GLOSSARY

This is a glossary for leaders of flood risk management to use with the public for managing the Nation's flood risks. Bold words are defined and used to link to other definitions.

Actions are specific efforts to implement any **Measure**(s) intended to mitigate flood hazards and that help a community achieve goals and objectives.

Activity is one of two terms associated with being a **Measure**. An activity could be one-time, periodic, or continuing. Local, state, and federal agencies may do many activities to manage the use of resource(s) to address **Goals** tied to **Risk Management**.

Acquisition, or **Buyout** is a physical means of managing flood risks by addressing consequences in the floodplain with the purchase and elimination of flood damageable structures, allowing for inhabitants to relocate to locations away from flood hazards.

Alluvial Fan is a large area of soil, rock, and debris spread out by floodwaters into a cone shape at the base of narrow canyons on a flat plain and creating uneven land at the foot of a mountain range.

Alluvial Fan Flooding is dangerous flash flooding occurring on the surface of an **Alluvial Fan** that may quickly change flow paths and may also have a fast moving **Debris Flow**.

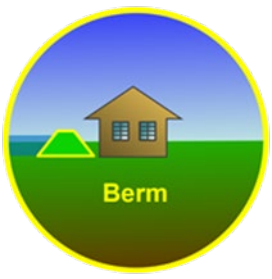
Arroyo is term for dry river beds and creeks in deserts or dry areas of the U.S. that can be dangerous during a **Flash Flood** because the unexpected rainfall runoff may occur very far away from the area flooding.

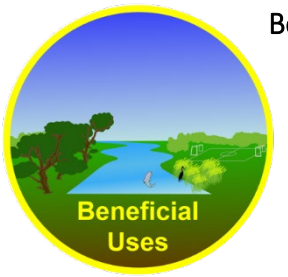
Base Flood is the flood for a specific location on a stream or river that has a 1-percent probability of being equaled or exceeded in any given year. The flood is wrongly referred to as the 100-year flood, which misleads the public to believe that 100 years pass between such floods. Base flood is a **Land Use Regulation** definition tied to the federal program for **Flood Insurance**.

Base Flood Elevation is a **Land Use Regulation** term, which is defined for the federal program for **Flood Insurance**. The elevation is the height calculated using historic rainfall for the 1-percent chance in a given year and in feet above sea level. The term is not a safety standard.

Basin, or **Watershed**, is all the area that drains rainfall from places higher, or upstream, of a point on land or along a stream or river.

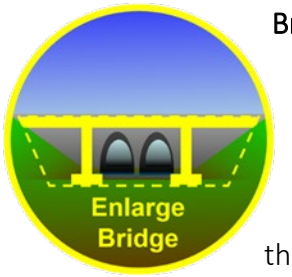
Berm (also landform) is a **Feature** made of soil that act as a barrier along a watercourse to exclude floodwaters from a very limited range of minor flood events from a small portion of the floodplain, usually for one structure.





Beneficial Use of floodplains is a useful way to go beyond managing flood risks, encourage a more diverse natural environment, and add recreational amenities in what is regarded as a wise use of floodplains. Communities also find this adds value in terms of social benefits, which help the community thrive.

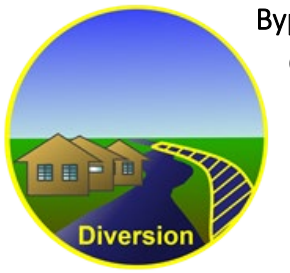
Building Codes are a part of **Land Use Regulation** and are for communities to control building design and construction materials, including anchoring, materials resilient to wet conditions, and structural strengths to address water pressure and velocities of waves. They may also place requirements on electrical wiring, mechanical equipment, and often may address sanitary sewer backup.



Bridge Raises are a form of a bridge enhancement and are vertical improvements to improve the area of flow, similar to **Bridge Widening**, although a raise will also require elevating the profile of the road and involve more costs.

Bridge Widening is a form of a bridge enhancement that provides more area for floodwaters to drain by increasing the distance between the ends of the bridge and then tying to a wider channel. Bridge widenings may be replacing a structure or culvert that allows a road to cross a stream.

Buyout, or **Acquisition** is a physical **Nonstructural Measure** and involves purchase and elimination of flood damageable structures, allowing for inhabitants to relocate to locations away from flood hazards.



