



# FLOODPLAIN MANAGEMENT IN OREGON COMMUNITY COMPREHENSIVE PLANS

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## 1 SUMMARY

Communities in Oregon have the potential to engage in smarter floodplain management through their comprehensive plan, which defines the arena of values and resources that a municipality can regulate for. By incorporating floodplain management principles, communities allow for a policy basis and framework to take full advantage of the economic and environmental benefits of smarter floodplain management.

Many comprehensive plans already support floodplain management especially in supporting Oregon Statewide Planning Goals 6 (Air, Water and Land Resources Quality) and 7 (Areas Subject to Natural Hazards). However, most of the goals are in some way related to and rely somewhat functioning and resilient floodplains. Relying on multiple goals than just two primary ones forms a powerful basis for better floodplain management policies.

## 2 INCORPORATING SMART FLOODPLAIN MANAGEMENT POLICIES

This document is not intended to provide a step-by-step process for informing a community how to update their comprehensive plan. That process will likely vary for each jurisdiction. Rather, this serves as a guide on policy topics related to floodplain management that municipalities may want to consider when they are already revising their comprehensive plan.

The following is a list of relevant planning goals in Oregon followed by a checklist of smarter floodplain management concepts a community may want to reflect in their comprehensive plan and specific comprehensive plan language examples that can be used as written or as a starting point.



*Goal 2 Land Use Planning: To establish a land use planning process and policy framework as a basis for all decisions and actions related to use of land and to assure an adequate factual base for such decisions and actions.*

**Checklist**

The Comprehensive Plan addresses:

- Driving development away from hazard-prone areas to reduce hazard risks and improve resilience to flooding and other disasters (including coastal storms, changes in precipitation, sea level rise as applicable)

**Example Policies**

- **Reducing natural hazards and climate change risks and impacts.** Limit development in or near areas prone to natural hazards where practicable, using the most current hazard and climate change-related information and maps. *(Policy 4.61, City of Portland Comprehensive Plan Update Proposed Draft 2014)*

*Goal 5 Natural Resources, Scenic and Historic Areas, and Open Spaces: To protect natural resources and conserve scenic and historic areas and open spaces.*

**Checklist**

The Comprehensive Plan addresses:

- Priority areas of floodplains that have been identified as important to protect as open space

**Example Policies**

- **Floodplain.** The floodplain of the Tualatin River and its tributaries is being encroached upon by urban development. The floodplain is an asset to Hillsboro by providing drainage and holding of stormwater runoff, providing fish and wildlife habitat, desirable open space, and potential land for future recreational development.  
(1) All land within the 100-year floodplain (elevations as established by the Army Corps of Engineers on the best topographic maps available) should be preserved as much as possible for open space, fish and wildlife habitat, urban buffers, neighborhood boundaries, future recreational development, drainage, and runoff retention...  
*(Section 6, Policy B in the City of Hillsboro Comprehensive Plan)*



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*Goal 6 Air, Water and Land Resources Quality: To maintain and improve the quality of the air, water and land resources of the state.*

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**Checklist**

The Comprehensive Plan addresses:

- Preservation and enhancement of beneficial functions of natural resources
- Improving water quality in floodplains through land use plans and investments
- Improving terrestrial and aquatic habitat by using land use plans and investments to promote restoration and protection of floodplains
- Mitigation hierarchy of avoiding, minimizing, and then mitigating adverse impacts of development on natural resources
- Requirements that mitigation approaches compensate fully for adverse impacts
- Preventing environmental degradation from additional impervious surfaces
- Coordinating Comprehensive Plans with other relevant community plans and investments
- Improving hydrology through enhancing conveyance and storage capacity in rivers, streams, floodplains, wetlands, and groundwater
- Watershed specific policies that address unique characteristics such as habitat types (e.g. floodplains), hydrology, water quality issues, and stormwater management challenges (including acknowledging floodplain restoration, protection, or increased flood storage as a flood hazard prevention strategy as applicable)

