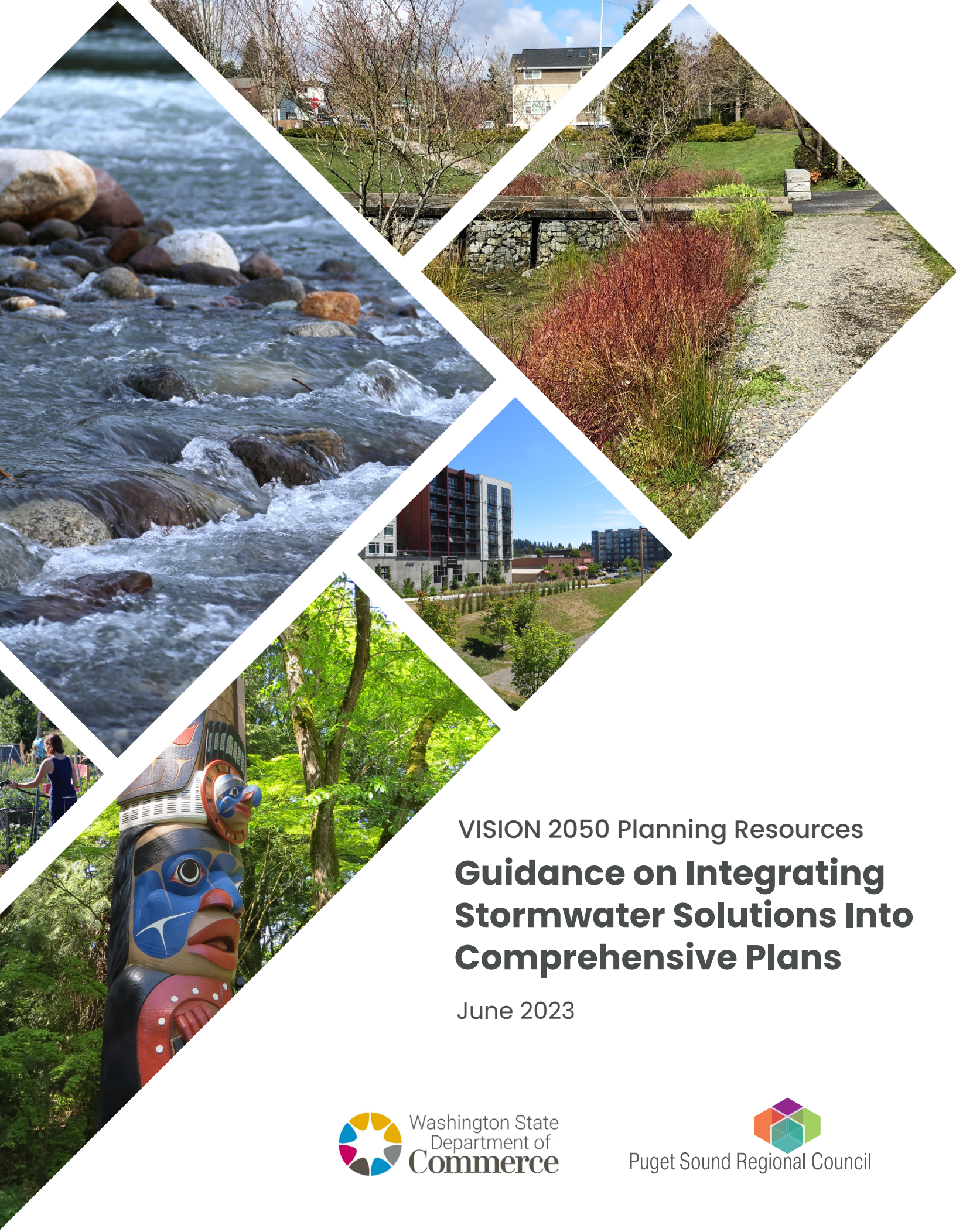

VISION 2050 Planning Resources

Guidance on Integrating Stormwater Solutions Into Comprehensive Plans

June 2023

Washington State Department of Commerce

Puget Sound Regional Council

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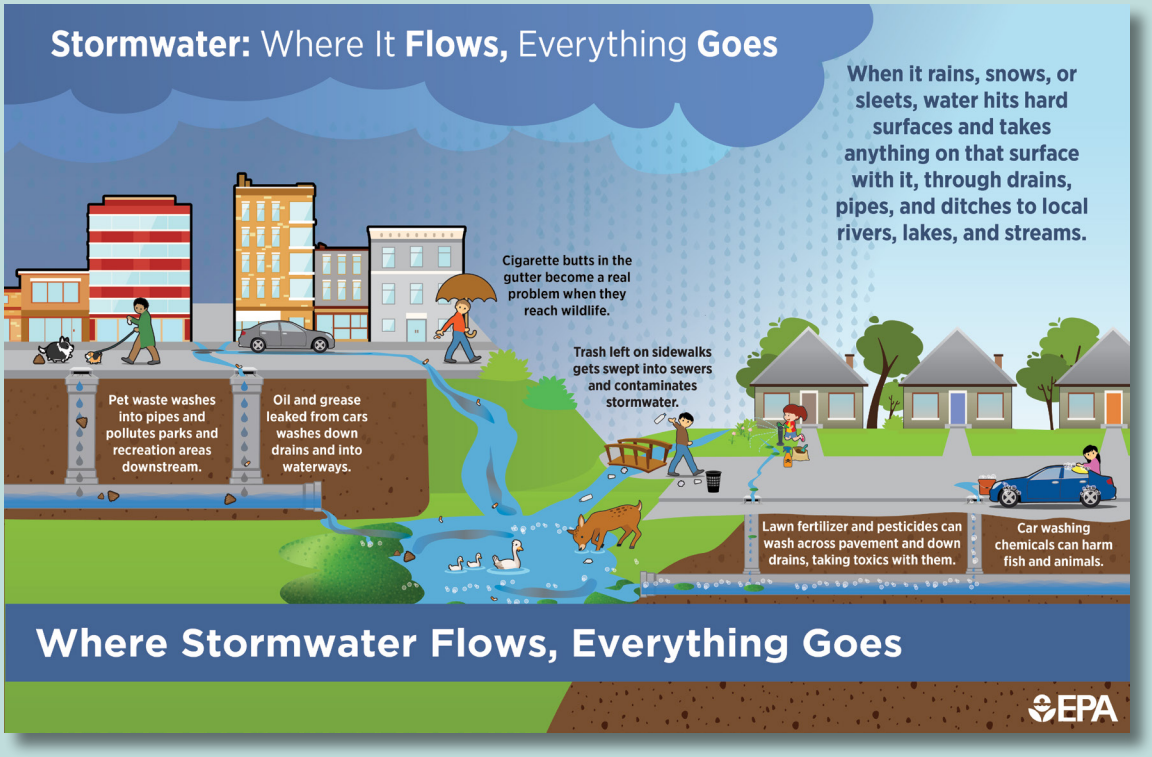
Acronyms

BMP	Best Management Practice
ESA	Endangered Species Act
LCLIP	Landscape Conservation and Local Infrastructure Program
LID	Low Impact Development
NPDES	National Pollution Discharge Elimination Systems
SMP	Shoreline Master Program
TDR	Transfer of Development Rights
WRIA	Water Resource Inventory Area
WSDOT	Washington State Department of Transportation

Exhibit 1.



