

## **Important Information for People Living In or Near Floodplains**

This information is being provided for informational purposes for people living in or near floodplains in Marion County. The County is working on ways to improve and increase its circulation of and accessibility to information that pertains to the floodplain, in an effort to better educate and assist its citizens about developing and living in the floodplain. Please take the time to read the information below, and if you have further questions, or would like additional information, a variety of contact information has been supplied at the end of this document.

### **Overview**

Marion County has several large rivers and smaller tributaries that are susceptible to annual flooding events. Flooding poses a threat to life and safety, and can cause severe damage to public and private property. The County's most devastating floods of recent history occurred in 1996. In February 1996, prolonged precipitation accompanied by an early snowmelt caused many rivers and creeks throughout the Willamette River watershed to rise to 100-year flood levels. The Willamette River and many of its tributaries were filled beyond capacity, causing flooding in both rural and urban areas.

### **Recent Flooding Events**

The 1996 floods caused a statewide loss of \$400 million in damages, as 26 major rivers rose to flood stage. More than 100 Red Cross and Salvation Army shelters were opened, and 23,000 residents fled their homes. Seven casualties were reported, and 50 people were injured. An estimated 1,700 Oregonians lost their jobs due to flooding, and the Small Business Association (SBA) loaned Oregon businesses over \$40.5 million to assist with recovery efforts.

Although this flood was a large-scale disaster, it was not unprecedented. During the Christmas Flood of 1964, over \$157 million in damage was done, and 20 Oregonians lost their lives. The "Christmas" flood of 1964 was the largest flood to occur since the major dam construction on the upper Willamette. This flood occurred as a result of two storms, one on December 19, 1964 and the other on January 31, 1965. These storms brought record-breaking rainfall that exacerbated near record early season snow depths. The flooding caused ten deaths, \$5 million dollars of damage to State bridges and \$10 million dollars of damage in Marion County. There were hundreds of landslides, bridges and roads washed out, houses were damaged or destroyed, and thousands of people were forced to evacuate their homes. Governor Mark Hatfield declared the entire State an emergency disaster area, and called the flooding, "the worst disaster ever to hit the state."

Marion County Commissioners also declared the County a disaster area as the Willamette River crested at 29.7 feet in Salem; nearly 10 feet above flood stage, and most other streams in Marion County overflowed their banks. The floodwaters rendered sewage treatment plants in Salem inoperable causing raw sewage to be channeled directly into the Willamette River.

A significant portion of Keizer was inundated and more than a thousand people were evacuated. One hundred and twenty one patients were evacuated from the Salem Memorial Hospital and fifteen families in the Turner/Salem area were evacuated from their homes. In Independence, thirty people were temporarily housed in City Hall to escape the floods. Further east, the entire Detroit-Idanha-

Marion Forks area was isolated by massive washouts near Detroit Dam and Marion Forks. Seven homes were washed away in Idanha and a landslide destroyed one house

### **Causes of Flooding in Marion County**

Flooding occurs when climate (or weather patterns), geology, and hydrology combine to create conditions where water flows outside of its usual course. Because Marion County spans a wide range of climatic and geologic regions, there is considerable variation in precipitation, with elevation being the largest factor in precipitation totals. Elevation in Marion County ranges from about 5,000 feet in the Cascades to about 100 feet along the Willamette River. As is typical for the west side of the Cascades, precipitation is not spread evenly over the calendar year but falls during the winter and spring months in a water year that runs from October to May or June.

Flooding is most common from October through April, when storms from the Pacific Ocean, 60 miles away, bring intense rainfall to the area. Marion County receives approximately 40.35 inches of rain on average each year<sup>40</sup> (see Figure 6.1 & 6.2). During winter months, rainfall totals average far higher than other months of the year. This results in high water, particularly in December and January. The larger floods are the result of heavy rains of two-day to five-day durations augmented by snowmelt at a time when the soil is near saturation from previous rains. Frozen topsoil also contributes to the frequency of floods.