**Example Policies**

- **Natural resource protection.** Protect the quantity, quality, and function of significant natural resources identified in the City’s natural resource inventory, including:
  - Rivers, streams, sloughs, and drainageways.
  - Floodplains.
  - Riparian corridors.
  - Wetlands.
  - Groundwater.
  - Native and other beneficial vegetation species and communities.
  - Aquatic and terrestrial habitats, including special habitats or habitats of concern, large anchor habitats, habitat complexes and corridors, rare and declining habitats such as wetlands, native oak, bottomland hardwood forest, grassland habitat, shallow water habitat, and habitats that support special-status or at-risk plant and wildlife species.
  - Other resources identified in natural resource inventories.
 (*Policy 7.19, City of Portland Comprehensive Plan Update Proposed Draft 2014*)
- **Water quality.** Improve, or support efforts to improve, water quality in rivers, streams, floodplains, groundwater, and wetlands through land use plans and investments, to address water quality issues including toxics, bacteria, temperature, metals, and sediment pollution. Consider the impacts of water quality on the health of all Portlanders. (*Policy 7.7, City of Portland Comprehensive Plan Update Proposed Draft 2014*)
- **Regulatory hierarchy: avoid, minimize, mitigate.** Maintain regulations requiring that the potential adverse impacts of new development on significant natural resources and their functions first be avoided where practicable, then minimized, then lastly, mitigated. (*Policy 7.24, City of Portland Comprehensive Plan Update Proposed Draft 2014*)



- **Mitigation effectiveness.** Require that mitigation approaches compensate fully for adverse impacts on locally and regionally significant natural resources and functions. Require mitigation to be located as close to the impact as possible. Mitigation must also take place within the same watershed or portion of the watershed that is within the Portland Urban Services Boundary, unless mitigating outside of these areas will provide a greater local ecological benefit. Mitigation will be subject to the following preference hierarchy:
  1. On the site of the resource subject to impact with the same kind of resource; if that is not possible, then
  2. Off-site with the same kind of resource; if that is not possible, then
  3. On-site with a different kind of resource; if that is not possible, then
  4. Off-site with a different kind of resource.

*(Policy 7.24, City of Portland Comprehensive Plan Update Proposed Draft 2014)*
- **Hydrology.** Through plans and investments, improve or support efforts to improve watershed hydrology to achieve more natural flow and enhance conveyance and storage capacity in rivers, streams, floodplains, wetlands, and aquifers. Minimize impacts from development and associated impervious surfaces, especially in areas with poorly-infiltrating soils and limited public stormwater discharge points, and encourage restoration of degraded hydrologic functions. *(Policy 7.6, City of Portland Comprehensive Plan Update Proposed Draft 2014)*
- **Habitat connectivity.** Improve or support efforts to improve terrestrial and aquatic habitat connectivity for fish and wildlife by using plans and investments, to:
  - Prevent and repair habitat fragmentation.
  - Improve habitat quality.
  - Weave habitat into sites as new development occurs.
  - Enhance or create habitat corridors that allow fish and wildlife to safely access and move through and between habitat areas.
  - Promote restoration and protection of floodplains.

*(Policy 7.10, City of Portland Comprehensive Plan Update Proposed Draft 2014)*
- **Restoration partnerships.** Coordinate plans and investments with other jurisdictions, air and water quality regulators, watershed councils, soil conservation organizations, and community organizations and groups to maximize the benefits and cost-effectiveness of watershed environmental efforts and investments. *(Policy 7.31, City of Portland Comprehensive Plan Update Proposed Draft 2014)*
- **Watershed specific policy: Floodplain restoration.** Enhance Johnson Creek floodplain functions to increase flood-storage capacity, improve water quality, and enhance fish and wildlife habitat. (Also related to Goal 15)



*Goal 7 Areas Subject to Natural Hazards: To protect people and property from natural hazards.*

**Checklist**

The Comprehensive Plan addresses:

- Floodplain management and compliance
- Management of floodplains to reduce public safety risks, prevent property damage, support economic activity, and protect watershed health
- Resilience to climate change for rivers, streams, wetlands, floodplains, urban forest, habitats, and wildlife to adapt to climate-exacerbated flooding, landslides, wildfire, and urban heat island effects

**Example Policies**

- **Floodplain compliance.** Maintain compliance with federal and state floodplain-related requirements. *(Policy 8.60, City of Portland Comprehensive Plan Update Proposed Draft 2014)*
- **Flood management.** Improve and maintain the functions of natural and managed drainageways, wetlands, floodplains, and flood management facilities, to protect health, safety, and property, provide water conveyance and storage, improve water quality, and maintain and enhance fish and wildlife habitat. *(Policy 8.59, City of Portland Comprehensive Plan Update Proposed Draft 2014)*