Source: *EPA Using Stormwater Smart Outreach Materials*

Introduction

Stormwater is a leading contributor of pollution in Puget Sound water bodies. The purpose of this guidance document is to provide tools for jurisdictions that support Puget Sound recovery and Tribal treaty rights through integration of stormwater solutions into comprehensive plans. A community's comprehensive plan describes its vision for the future. While many communities care deeply about Puget Sound recovery, the range of solutions to address them are often not supported in comprehensive plans.

Coho Salmon. Photo: Roger Tabor/USFWS

Urban runoff mortality syndrome

Some salmon species, such as coho, are dying before they can reproduce. Roads, parking lots, and other impervious surfaces typically increase stormwater runoff, flushing toxic chemicals from these places into streams, where salmon spawn and rear. These chemicals and conditions are often lethal to salmon.

Land use and transportation development practices have the potential to either degrade or improve water quality and hydrology (see Exhibit 1). The Puget Sound Action Agenda acknowledges this in its first strategy on Smart Growth: "Ensure smart development and protect intact habitats and processes by channeling population growth into attractive, transit-oriented urban growth areas (UGAs) with easy access to natural spaces." The Action Agenda's Stormwater Runoff & Legacy Contamination strategy includes many of the stormwater solutions discussed in this document, such as watershed planning and stormwater retrofits. These and other strategies to improve ecosystem conditions are depicted in Exhibit 2.

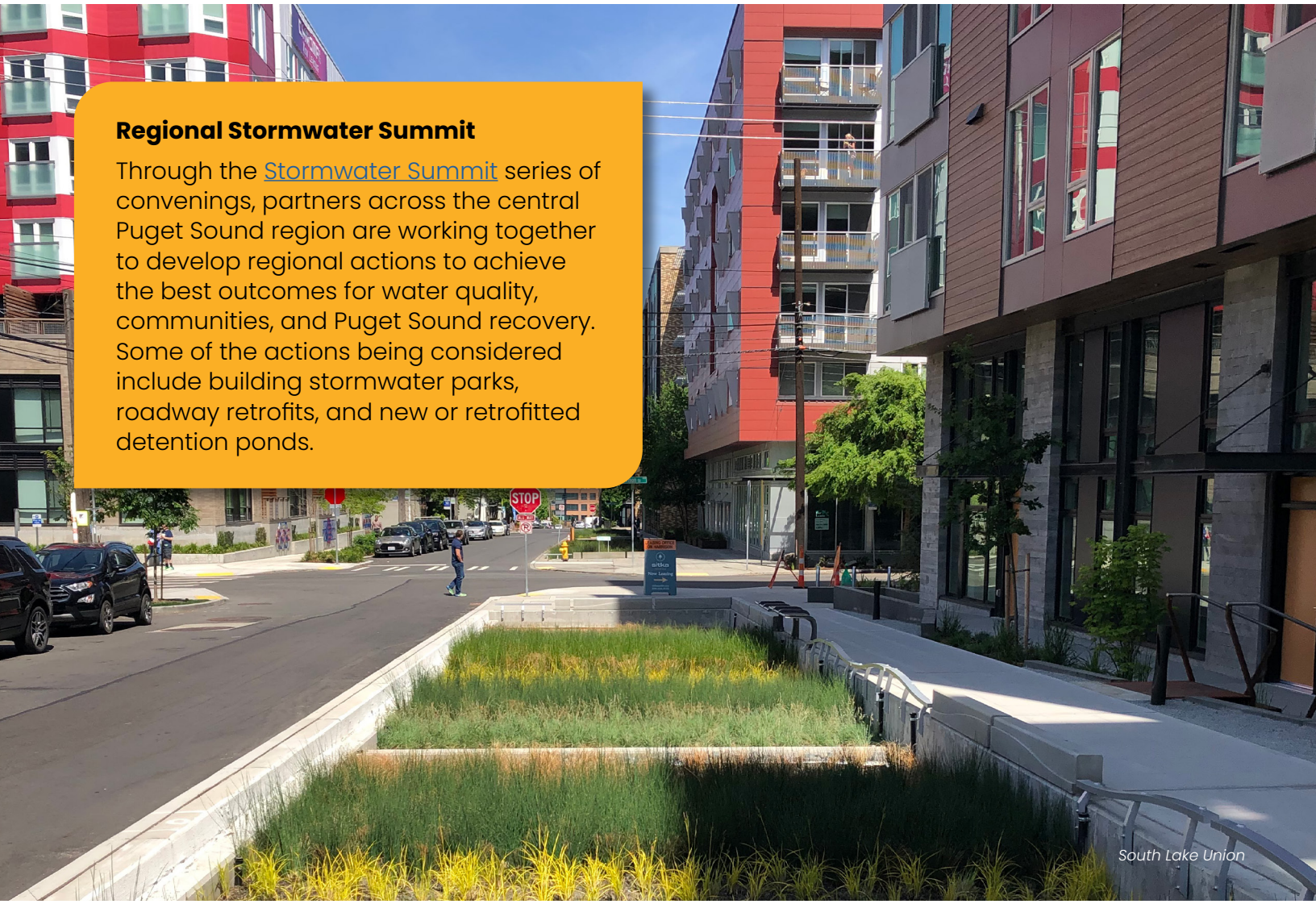
A jurisdiction's comprehensive plan can help support these Puget Sound recovery strategies. The process to develop the comprehensive plan can also provide the opportunity for cross-departmental collaboration, as stormwater solutions and other solutions to improve ecosystem conditions may need to be addressed in multiple elements and by multiple departments. A holistic vision for healthy people, environment, and economy is the foundation for a truly comprehensive plan.