Bypass, or **Diversion**, is a **Feature** that is an additional or new channel to a creek or river and may be used to reduce the amount of floodwaters in the area of concern.

Capacity Exceedance is when a feature, such as a **Levee**, **Dam**, **Channel**, or elevated building, has floodwater overflow the top of the structure, overflow above a channel bank, or rise above the level of an elevated building.

Channel is a **Feature** that uses slope and gravity to drain floodwaters.

Channel Alteration is a **Feature** and a change communities may make to **Channel**. Changes made include those to the stream banks and stream bottoms, including side slopes, straightening the path in a new channel, widening, and deepening. Combinations of these are common, and **Bridge Widening**s are frequently necessary as well.

Climate is defined by the meteorological elements, including temperature, precipitation, and wind, which characterizes the general conditions of the atmosphere over a period of time (typically 30 years) for a particular region.

Coastal refers to the coastlines and bays of the tidal waters of the United States or the shorelines of the Great Lakes. This term is used to define a source of flooding, where the other term is **Riverine**.

Community a city, village, town, county, township, parish, borough, Indian tribe or authorized tribal organization, Alaska Native village or authorized native organization, or other local government with the statutory authority to enact **Land Regulations**.

Comprehensive Plan or "Comp Plan," refers to a document, not limited to flood risk management, covering the entire geographic area of a community and expressing community goals and objectives. The plan lays out the vision, policies, and strategies for the future of the community, including all of the physical elements that will determine the community's future **Development**. This plan can discuss the community's desired physical **Development**, desired rate and quantity of growth, community character, transportation services, location of growth, and siting of public facilities and transportation. In most states, the comprehensive plan has no authority in and of itself, but serves as a guide for community decision-making. Current and future condition flood mapping will enhance any comprehensive plan. A **Floodplain Management Plan** or risk management plan for flood hazards should build on the vision of a Comp Plan.

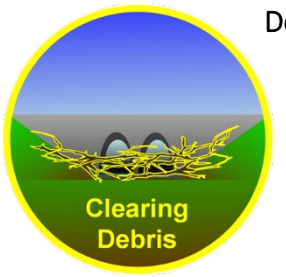
Consequence is the effect, result, or outcome of flooding reflected in the potential loss of live, economic losses, and adverse environmental impacts. Consequence is a part of defining **Flood Risk**.

Critical Facility is a structure that, if destroyed, damaged, or if function is lost, will badly affect a community. Critical facilities are 1) vital to flood response activities or crucial to the health and safety of the public before, during, and after a flood, such as a hospital, emergency operations center, electric substation, police station, fire station, nursing home, school, vehicle and equipment storage facility, or shelter; and 2) are facilities that, if flooded, would make the flood problem and flood impacts much worse, such as a hazardous materials facility, power generation facility, water utility, wastewater treatment plant, or transportation system.

Culverts, sometimes referred to as Bridge Culverts, are assemblies of pipes, which could be metal or concrete, or assemblies of rectangular box segments, often concrete, which allow creeks to cross below roads. Culverts may be considered to be bridges by some, although culverts have more difficulty passing floodwaters on the upstream end than bridges.

Dam is a **Feature** made of soil that allow the long-term storage of large amounts of rainfall runoff to reduce the flood flows impacting those downstream. Dams often have multiple purposes tied to them, including recreation, water supply, and environmental purposes.

Detention Basin is a **Feature** made of soil that allow usually short-term storage and treatment of rainfall runoff to reduce the flood flows impacting those downstream. Detention basins are sometimes dry during wet weather, and they may support recreation activities.



Debris refers to trash, junk, litter, discarded remains of something destroyed, landscape waste, or vegetation that may reduce the ability (of one or both) 1) to drain a pipe or channel; 2) to store floodwater behind a **Detention Basin** or **Dam**.

Debris Flow is a dangerous type of flooding from hills or mountains that is made up typically of mud, rock, and vegetation. These are often tied to channels draining from areas that experienced wild fires, which burned off the trees and brush that kept the soil in place.

Depth Grids are an information and education measure that uses web viewers to show inundation maps illustrating the depth of flooding, usually with varying color.

Development is any manmade change to improved or unimproved real estate including, but not limited to, buildings or other structures, mining, dredging, filling, grading, paving, excavation, drilling operations, or storage of equipment or materials.

Diversion, or **Bypass**, are **Feature**s that are an additional or new channel to a creek or river and are used to reduce the amount of floodwaters in the area of concern.