**Climate change adaptation and resilience.** Enhance the ability of rivers, streams, wetlands, floodplains, urban forest, habitats, and wildlife to limit and adapt to climate-exacerbated flooding, landslides, wildfire, and urban heat island effects. *(Policy 7.4b, City of Portland Comprehensive Plan Update Proposed Draft 2014)*

*Goal 9 Economic Development: To provide adequate opportunities throughout the state for a variety of economic activities vital to the health, welfare, and prosperity of Oregon’s citizens.*

**Checklist**

The Comprehensive Plan addresses:

- Improvements to economic resilience in the face of increased flooding exacerbated by climate change and its impact on a community’s economic development and quality of life

**Example Policies**

- **Economic resilience.** Improve Portland’s economic resilience to impacts from climate change and natural disasters through a strong local economy and equitable opportunities for prosperity. *(Policy 6.4, City of Portland Comprehensive Plan Update Proposed Draft 2014)*



Goal 11 Public Facilities and Services: To plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development.

Questions to Consider:

- How does the current delivery of municipal services and the jurisdiction’s comprehensive plan contribute to or decrease flood risk?
- Does the community have sufficient stormwater management infrastructure? What is the ability to accommodate anticipated increased frequency and intensity of precipitation events?

Checklist

The Comprehensive Plan addresses:

- Maintaining well-built and well-maintained facilities help recover from damaging natural events and emergencies
□ Collaboration between agencies on floodplain development
□ The value of green infrastructure, including landscaped stormwater facilities and natural resources such as trees and natural areas, is an important part of the stormwater system. (Private property investments and public-private partnerships also play key roles in the management of stormwater.)

Example Policies

- Stormwater management. Improve rights-of-way to integrate green infrastructure and other stormwater management facilities to meet desired infrastructure levels-of-service and economic, social, and environmental objectives. (Policy 8.39, City of Portland Comprehensive Plan Update Proposed Draft 2014)
• Inter-agency collaboration on regional infrastructure and environmental impacts. Collaborate with regional partners on the regulations that address regional infrastructure and environmental impacts, such as transportation, water, and floodplain development standards. (Policy UR 4.7 City of Hillsboro Proposed Comprehensive Plan Draft April 2016)
• Natural systems. Protect and enhance the stormwater management capacity of natural resources such as streams, rivers, wetlands, and floodplains (Policy 8.53, City of Portland Comprehensive Plan)
• Natural features and green infrastructure in centers and corridors. Integrate natural and green infrastructure, such as street trees, green spaces, ecoroofs, gardens, and vegetated stormwater management systems, into centers and corridors. (Policy 4.2.1, City of Portland Comprehensive Plan Update Proposed Draft 2014)
• Green infrastructure. Support the integration of natural and green infrastructure, such as street trees, green spaces, eco-roofs, gardens, and vegetated stormwater management into the public realm. (Policy D 4.3 City of Hillsboro Proposed Comprehensive Plan Draft April 2016)



**Other goals related floodplain management to consider:**

**Goal 15 Willamette Greenway:** To protect, conserve, enhance and maintain the natural, scenic, historical, agricultural, economic and recreational qualities of lands along the Willamette River as the Willamette River Greenway.

**Goal 16 Estuarine Resources:** To recognize and protect the unique environmental, economic, and social values of each estuary and associated wetlands. To protect, maintain, where appropriate develop, and where appropriate restore the long-term environmental, economic, and social values, diversity and benefits of Oregon's estuaries.

**Goal 17 Coastal Shorelands:** To conserve, protect, where appropriate, develop and where appropriate restore the resources and benefits of all coastal shorelands, recognizing their value for protection and maintenance of water quality, fish and wildlife habitat, water- dependent uses, economic resources and recreation and aesthetics. The management of these shoreland areas shall be compatible with the characteristics of the adjacent coastal waters; and to reduce the hazard to human life and property, and the adverse effects upon water quality and fish and wildlife habitat, resulting from the use and enjoyment of Oregon's coastal shorelands.