The Washington State Department of Commerce (Commerce), Puget Sound Regional Council (PSRC), and other agencies have guidance documents on interrelated issues such as transit-oriented development, transportation, housing, open space, and equity. This guidance is intended to complement those documents with a focus on stormwater. Puget Sound Partnership's Sound Choices Checklist can be used to check whether the wider range of strategies in the Puget Sound Action Agenda are addressed in the comprehensive plan.

The stormwater solutions in this guidance document are organized by comprehensive plan element and include model policies, project examples, resources for planning and implementation, and example performance indicators. Cross references for solutions that could be addressed in multiple elements are noted. For the most part, this guidance does not include basic stormwater and planning requirements that are already common practice in most Puget Sound communities. A list of the stormwater solutions in this guidance document is provided in Exhibit 3.

Regional Stormwater Summit

Through the Stormwater Summit series of convenings, partners across the central Puget Sound region are working together to develop regional actions to achieve the best outcomes for water quality, communities, and Puget Sound recovery. Some of the actions being considered include building stormwater parks, roadway retrofits, and new or retrofitted detention ponds.



South Lake Union

Exhibit 2. Ways to Improve Ecosystem Conditions

Protecting Intact Ecosystems
This is often the most effective and highest priority measure.

Sustainable Forestry and Agriculture
Improved forest and agricultural practices can protect forest and lowland health, stream ecology, and habitat corridors.

Water Reuse
Treated wastewater and stormwater run-off can be managed and reused for irrigation and groundwater recharge.

Corridor Preservation
River and wildlife corridors can be conserved though better management, conservation easements, and land acquisitions.

Critical Area Enhancement
Better standards for residential bulkheads, piers, and vegetation conservation can protect and restore wetlands, stream channels, and other terrestrial habitats.

Water-Dependent Uses
Standards for marinas and other water-oriented uses can be improved to minimize impacts.

Transfer of Development Rights
Transfer of development rights programs can build stronger urban centers and protect natural resource lands and open spaces.

Diesel Vehicle Replacement
Diesel buses and public vehicles can employ less polluting systems.

Non-motorized Transportation
Increased bicycle and pedestrian transportation can help to decrease congestion, air pollution, and greenhouse gases.

Reducing Greenhouse Gases
Reducing emissions that cause greenhouse gases improves air quality and helps to protect the climate.

Conservation Incentives
Market incentives can encourage retention of commercial forestry and farming activities to protect open space and prevent sprawl.

Innovative Development Practices
Jurisdictions can support best development practices, such as low-impact development, green buildings and streets, and rainwater capture.

Energy Alternatives and Conservation
Energy conservation methods can be employed and alternative energy sources developed.

Focused Growth
Compact development patterns with a mixture of uses and urban centers accessible by a variety of transportation choices can accommodate growth, strengthen the economy, and create more livable communities.

Clean Up Brownfields
Upgraded stormwater management systems, remediation of toxics, removal of unnecessary armoring, and reintroduction of native vegetation can restore shorelines for ecological functions in industrialized floodplains, while creating new development sites.

Link Habitat
Greenbelts and habitat corridors can be preserved.

Shoreline Restoration
Marine shorelines can be restored to provide intact salmonid migration corridors and increase the general health of nearshore habitats.

Transit
Improved transit service can reduce auto dependence, air pollution, and greenhouse gases.

Exhibit 3. Stormwater Solutions Checklist

Stormwater Solution	Example Performance Indicators
Land Use Element	
Regional stormwater facilities	number of regional facilities constructed
Incentivizing low impact development/ green stormwater infrastructure in development to go above and beyond requirements	number of development projects that provide stormwater management beyond requirements
Watershed-based land use planning	percentage of jurisdiction covered by watershed plans
Transfer of development rights (TDR)/ Landscape Conservation and Local Infrastructure Program (LCLIP)	acres of open space conserved through TDR, dollars of infrastructure funding gained through LCLIP
Open space corridors	acres of open space corridors identified and protected
Natural Environment Element	
Integrating salmon recovery planning	number of WRIA plan projects included in the capital facilities plan, number of projects in the capital facilities plan that help implement salmon recovery and habitat restoration goals
Enhancing tree canopy cover	percentage tree canopy cover by neighborhood
Stewardship	number of stewardship events per year, acres of riparian habitat restored
Reducing use of toxic products	percentage of jurisdiction departments that have switched to non-toxic products
Parks and Recreation Element	
Stormwater parks and low impact development	number of stormwater parks constructed
Access and funding	percentage of community with walkable access to parks and open space
Education	number of environmental education signs and programs provided

Stormwater Solution	Example Performance Indicators
Transportation Element	
Transportation stormwater retrofits	miles/percentage of roadways retrofitted or built with stormwater management
Road retrofits for fish passage and other habitat improvements	number/percentage of fish passage barriers in the jurisdiction corrected, number/percentage of habitat projects completed
Utilities Element	
Collaborative and watershed-based stormwater planning	number/percentage of watersheds in the jurisdiction with stormwater or surface water plans
Incentivizing rain gardens and low impact development BMPs	number of rain gardens and other BMPs voluntarily installed
Water reuse	number of buildings or facilities with rainwater capture and reuse systems
Stormwater Public-Private Partnerships	number of projects with stormwater public-private partnerships
Maintenance	percentage of annual/regular maintenance program completed

Marymoor Park P-Patch

Comprehensive Planning Process Recommendations

Washington State's Growth Management Act comprehensive plan update process provides local governments the opportunity to work across departments on important issues, including Puget Sound recovery. Steps can be added or adjusted to the beginning and end of the plan update process to facilitate integrated and interdisciplinary planning, which can help to identify multiple-benefit opportunities, including stormwater solutions (steps 1 and 7).

1. Early in the process, hold interdepartmental meeting(s) with planning, public works/ stormwater, natural resources, transportation, parks, and other relevant departments to discuss how the comprehensive plan can support Puget Sound recovery. With the group(s), complete a gap analysis by reviewing current comprehensive plan policies related to recommendations in this guidance and recommendations in related functional plans like the Surface Water Plan. Countywide planning policies could also be reviewed. Assess what comprehensive plan elements could best incorporate stormwater solutions and identify linkages to other plans, programs, and efforts.