Dry Flood Proofing is a physical **Nonstructural Measure** for **Flood Proofing** structures in the floodplain and involves sealing building walls with waterproofing compounds, impermeable sheeting, or other materials to prevent the entry of floodwaters into damageable structures. Dry flood proofing is applicable in areas of shallow, low velocity flooding.

Educational Opportunities include the chance to help the public learn of the natural and beneficial values of floodplains and low impact **Development** upstream.

Elected Officials are selected through democratic processes to be mayors, city council members, levee board members, drainage district directors, and similar positions charged with leading and making decisions that benefit the public.

Elevation is a physical **Nonstructural Measure** and involves lifting the building in place so that the structure sees a reduction in frequency and/or depth of flooding during high-water events. Elevating structures can be done with earthen fill, foundation walls, piers, piles, posts or columns. Selection of the proper elevation method depends on flood characteristics such as flood depth or velocity. The additional cost of additional height for the raising of the structure is usually minimal compared to the first foot, due to start-up costs for the builder, so frequently property owners add **Freeboard**.

Elevation Certificates are an information and education measure and are official documents provided by professional land surveyors to determine if a structure is affected by floodwaters and is used to determine flood insurance premiums.

Emergency Preparedness Plans, or Emergency Action Plans, are a measure established by local officials that identifies hazards, risks and vulnerabilities. The plan should include the community's response to flooding, but the plans should establish the roles and responsibilities related to the following items well in advance: 1) activation of floodfighting measures (closure structures, sandbagging, pumps, etc.), 2) location of evacuation centers, 3) evacuation routes, and 4) flood emergency processes (including public messaging, how to direct volunteers, etc.). Emergency Action Plans are considered a nonphysical Nonstructural Measure under the full menu of flood risk management measures.

Emergency Relief includes funding and or staff from a government entity that is available for flood disasters. Typically, federal and state government programs are established to provide relief, although communities also may have mutual aid agreements. Many not-for-profit organizations exist and also provide emergency relief.

Erosion Protections are measures that help when fast moving floodwaters cause loss of land, including stream bank failures. Heavy rock and naturally occurring roots can provide erosion protection.

Evacuation Plans are a public resource with directions and places to go and are for the public to understand prior to severe flooding. Evacuation plans are normally part of Emergency Preparedness Plans. The foresight should have included action thresholds for leaders to begin flood response, contact methods to effected people, and predetermined messages for risk communication. Effective plans use flood maps and understand the rate of rise of floodwaters for various flood severities. When used in conjunction with flood warning systems, evacuation plans can provide significant loss of life avoidance and flood damage reduction benefits. Evacuation planning should consider vertical evacuation as well as the traditional horizontal evacuation. Rally points as well as evacuation routes should be thoughtfully planned and communicated to the public. Evacuation plans are considered a nonphysical Nonstructural Measure.

Evaluate is a planning process that a community's Risk professionals do when reviewing Measures. Resilient communities have included the public and evaluated the full menu of measures to prioritize Actions, then used that evaluation in a playbook for Elected Officials to Mitigate flood hazards over the long-term to help communities thrive.

Exposure is the potential for people and assets to come into direct contact with flood water as a result of their location in a floodplain.

Feature is one of two terms associated with being a Measure. A feature is something that may be constructed. Local, state, and federal agencies may build various features to address Goals tied to Risk Management.

Fill Basement is a **Flood Proofing** measure to eliminate flood risks for some structures. This normally requires breaking up the concrete floor slab to allow water pressure to equalize. Often this measure is done with a first story addition.

Flash Flood is a flood occurring with little or no warning and has water levels that rise very quickly.

Flood is a term for the temporary condition of partial or complete inundation of normally dry land resulting from the overflow of inland or tidal waters or from rainfall runoff.

Flood Elevations are an information and education measure to begin the decision making process with **Stakeholder**s in choosing the best measure to address their flood risk, based on their needs and finances.

Flood Insurance is a mechanism for spreading the cost of losses both over time and over a relatively large number of similarly exposed risks. The funds assist in recovery from a flood event and are provided by the federal government through a subsidized national program, although the rates will increase as the government plans to end subsidies. Flood insurance is considered a nonphysical **Nonstructural Measure**.

Flood Hazard is a danger or condition that causes harm to people or property damage in a floodplain. Natural hazards include flood, wind, and earthquake, although a flood loss results from humans making unwise choices in floodplains.