### **Flood Insurance**

Marion County participates in the National Flood Insurance Program (NFIP) and Community Rating System (CRS). The county's flood outreach efforts and management practices places it in the top 8% of jurisdictions nationwide and brings many benefits to county residents, including a savings of up to 20% on flood insurance premiums. More information about the County's participation in the NFIP and CRS is available on this website:

<http://www.co.marion.or.us/PW/Planning/Floodplain+Program.htm>.

The County's participation in the NFIP 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). Homeowner policies do not cover floods. 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 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 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 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 Awareness 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 of both the stream itself and its receiving waters, and every piece of trash contributes to flooding. All three surface water management agencies that serve the urban areas of 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 Marion County Code Enforcement Department at (503) 373-4333.

*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, however, 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 Marion County Planning Department at (503) 588-5038 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 Marion County Code Enforcement Department at (503) 373-4333.

*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 services, are elevated 1 to 2 feet 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 20 percent of the structure's 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. County staff are available to undertake site visits, if requested, to review flood, drainage and sewer issues. Contact the Marion County Planning Department at (503) 588-5038 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 Marion 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, flood-proofing and protecting utilities. For further information, contact the Marion County Planning Department at (503) 588-5038 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. For further information about sandbags and the locations of sites where sandbags are available during flooding, contact the County's Department of Emergency Management at (503) 588-5108, or visit their Web site at: <http://www.co.marion.or.us/PW/EmergencyManagement/>. 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 property; 3) Base Flood Elevation for property, if available; and 4) whether the property is located within the Floodway. Contact the Marion County Planning Department at (503) 588-5038 for further information.

### **Flood Safety Tips**

The County's Emergency Management Department has flood warning information available that can be accessed by calling them at (503) 588-5108, or through their Web site at: <http://www.co.marion.or.us/PW/EmergencyManagement/>. The Web site includes information about sandbag locations, ways to contact and listen to the National Weather Service and the Portland Weather Service and road conditions, closures and hazards.

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.

*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 the Portland General Electric or 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 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.

### **Important Contact Information**

Marion County Internet Home Page

Web: <http://www.co.marion.or.us/>

Marion County Internet Floodplain Information:

Web: <http://www.co.marion.or.us/PW/EmergencyManagement/disastertips/floods.htm>

Federal Emergency Management Agency (FEMA)

Phone: (425) 487-4600

Web: <http://www.fema.gov/nfip/>

Marion County Planning Division

Phone: (503) 588-5038

E-Mail: [planning@co.marion.or.us](mailto:planning@co.marion.or.us)

Web: <http://www.co.marion.or.us/PW/Planning/>

Marion County Code Enforcement

Phone: (503) 373-4333

Web: <http://www.co.marion.or.us/PW/CodeEnforcement/>

Marion County Department of Emergency Management

Phone: (503) 588-5108723-4848

Emergency: 911

Web: <http://www.co.marion.or.us/PW/EmergencyManagement/>

Salem Public Library (houses floodplain publications and other floodplain information)

Phone: (503) 588-6052

Web: <http://www.cityofsalem.net/departments/library/>

Division of State Lands (DSL)

Phone: (503) 378-3805

Web: <http://statelands.dsl.state.or.us/index.htm>

Oregon Department of Fish and Wildlife (ODFW)

Phone: (503) 872-5268

Web: <http://www.dfw.state.or.us/>

Oregon Department of Forestry (ODF)

Phone: (503) 945-7200

Web: <http://www.odf.state.or.us/>

National Marine Fisheries Service (NMFS)

Phone: (206) 526-6150

Web: <http://www.nmfs.noaa.gov/> (and) <http://www.nwr.noaa.gov/>

U.S. Army Corps of Engineers

Phone: (503) 808-4510

Web: <https://www.nwp.usace.army.mil/>