One Water

One Water is the emphasis that all water has value, encouraging an interdisciplinary approach to working together to prevent and solve water challenges. Holding an interdisciplinary training on One Water principles can provide a strong foundation for working collaboratively on solutions.

2. Educate the planning commission and city/county council on stormwater and Puget Sound recovery strategies and gaps. Include this information in public engagement materials. Resources are listed throughout the guidance.

3. Develop draft policies for the planning commission and city/county council to consider for inclusion in the comprehensive plan. Bring in information to the relevant comprehensive plan element from various functional plans such as surface water/ stormwater, transportation, salmon recovery, parks, recreation and open space, etc. Include projects from these plans in the capital facilities plan and other relevant elements. Policies and provisions can also be incorporated into subarea plans.

4. Publish the draft plan for public and agency review.

5. Draft development regulations to implement the comprehensive plan.

6. Finalize and adopt the comprehensive plan and development regulations.

7. Continue the interdepartmental discussion on integrating stormwater solutions and discuss next steps towards implementation, including funding and training available to support it. Some strategies the group could discuss are listed below.

    - Discuss barriers to implementation and solutions, including agreements needed for issues like sharing of funding and maintenance responsibilities.

    - Explore integrating projects through discussions and spatial analysis. GIS can be used to layer spatial data and identify where projects overlap and could be coordinated. For example, mapped transportation projects can be overlaid with mapped stormwater retrofit or habitat priorities to identify opportunities to integrate projects. Siting stormwater parks in neighborhoods with undersized stormwater control facilities and a lack of open spaces creates opportunities to support underserved communities.

    - Consider developing performance measures and monitoring to assess progress.

Snohomish County Farmland

Snohomish County Interdepartmental Climate Resiliency Committee (ICRC)

The ICRC creates a common platform for collaboration and coordination on climate change-related work across multiple disciplines. The committee is amassing resources for support to county departments, offices, and staff, including data collection and analysis. It uses cross-department climate-related planning, goals, and objectives to coordinate policy and infrastructure decisions. The ICRC coordinates efforts to prioritize sustainability, resiliency, and responsible land management and develops projects that will make Snohomish County residents and communities more resilient to climate change.

Policies and Resources for Integrating Stormwater Solutions Into Comprehensive Plans

Stormwater is traditionally addressed in the utilities elements of comprehensive plans. However, stormwater must be managed across the jurisdiction on private property, roads, parks, and other places that are not solely dedicated to stormwater management. Private property owners, developers, businesses, and departments across the jurisdiction all have roles to play in managing stormwater. The comprehensive plan elements that follow provide ideas and examples on how to integrate stormwater management across plan elements.

An integrated approach that treats all water, including stormwater, as a resource has been an effective approach for many jurisdictions. Kitsap County adopted a Water is a resource policy, which laid the groundwork for many innovative projects such as Manchester Stormwater Park and Shore Friendly Kitsap.

Manchester Stormwater Park

Another approach that has been effective for many jurisdictions is to prioritize projects with multiple benefits and ecological functions. Some policy examples include:

- Port Townsend Policy 3.5. *Where possible, accommodate multiple functions within the open space and trails system, including stormwater management, viewpoints, protection of cultural resources, wildlife habitat, and passive recreation.*

- Poulsbo Policy LU-12.4. *Integrate storm water controls into the development design including landscaping and open space and utilize the controls as amenities, contributing to a multifunctional, aesthetic landscape that is consistent with the neighborhood character and environmental setting.*

- Tacoma Policy EN–4.34. *Plan and/or implement effective programs and/or actions that can effectively achieve multiple urban forestry, open space, water quality and stormwater management objectives.*

Resources for supporting multi-benefit projects include WaterNow Alliance's Tap into Resilience Toolkit and Pacific Institute's Multi-Benefit Approach to Water Management Framework.

In addition to including policies, projects should also be included in the comprehensive plan to aid implementation. If there are capital projects listed in related functional plans to be implemented in the next 20 years, include them in a prioritized list in the capital facilities plan. Project lists can also be included in associated elements as long as project information is consistent across the plan. Projects that will be started in the next six years are part of the Capital Improvement Program (CIP) and will need more detail about the costs, timing, and likely funding sources such as user rates and grants. More information is included in the capital facilities element section.

Shoreline Cromwell Stormwater Park

Land Use Element

The land use element supports Puget Sound recovery by directing growth in urban areas through identifying development capacity for adopted growth targets, consistent with the Growth Management Act and countywide planning policies. Focusing growth in centers and around transit stations can help to reduce vehicle miles travelled and associated polluted stormwater runoff. Compact growth also results in lower impervious surface coverage per capita compared to a more dispersed pattern. This section on the land use element covers required stormwater provisions and innovative stormwater solutions that can be integrated into the land use element.

Development regulations need to be updated to be consistent with and implement comprehensive plan policies. Regulations that address the policies in this guidance include development regulations (zoning code, subdivision code, landscaping code, tree retention ordinance, clearing and grading ordinance), critical areas ordinances, shoreline regulations, stormwater regulations, and public works specifications and standards.

Required: Integrating stormwater into land use planning

The Growth Management Act requires land use elements to address stormwater and drainage (RCW 36.70A.070(6)):

> *"...the land use element shall review drainage, flooding, and stormwater runoff in the area and nearby jurisdictions and provide guidance for corrective actions to mitigate or cleanse those discharges that pollute waters of the state, including Puget Sound or waters entering Puget Sound."*

Due to these state requirements, comprehensive plans have policies on protecting water quality through stormwater management. Many incorporate low impact development to integrate related National Pollutant Discharge Elimination System (NPDES) requirements, building these policies into the land use element to better connect them to development practices. They can also be incorporated into natural environment, utilities, and other elements.

Some example policies include:

- Lynnwood Policy CC-18.16. *Continue to update development standards to allow or require low impact development standards such as infiltration of stormwater, bioswales, green roofs, rain gardens or other established Best Management Practices (BMPs).*
- Whatcom County Policy 10H-1. *Manage stormwater runoff to minimize surface water quality and quantity impacts and downstream impacts on channel morphology, property owners, and aquatic species and habitats.*

Resources: Ecology Low Impact Development Guidance, Ecology Municipal Stormwater Permit Guidance, Commerce Periodic Update Resources, Commerce Integrated Watershed and Stormwater Planning, Ecology Low Impact Development Code Update and Integration Toolkit, Association of Washington Cities Low Impact Development, EPA Green Infrastructure

The Growth Management Act also requires that jurisdictions have critical areas ordinances and shoreline master programs, which directly affect water quality and stormwater. Information on critical areas and shoreline management is provided in Appendix A.