Floodplain is the lowland and relatively flat areas adjoining inland and coastal waters including flood prone areas of offshore islands; and including, at a minimum, that area subject to a 1-percent chance of flooding in any given year.

Floodplain Management is a continuing process, involving both federal and nonfederal actions that seek a balance between use and environmental quality in the management of the inland and coastal floodplains as parts of the larger human communities. The flood damage reduction aspects of floodplain management involve modifying floodwaters and modifying the susceptibility of property to flood damages. The former embraces the physical measures, or **Features**, often wrongly referred to as "flood control;" the latter includes regulatory and other measures intended to reduce damages by means other than modifying floodwaters. By guiding floodplain land use and **Development**, floodplain regulations, or **Land Use Regulation**, seek to reduce future susceptibility to flood hazards and damages consistent with the risk involved and serve in many cases to preserve and protect natural floodplain values.

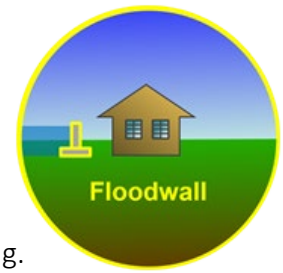
Flood Proofing (also floodproofing) is any combination of **Structural Measure** or **Nonstructural Measure** changes or adjustments incorporated in the design, construction, or alteration of individual buildings or properties that will reduce flood damages. Flood proofing is considered a physical **Nonstructural Measure** and may be considered **Dry Flood Proofing** or **Wet Flood Proofing**.

Flood Risk, or **Risk**, is the uncertain possibility of flooding causing bad outcomes, so this includes the **Probability** and **Consequence** of the flood impacting humans.

Flood Risk Management is the mix of federal and nonfederal government policies and programs that influence the decisions made by communities and individuals relating to floodplain location and use and their choice of actions to reduce flood risk and manage residual risk. The term also encompasses the decisions made by all levels of government and by individuals to implement actions to reduce flood hazard, exposure, and vulnerability and to increase resiliency.

Flood Risk Reduction Actions are mitigation efforts, or **Actions**, taken in advance of a flood that are intended reduce the likelihood of a future flood or the potential adverse consequences. They include actions to reduce the flood hazard, reduce exposure, and reduce vulnerability.

Flood Walls are **Feature**s commonly made of concrete that act as a barrier along a watercourse to exclude floodwaters from a limited range of flood events from a portion of the floodplain.



Flood Warning Systems are a technical means of applying sensors and using notification devices to give the public advanced notice of flood conditions in order to allow actions such as evacuation, flood fighting, and relocation or elevation of property prior to flooding.

Flood warning systems are considered a nonphysical **Nonstructural Measure.** In many locations across the Nation, advance forecasts are available for major river systems, although for other areas flood warning systems can be used on small creeks as well, if they community, property owner, or drainage district finds the cost feasible. Flood warning systems may include rain gages and stream gages to help predict flooding and may be able to tell when to expect high water. **Flood Mapping** is often tied to these systems to improve public understanding and to do **Risk Communication**.

Floodplain is a land area with any chance of having a flood.

Floodplain Leaders are those authorized by a community's elected officials to be champions of both **Floodplain Management** as well as sustained **Flood Risk Management** work.

Floodplain Management are the policies and programs of federal and nonfederal government directed to actions taken in advance of a flood that are intended to limit the exposure and vulnerability of people and assets to flooding.

Floodplain Management Plan is a playbook for managing the risk of flooding. This includes the story of identifying and assessing flood risk, then reviewing the full menu of **Measures** and explaining why each measure is or is not a fit for the community. The playbook includes prioritized actions for taking on the long-term process of doing **Activities** and constructing **Feature**s that manage flood risks and can be used by elected officials to justify each actions behind every measure.

Floodplain Mapping is an information and education measure in the form of a map which shows ranges of flooding surrounding a creek, river, or lake, and this measure is a significant tool needed to begin addressing flood risk and evaluation of other measures. Various ranges of flood severity may be shown, so that the public can understand the **Uncertainty** of the each flood boundary. Floodplain maps may be referred to as inundation maps or flood insurance rate maps (FIRMs). Floodplain mapping is considered a nonphysical **Nonstructural Measure**.

