of streamside vegetation, contact the Lane County Planning Department at (541) 682-3577 and the Division of State Lands at (503) 378-3805. Please report any observations of the clearing of vegetation or trees on stream banks to the Lane County Land Management Division - Code Compliance Program at (541) 682-3724.

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 to be located outside of the floodplain if possible, or if the development must be located within the floodplain, it must 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 services, are at least 1 foot above the elevation of the 100-year flood. In 2023, the floodplain code requiring 2 feet of elevation above the BFE will become effective. These standards apply to new structures and to substantial improvements of existing structures. The County defines a Substantial Improvement as any Flood Hazards in Lane County reconstruction, rehabilitation, or addition to an existing structure, the cost of which exceeds 50 percent of the structure's appraised value. Additionally, most other types of development within the floodplain also require a floodplain development permit, such as grading, cut and fill, installation of riprap and other bank stabilization techniques.

To find out if your property is located in a floodplain check with the Lane County Land Management Division to submit an application for a Floodplain Verification (Office) Permit. The Planning Program is located at 3050 N. Delta Hwy., Eugene, OR. Planning staff are available Monday – Friday from 9:00am – 3:00pm or, you may call the Planner on Duty at 541-682-3577.

Contact the Lane County Planning Department at (541) 682-3577 for further information and prior to undertaking any activity within the floodplain.

Recognize the natural and beneficial functions of floodplains to help reduce flooding: Floodplains are a natural component of the Lane 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, highly valued as wildlife habitat, and often, very 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. Whenever possible, residents are encouraged to build outside of the floodplain.

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, flood-proofing and protecting utilities. For further information, contact the Lane County Planning Department at (541) 682-3577, and the Federal Emergency Management Agency, Region X at (425) 487-4600.

During times of flooding, homes that have not been retrofitted can be protected during emergencies by the installation of sandbags. When the storm season arrives and flooding occurs, it is more difficult to start emergency work; therefore, it is recommended that you initiate your preparation ahead of time. Water and debris control aids (such as sandbags, sand, lumber, plastic tarps and plywood) are inexpensive when compared to the protection received, and can be installed with normal household tools. Materials are readily available at your local home improvement store, lumber yard and/or sand & gravel yard. Sandbags, when properly placed, will redirect storm and debris flows away from built structures. For more detailed information, visit the Lane County Emergency Management website at: [https://www.lanecounty.org/government/county\\_departments/lane\\_county\\_emergency\\_management](https://www.lanecounty.org/government/county_departments/lane_county_emergency_management), or 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) flood zone for the property; 3) Base Flood Elevation for property, if available; and 4) whether the property is located within the Floodway. Contact Lane County Planning at (541) 682-3577.

### **Flood Safety Tips**

The County's Flood Information Web site is located at: [https://www.lanecounty.org/government/county\\_departments/public\\_works/land\\_management\\_division/land\\_use\\_planning\\_zoning/floodplain\\_information](https://www.lanecounty.org/government/county_departments/public_works/land_management_division/land_use_planning_zoning/floodplain_information)

Additionally, Lane County Roads has a website that features road conditions, road closures and road hazards. The website is located at: <http://lcmaps.lanecounty.org/stormroadtracker/index.html>

NOAA Northwest River Forecast Center at: <https://water.weather.gov/ahps2/index.php?wfo=pqr>

**Following is a list of important considerations that should be followed 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.

TURN AROUND, DON'T DROWN.

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. It only takes 6 inches of water to reach the bottom of most passenger cars, causing stalling or loss of control. A foot of water is enough to float many vehicles. 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 your local utility company or to the County Emergency Management Office.

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 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.

**Important Contact Information**

Lane County Internet Home Page: <https://www.lanecounty.org/>

Lane County Floodplain Information:

<https://www.lanecounty.org/cms/One.aspx?portalId=3585881&pageId=4282586>

Lane County Zone and Plan Map Viewer (*Interactive map application featuring digital flood maps for Lane County*): <https://lcmaps.lanecounty.org/LaneCountyMaps/ZoneAndPlanMapsApp/index.html>

Federal Emergency Management Agency (FEMA): (425) 487-4600 <https://www.fema.gov/>

Lane County Land Management Division (Planning): (541) 682-3577

[https://www.lanecounty.org/government/county\\_departments/public\\_works/land\\_management\\_division/land\\_use\\_planning\\_zoning](https://www.lanecounty.org/government/county_departments/public_works/land_management_division/land_use_planning_zoning)

Lane County Land Management Division (Code Compliance Program): (541) 682-3724

[https://www.lanecounty.org/government/county\\_departments/public\\_works/land\\_management\\_division/code\\_compliance\\_program](https://www.lanecounty.org/government/county_departments/public_works/land_management_division/code_compliance_program)

Lane County Emergency Management: (541) 682-6999

[https://www.lanecounty.org/government/county\\_departments/lane\\_county\\_emergency\\_management](https://www.lanecounty.org/government/county_departments/lane_county_emergency_management)

Division of State Lands (DSL): (503) 378-3805 <https://www.oregon.gov/DSL/Pages/index.aspx>

NOAA Northwest River Forecast Center: <https://www.nwrfc.noaa.gov/rfc/>

U.S. Army Corps of Engineers, Portland District: (202) 761-0011 <https://www.nwp.usace.army.mil/>