The stormwater solutions that follow are more specific strategies in managing stormwater and protecting and improving water quality.

Regional Stormwater Facilities

Does the plan support or identify opportunities for regional stormwater facilities or stormwater parks? Does it support latecomer fees so that new development can help pay for regional facilities? Regional stormwater facilities are facilities sited to manage stormwater runoff from a number of parcels or areas within a basin. They can cost-effectively manage stormwater from a large area and reduce the need for site-by-site stormwater management, which can be especially helpful in compact urban areas.

Model policies:

- Bellingham Policy ED-35. *Consider regional stormwater detention when low impact development techniques are not feasible and where it can be shown to limit maintenance costs, improve the management of stormwater and increase the development potential of properties.*
- Kitsap County Policy Land Use 34. *As part of periodic updates to the County's Stormwater Comprehensive Plan, the County will identify basins and sub-basins that may be suitable for development of regional stormwater facilities.*

  Land Use Policy 35. *New development or redevelopment projects that are located within a basin that drains to an existing or proposed regional stormwater facility, may be required to contribute toward the cost of planning, designing, constructing and maintaining that facility in lieu of building onsite improvements. The amount of the contribution will be proportionate to the amount of stormwater being added by the property relative to the capacity of the regional facility.*

Example projects: Redmond Regional Stormwater Facilities, Tacoma Point Defiance Stormwater Treatment Facility

Resources: Ecology Water Quality Grants and Loans

Example performance indicator: number of regional facilities constructed

Notes: The parks element discusses stormwater parks, which, by definition, include regional stormwater facilities. Other multi-benefit facilities include floodplain parks, resilience parks, and stormwater trails. The utilities element discusses collaborative and watershed-based stormwater planning.

Incentivizing low impact development/green stormwater infrastructure in development to go above and beyond requirements

Does the plan encourage developers to incorporate effective low impact development approaches that go above and beyond existing stormwater permit requirements? With the right conditions, new and redevelopment can provide the opportunity to add low impact development BMPs that go above and beyond requirements and manage stormwater from nearby roads and properties. Some recently completed projects have demonstrated that developers are willing to partner to improve water quality.

Model policies:

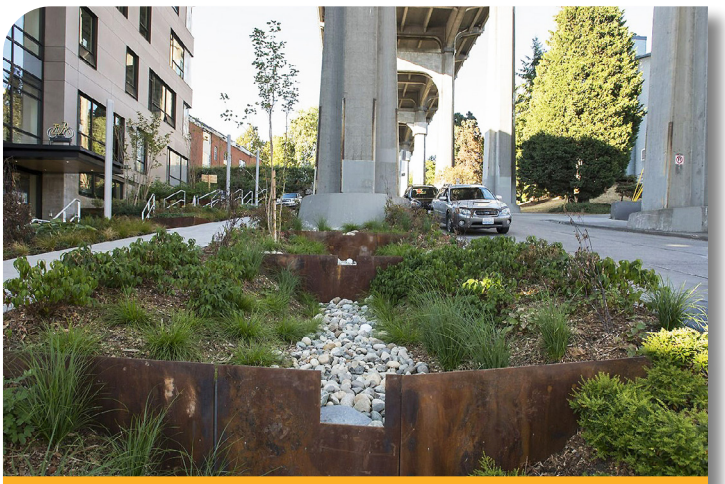
- Bonney Lake Policy ES-3.4. *Encourage land developments to maximize stormwater infiltration.*
- Whatcom County Policy 10H-8. *Strongly incentivize the use of low impact development strategies. Minimize the amount of impervious surface whenever practicable by using natural engineering design methods such as the use of open, grassed, street swales and rain gardens instead of curbs and gutters. Where feasible, encourage alternate surfacing options and other techniques associated with low impact development.*

Example project: Data 1 and Watershed buildings (see below)

Resources: Building Green Cities, Salmon Safe, Low Impact Development Technical Guidance Manual for Puget Sound, Seattle Regional Voluntary Bioretention in the Right-of-Way (including sample agreement)

Example performance indicator: number of development projects that provide stormwater management beyond requirements

Notes: The utilities element discusses public private partnerships to accelerate stormwater solutions. Many of these provide incentives to developers.



Data 1 building rain gardens
Photo: The Nature Conservancy

Data 1 and Watershed buildings

The developer of the Data 1 and Watershed buildings in Fremont installed rain gardens and vaults in the roadside planting strip to capture runoff from the Aurora Bridge's downspouts. This treats highly polluted stormwater runoff before it flows into Lake Union and the Ship Canal.

Watershed-based land use planning

Does the plan incorporate watershed-level information into land use designations or include an action to develop a watershed plan? Plans that incorporate watershed-level information about floodplains, wetlands, streams, wildlife, stormwater infrastructure, and other natural and built resources can help to inform land use designations, programs, and projects that protect natural resources and avoid hazards. Collaboration across jurisdictions may be needed in some watersheds.

Model policies:

- Tacoma Policy EN–1.25. *Develop management plans for each of the City's watersheds. Evaluate the current conditions of the watersheds in Tacoma and use the findings to inform decisions about future land use, stormwater planning and urban forest and open space management.*
- Whatcom County Policy 10H-5. *Evaluate the role of watersheds in the maintenance of water quality and quantity and determine what cumulative impacts development activity may have on watershed hydrology.*

Example projects: Bonney Lake Watershed Protection Plan, Duvall Watershed Plan

Resources: Ecology Puget Sound Watershed Characterization

Example performance indicator: percentage of jurisdiction covered by watershed plans

Transfer of development rights (TDR)/Landscape Conservation and Local Infrastructure Program (LCLIP)

Does the plan incorporate a TDR/LCLIP program to gain infrastructure funding through conserving open space? TDR enables the voluntary transfer of development rights from areas where a community would like to discourage development to places where a community would like to focus new growth. LCLIP provides a financial incentive for cities to participate in TDR and can help pay for stormwater, parks, and other infrastructure.