Freeboard is a margin of safety added to the **Base Flood Elevation** to account for waves, debris, miscalculations, lack of data, or changes in climate. This is a term used under **Land Use Regulation** and **Building Codes** as a protective standard for structures, requiring additional height above the **Base Flood Elevation** used in **Flood Insurance**. The additional height helps to address **Uncertainty** in the severity of flooding and is included in designs for physical measures, such as **Levees** and the **Elevation** of structures. Freeboard is one of the most common higher regulatory standard states and communities adopt.

Goals are general guidelines, developed with public input, that explain what the **Stakeholder**s want to achieve. They are usually broad policy-type statements, long term in nature, and represent the vision of the community. Objectives may accompany goals and provide a more specific intent of a goal.

High-Hazard Dam is a dam that is assigned the high-hazard-potential classification for the ones whose failure or mismanagement will probably cause loss of human life.

Land Use Regulation is city or county codes or **Ordinances** that guide **Development** and manage flood risks. The regulations are equitably applied local policies, sometimes at the city or county level, but also at the state level. Regulations at the local level include **Ordinances**, **Building Codes**, and **Zoning**. **Setback Ordinances**, **Freeboard** ordinances, **Sanitary Codes**, and housing or **Subdivision Regulations** are also examples. Funding laws may also be considered a form of regulation and serve to support flood risk management, including mill levies that might fund a drainage district's functionality, stormwater utilities that serve to support capital improvement projects, and even sales taxes on particular **Development**. Local design manuals are tied to policies and may be considered an extension of flood risk management regulations, such as stormwater detention basin volumes and release rates used by local planners in the process of reviewing **Development** plans. Communities also may have comprehensive plans or watershed planning documents that tie to regulations. A floodplain **Ordinance** is the most common regulation, which is required for **Flood Insurance**. Land Use Regulation is considered a nonphysical **Nonstructural Measure**.

Levees are **Feature**s made of soil that act as a barrier along a watercourse to exclude floodwaters from a limited range of flood events from a portion of the floodplain.

Local Officials is a term that includes politically appointed positions, such as Chief Resilience Officer, Public Works Director, Floodplain Administrator, Hazard Mitigation Officer, or Chief of Emergency Management. The term can include **Elected Officials** mayors, city council members, levee board members, drainage district directors, and similar positions charged with leading and making decisions that benefit the public.

Low Impact Development includes various **Measures** that promote treating rain where it falls, which is likely the most cost effective way to manage flood risks. These **Measures** include pervious pavement, rain gardens, rain barrels, and conserving forest canopy. The Activity of incentivizing these use of these measures on a watershed scale is one way to help address the more intense rainfall associated with climate change.

Measure (also Management Measure, Mitigation Measure) is a term that refers to either a **Feature** or an **Activity** for managing **Risk**s. Measures are combined by flood risk managers to form alternatives and programs for a site or a large geographic area, such as a community. The full menu of measures should be considered in a community's flood risk management program or **Floodplain Management Plan**.

Mitigate means to lessen the **Risk**s.

Mitigation Plan is a plan that documents the process used for a systematic evaluation of the nature and extent of vulnerability to the effects of natural hazards typically present in a state or community. The plan includes a description of actions to minimize future vulnerability to hazards. **Floodplain Management Plans** or risk management plans addressing floods may complement any all hazard mitigation plan and are a means of taking action on the number one hazard that the Nation faces: Flooding.

Nonstructural Measures are permanent or contingent measures applied to a structure and/or its contents that prevent or provide resistance to damage from flooding. Nonstructural measures differ from **Structural Measures** in that they focus on reducing the consequences of flooding instead of focusing on reducing the probability of flooding. Nonstructural measures may be physical or nonphysical. Physical include **Elevation**, **Relocation**, **Buyout** / **Acquisition**, **Flood Barriers**, **Dry Flood Proofing**, and **Wet Flood Proofing**. Nonphysical include **Flood Warning Systems**, **Flood Insurance**, **Floodplain Mapping**, **Flood Emergency Preparedness Plans**, **Land Use Regulations**, **Zoning**, **Evacuation Plans**, and **Risk Communication**.

Ordinance is a term for a law or **Land Use Regulation** adopted by local government.

Ponding is a flooding condition in low-lying areas caused when runoff drains to a location that traps the ponded water, which usually remains until the area dries, the ground seeps the water, or pumps take out the water.

Post-flood Recovery Processes include flood damage assessments and loss cost estimating, restoring vital services and critical facilities, conducting clean up at salvageable structures, removing debris, prioritizing repairs, connecting restoration work with funding (governmental and or not-for-profits), and providing social services for people suffering emotional stress from the flood disaster.