Model policies:

- Bellevue Policy LU-33. *Preserve open space and key natural features through a variety of techniques, such as sensitive site planning, conservation easements, transferring density, land use incentives and open space taxation.*
- Thurston County Policy Natural Resource Lands 1-6. *The County should continue to develop innovative strategies for the conservation of farmland. Strategies such as rural cluster subdivisions, Purchase of Development Rights (PDR), Transfer of Development Rights (TDR), conservation easements, and the Voluntary Stewardship Program should continue to be implemented throughout the county.*

Example project: Seattle TDR/LCLIP Program

Resources: Commerce Regional Transfer of Development Rights, PSRC Transfer of Development Rights

Example performance indicators: acres of open space conserved through TDR, dollars of infrastructure funding gained through LCLIP

Open space corridors

Does the plan identify open space corridors within and between urban growth areas, including lands useful for recreation, wildlife habitat, trails, and connection of critical areas (RCW 36.70A.160)? Open space corridors on public or private land can protect wildlife habitat and prevent fragmentation. Open space corridor standards can be integrated into critical areas regulations.

Model policies:

- Tacoma Policy EN–4.13. *Ensure that plans and investments are consistent with and advance efforts to improve terrestrial and aquatic habitat connectivity for fish and wildlife by: a. Preventing habitat fragmentation, b. Improving habitat quality, c. Preserving or creating habitat areas as feasible on new development and redevelopment sites, d. Creating and enhancing Open Space Corridors that allow fish and wildlife to safely access and move through and between habitat areas.*
- Thurston County Policy 5.2. *The county should identify and protect (e.g., through easements, fee acquisition, or regulations) land providing essential connections between riparian habitat areas, open spaces, and significant wildlife habitats sustaining state priority, federally listed, or locally important wildlife species. Include wildlife corridors that lead away from riparian areas to facilitate wildlife migration to upland habitats and minimize the potential for increased fecal contamination of streams from wildlife sources.*

Example project: Tacoma Open Space Corridors Project

Resources: Conservation Futures funding

Example performance indicator: acres of open space corridors identified and protected

Natural Environment Element

While not required by the Growth Management Act, many comprehensive plans include a natural environment or similarly titled element. The natural environment element can provide support to Puget Sound recovery by promoting watershed salmon recovery plans, tree canopy cover enhancement, stewardship programs, and reduction of the use of toxic products. Climate action is crucial as climate change greatly impacts the natural environment (see climate element in this guidance).

Integrating salmon recovery planning

Does the plan include policies and projects identified in salmon recovery plans? Salmon recovery plans are multi-jurisdictional efforts that identify a variety of strategies by watershed or Water Resource Inventory Area (WRIA) to help recover salmon populations and watershed health. Plants and soils in intact habitats help to infiltrate and cleanse rainwater and stormwater, helping to both decrease and treat runoff.

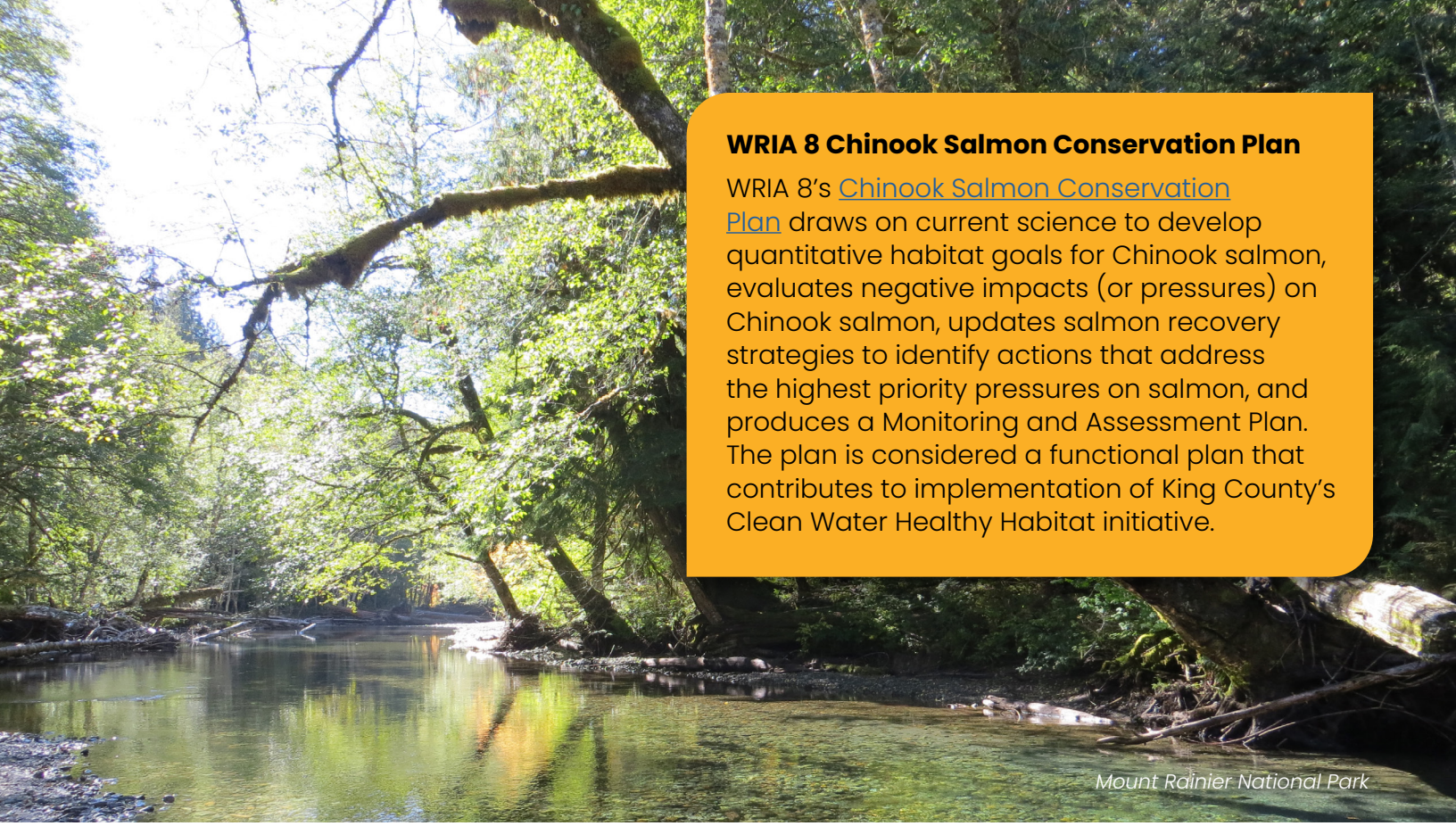
Model policies:

- Tukwila Policy 5.2.1. *Coordinate shoreline planning and management activities with other local jurisdictions and their plans – such as the WRIA 9 Salmon Habitat Plan and the King County Flood Hazard Management Plan – to establish region-wide consistency in addressing river issues with regional implications, such as economic development, public access, wildlife habitat, water quality control and flood control.*
- Tumwater Policy 10.3c. *Protect the soil, air, surface water, and groundwater quality, including through: Protecting ground and surface water and the water of the Puget Sound from further degradation by adopting and participating in comprehensive, multi-jurisdictional programs to protect and monitor water resources for all uses.*

Example program: Raging River and Patterson Basins Stewardship Programs

Resources: Puget Sound Action Agenda, Puget Sound Partnership Funding Opportunities, Salmon Conservation and Restoration plans by WRIA

Example performance indicator: number of WRIA plan projects included in the capital facilities plan, number of projects in the capital facilities plan that help implement salmon recovery and habitat restoration goals



Mount Rainier National Park

WRIA 8 Chinook Salmon Conservation Plan

WRIA 8's Chinook Salmon Conservation Plan draws on current science to develop quantitative habitat goals for Chinook salmon, evaluates negative impacts (or pressures) on Chinook salmon, updates salmon recovery strategies to identify actions that address the highest priority pressures on salmon, and produces a Monitoring and Assessment Plan. The plan is considered a functional plan that contributes to implementation of King County's Clean Water Healthy Habitat initiative.

Enhancing tree canopy cover

Does the plan include policies and programs to enhance tree canopy cover? Trees have many benefits including managing stormwater, cooling and cleaning air, providing habitat, and improving human health.

Model policies:

- Renton Policy L-23. *Promote urban forests through tree planting programs, tree maintenance programs that favor the use of large healthy trees along streets and in parks, residential, commercial, and industrial areas, programs that increase education and awareness, and through the protection and restoration of forest ecosystems.*
- Tumwater Policy C-1.5. *Maximize retention of a healthy tree cover and native vegetation and encourage restoration, replacement, and enhancement of unhealthy trees and disturbed vegetation.*

Example program: Green Des Moines Partnership

Resources: Puget Sound Trees and Stormwater Toolkit, Department of Natural Resources Urban and Community Forestry, Green City Partnerships, EPA Urban Forestry Stormwater Best Management Practice

Example performance indicator: percentage tree canopy cover by neighborhood

Stewardship

Does the plan promote restoring and protecting streams, wetlands, and open spaces, with an emphasis on native vegetation? Does the plan promote stewardship opportunities on public and private land? Encouraging stewardship on both public and private land is essential for reducing stormwater runoff impacts and protecting and restoring fish and wildlife habitat. Wetland protection and enhancement projects can have surface water benefits similar to LID measures for maintaining base flow and water quality. Streamlining the permitting of restoration projects can help to expedite them.

Model policies:

- Island County Policy PR 6.2. *Increase the level of land stewardship at all County-owned sites. The County should evaluate and budget for habitat stewardship needs.*
- Kent Policy P&OS-7.2. *Galvanize the community around urban ecosystem restoration and stewardship through a volunteer restoration program.*

Example program: Kent Parks Conservation Events

Resources: Puget Sound Conservation Districts, PSRC Open Space Conservation Toolkit, Ecology Wetland Mitigation Resources

Example performance indicator: number of stewardship events per year, acres of riparian habitat restored

Reducing use of toxic products

Does the plan promote reducing public and private use of toxic products? Pesticides, fertilizers, and other toxic products are swept up in stormwater runoff and contribute to degradation of water quality. Many non-toxic alternatives and practices exist.

Model policies:

- Lake Forest Park Policy EQ–8.3. *Encourage the use of alternatives to pesticides, herbicides, and inorganic fertilizers.*

  Policy PT–1.7. *Maintain strict adherence to Integrated Pest Management policy on all public property and roadsides.*
- Lakewood Policy LU-61.6. *Support initiatives to reduce impervious surfaces, prevent surface erosion, decrease the use of fertilizer and pesticides, and prevent contamination of stormwater runoff.*

Example programs: Shoreline Natural Yard Care, Lynnwood Vegetation Control Integrated Pest Management Plan

Resources: Beyond Pesticides

Example performance indicator: percentage of jurisdiction departments that have switched to non-toxic products

Parks and Recreation Element

The parks and recreation element can support Puget Sound recovery by identifying and supporting opportunities for wildlife habitat and stormwater management on park land and providing environmental education opportunities. Recreational amenities can also be added to jurisdiction-owned lands with stormwater and other public infrastructure.

Stormwater parks and low impact development

Does the plan promote the use of park land to help protect water quality and provide wildlife and pollinator habitat? Does the plan identify opportunities to build stormwater parks on underdeveloped land, parks, and stormwater properties? Does the plan support installing green stormwater infrastructure in parks? Parks can play an important role in improving water quality. Park renovations provide the opportunity to consider additional stormwater management. Stormwater and other public facility renovations provide the opportunity to consider adding recreational amenities. When built in communities without access to open space and recreational opportunities, stormwater parks can help address equity. Co-designing these facilities with community results in creating open space that serves community needs.

Model policies:

- Bellingham Parks Objective 5.4.1.1.A. *Utilize efficient, ecological techniques to mitigate stormwater at developed park and trail facilities such as infiltration and natural dispersion, where feasible.*
- Marysville Policy PF-22. *As appropriate, storm detention facilities should be combined with park projects to meet multiple goals.*

Example project: Arlington Stormwater Wetland Park

Resources: PSRC Planning Stormwater Parks, National Recreation & Park Association Great Urban Parks

Example performance indicator: number of stormwater parks constructed

Arlington Stormwater Wetlands Park

Access and funding

Do all residents have a park within a 10-minute walk of their homes? Are funds (such as parks impact fees or portions of property taxes) dedicated for acquiring, developing, and/or improving park facilities? Parks are essential infrastructure for community and environmental health. A 10-minute walk or less from home to a park is the standard for an equitable park system.

Model policies:

- Bellingham Parks Objective 5.1.1.1.A.a. *Provide a system of neighborhood and community parks so that all residents live within one half mile safe walking distance of a developed park.*
- Tukwila Policy 6.1.1. *Create a system of close-to-home recreation opportunities, aiming for a ¼-mile to ½-mile travel distance between most residential uses and parks and recreation areas.*

Example plan: Tukwila Parks, Recreation, and Open Space Plan (proposed parks)

Resources: Trust for Public Land 10-Minute Walk Program, Recreation and Conservation Office Grant Programs

Example performance indicator: percentage of community with walkable access to parks and open space

Education

Does the plan support providing educational opportunities in parks on protecting the environment and reducing stormwater impacts? Parks and trails are effective locations for providing and partnering with other organizations on environmental education.