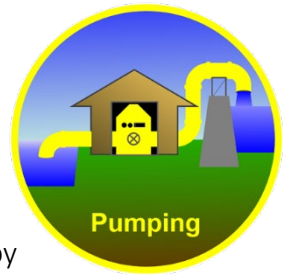
Preserving Cultural Resources is an **Activity** that recognizes compatibility between historic structures and tribal heritage and the natural environment and may require **Feature**s such as elevation or relocation, although many sites' cultural significance is adversely affected, when these measures or floodproofing are used on the site or the structure. All preservation efforts for flood risk management on these cultural resources should be coordinated early in the planning phase with the tribal leaders and the state historic preservation officer.

Preserve is to prevent adverse modification to the existing floodplain environment or to maintain it. **Preserving the Natural Environment** is a tool that recognizes **Activities** and **Feature**s that treat rain where it falls, encourage storage and ground water infiltration, or keep erosive resistance, thus preventing the consequential increase in floodwaters as a result.

Probability is a statistical measure of the likelihood, or the chance, that a hazard event will occur and is part of defining **Flood Risk**.

Process of Relocation, a term tied to Relocation of structures, is a series of steps to assess structures, group them per community cohesion, and establish resources for and fund the relocations in a fair and feasible way for the community.

Pump Stations are housed pumps. Pumps are mechanical devices that move water. Pump Stations are used to help drain rain from leveed areas or low areas.



Public Engagement or Involvement is the process of including Stakeholders in the evaluation of the full menu of measures and by doing so helping build support for necessary actions in a community's flood risk management planning (see also Floodplain Management Plan). Floodplain leaders achieve a more resilient state for the community by engaging the public in decisions about measures.

Recreational Enhancements are Features like hike and bike trails that are compatible with flood risk management features, while contributing to public wellness by integrating infrastructure with the natural environment.

Re-Development Policies allow communities to reconsider use of lands and functionality of utilities and services to return that land to open space for floodwaters, including pre-identifying high risk areas, enabling a funding stream in advance, and engaging easement or other real estate mechanisms to permanently evacuate the area.

Relocation is a physical Nonstructural Measure and involves moving the structure to another location away from flood hazards. Relocation is the most dependable method of protection and provides the benefit of use of the evacuated floodplain.

Residual Risk is the level of flood risk realized by people and assets in a floodplain that remains after implementation of flood risk management measures and the actions to apply those measures. Residual risk includes the consequence of capacity exceedance as well. Because even large Features, like dams or levees, always have a residual risk, floodplain leaders consider a diversity of measures to reduce the community's flood risk.

Residual Risk Management Actions are actions that increase the ability of people and property to return to preflood conditions in the aftermath of realizing flood damage.

Resiliency (also Resilient) is the ability of communities to return to preflood conditions in the aftermath having flood damages.

Restore is to reestablish a setting or environment in which the natural functions of the floodplain can again operate. Restoring the Natural Environment is a tool that recognizes Activities and Features that recreate natural beneficial functions lost due to land Development.

Risk, or Flood Risk, is the uncertain possibility of flooding causing bad outcomes, so this includes the Probability and Consequence of the flood impacting humans.

Risk Analysis is an approach to evaluation and decision making that explicitly, and to the extent practical, analytically, incorporates considerations of risk and uncertainty in a flood damage reduction study.

Risk Assessment is a process of defining the nature of the risk, the chance (Probability) and the Consequences, either described with numbers or simply generally described.

Risk Communication is an exchange of information to allow better understanding of risk. Risk communication is considered an information and education measure, or more specifically an Activity, to help the public understand risks, involving a variety of information tools such as presentations, workshops, hand-outs, mailers, and pamphlets to communicate flood risk and all possible measures available to communities that can reduce the flood losses. Risk communication is considered a nonphysical Nonstructural Measure.

Risk Management is about taking actions to accept, assume, and manage risk.

Riverine is a term applied to inland areas of water produced by a river or stream. Riverine floodplains have readily identifiable channels. This term is used to define a source of flooding, where the other term is Coastal.

Road Closings is the Activity for managing risk of loss of life at locations where water bodies flood enough to affect traffic and when enough time or forecasting is provided to place signs in advance to close a road. Six inches of water is deep enough to float a car.

Sanitary Codes regulate, a part of Land Use Regulation, disposal of water but may also allow a community to regulate septic tanks and other wastewater structures to function properly and prevent contamination in the vicinity of flood hazards.

Sediment Controls are Activities and Features that improve water quality but may also reduce runoff. These Features keep soil in place, including vegetation, grading of the ground, or using synthetic materials. Trees and brush for saturated soil on steep slopes are important in preventing landslides and debris flows. Construction sites typically have synthetic Features until vegetation matures.

Setback Ordinance is a Land Use Regulation adopted by local government that wants to set aside land adjacent to a stream or river and manage Development to prevent flood losses. Typically, the stream corridor is preserved within a specific distance of the centerline or top of the stream bank on either side.

Stakeholder is one individual, or a group, including businesses, private organizations, and citizens that will be affected or believe they may be affected in any way by Measure, an Action, or a Land Regulation.

Stage. The vertical distance in feet above a local datum to a water surface.

Structural Measures are permanent Features constructed to affect the probability of flooding. Structural measures are a category of flood risk management tools that are separate from Nonstructural Measures Structural measures differ from nonstructural measures in that they focus on reducing the probability of flooding, as opposed to reducing the consequences of flooding.

Subdivision Regulations help communities, as a part of Land Use Regulation, developing outside zoning areas by enabling legislation that allows control of public improvements needed along with the new subdivision, such as roads, utilities, and drainage facilities and floodplain areas.

Tax Adjustments are a means of taxing. A tax is an amount of money that a government requires people to pay according to their income, the value of their property, etc., and that is used to pay for the things done by the government, like managing flood risks. Tax adjustments are measures that can be offered either to incentivize wise actions in flood risk management by individuals or communities, including multi-objective management measures such as green infrastructure, or to dissuade unwise actions.

Temporary Flood Barriers are a form of **Flood Proofing** and help property owners manage flood risks, when enough warning time allows. These barriers can be free standing or may be affixed to openings on structures. Property owners should check that any flood barriers have been tested by qualified professionals with the same consistent testing standards before use. See also **Dry Flood Proofing**.

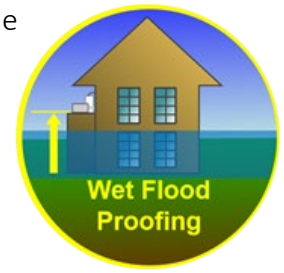
Uncertainty is a term used by **Risk** professionals and accounts for the state of something not being well known. For **Flood Risk**, uncertainty may, for one example, mean a single value for the depth of floodwaters can be misleading, because the amount of rainfall runoff over a **Basin** varies and how much rain and how ground may soak up some suggests professionals should only communicate a range of depths to the public. **Risk Assessments**, which can take time and money, can help to narrow the range, however, uncertainty remains an important part of **Risk Management**.

Wash is a term used for a stream in the bottom of many canyons in the western U.S. that have normally dry beds but may be very dangerous during a **Flash Flood**, because the floodwaters can be very deep and fast.

Water Quality Enhancements are measures that help remove contaminants from water by filtering or otherwise providing treatments that reduce pollutants. These enhancements also tend to improve treatment of water quantity. Treating rain where it falls is the most cost effective measure for managing runoff.

Watershed, or **Basin**, is all the area that drains rainfall from places higher, or upstream, of a point on land or along a stream or river.

Wet Flood Proofing is a physical **Nonstructural Measure** for **Flood Proofing** structures in the floodplain and is a measure that allows floodwater to enter the structure, while vulnerable items such as utilities, appliances, and furnaces are relocated to higher locations. By allowing floodwater to enter the structure hydrostatic forces on the inside and outside of the structure can be equalized reducing the risk of structural damage.



Wetlands Protection and Restoration are any measure that may preserve and restore floodplains' environmental quality, including **Preserving the Natural Environment** and **Restoring the Natural Environment**.

Vulnerability is the characteristics of people and property that affect the likelihood that they will realize adverse consequences from exposure to the flood hazard.

Zoning is a part of **Land Use Regulation** where a community divides a government unit into specified areas for use of structures and land, height or bulk of structures, size of lots, and density. Zoning is often associated with a community's **Comprehensive Plan** and may be used for minimum finish floor elevations. Floodways and flood fringe are the typical minimum two zones used. Zoning is considered a nonphysical **Nonstructural Measure**.