Model policies:

- Lake Forest Park Policy PT–4.3. *Use the city's parks, trails, and open spaces to provide information and education about natural systems.*
- Port Townsend Policy 4.5. *Design and manage park and recreation facilities to maximize environmental protection and provide interpretive opportunities for ecological systems and features, and cultural resources.*

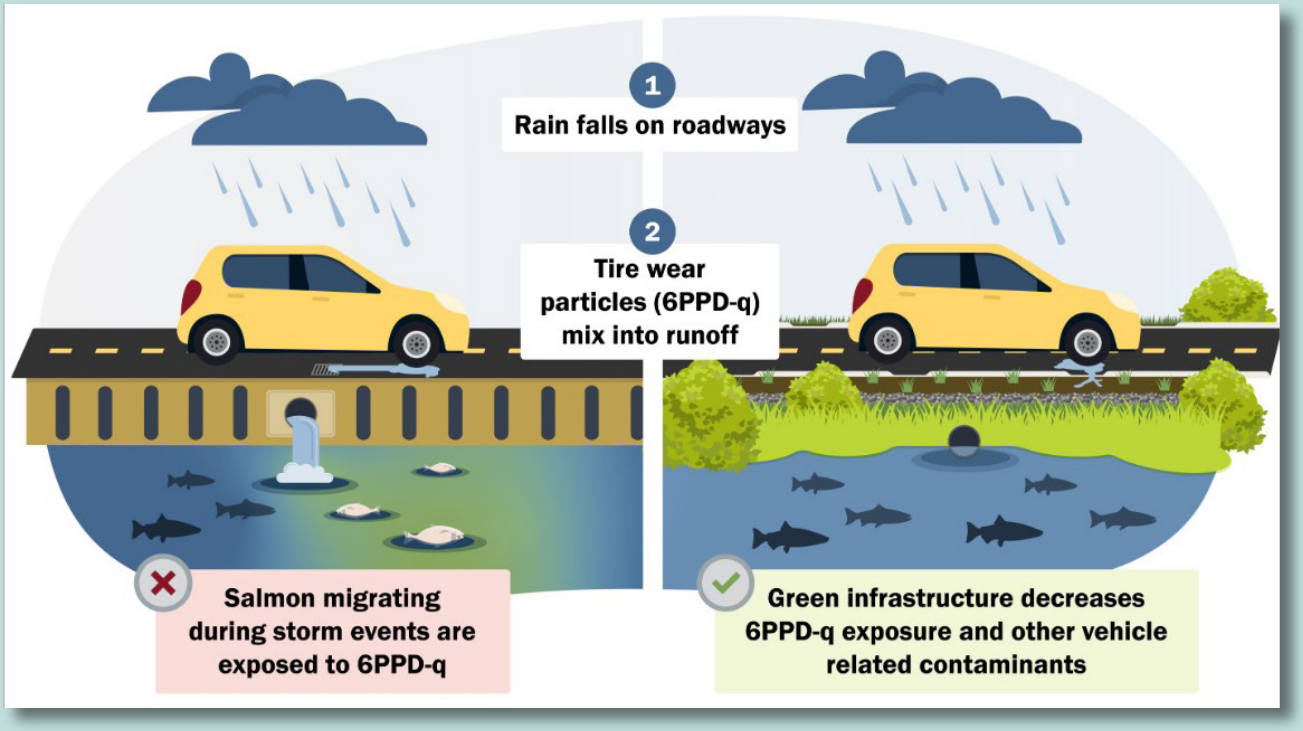
Example programs: Grace Cole Nature Park, Lake Forest Park What You Can Do To Help the Environment webpage

Resources: Stormwater Outreach for Regional Municipalities, Helpful Hints for Creating Park Signage, National Environmental Education Foundation Resources

Example performance indicator: number of environmental education signs and programs provided

Transportation Element

Transportation systems are one of the largest contributors to pollution in Puget Sound. In addition to including the required transportation components, such as using consistent land use assumptions and including a bicycle and pedestrian component, transportation elements can support Puget Sound recovery with provisions to remove fish passage barriers and add stormwater retrofits. Efficient transportation systems can help reduce greenhouse gas emissions and water pollution through decreasing vehicle miles travelled.



Tire dust found lethal to salmon

When it rains, stormwater flushes many pollutants on roads, including bits of aging vehicle tires, into neighboring streams. Researchers have recently found that 6PPD quinone, related to a tire chemical that keeps them from breaking down too quickly, is lethal to coho salmon and other species. In some Puget Sound streams, most of the coho salmon die before they can spawn. One solution is to change the composition of the tires to make them less toxic. Another is to treat stormwater before it reaches water bodies. Green stormwater infrastructure can improve water quality and promote salmon survival, addressing the effects of 6PPD-quinone and thousands of other pollutants found in stormwater before it reaches waterways. The science and related regulation will continue to evolve.

Source: Ecology 6PPD

Transportation stormwater retrofits

Does the plan identify and support transportation stormwater retrofits and other projects and programs designed to prevent and reduce stormwater impacts? Many roads were built before current stormwater standards were in effect. Providing stormwater retrofits for transportation facilities is one of the most direct methods of reducing pollution in water bodies. Street retrofit opportunities often outnumber reconstruction opportunities.

Model policies:

- Arlington Policy PT-10.7. *Retrofit existing roadways to meet or exceed current stormwater requirements where possible.*
- Bainbridge Island Policy U 13.7. *Consider a program of retrofitting existing roads with water quality and quantity stormwater system improvements in order to minimize pollution from runoff from roadways to natural drainage systems and the waters of Puget Sound.*

Example projects: Kitsap County Manchester Stormwater Park, Seattle Roadside Retrofits (see text box below)

Resources: National Association of City Transportation Officials Retrofitting Streets for Stormwater, EPA Green Streets, Roadside Tree Trenches, Washington State Department of Transportation (WSDOT) Stormwater Retrofit Plan (methodology example and potential coordination opportunities)

Example performance indicator: miles/percentage of roadways retrofitted or built with stormwater management

Note: The utilities element provides stormwater planning resources. The land use element discusses regional facilities, and the parks element discusses stormwater parks, which can provide treatment for roads. Private development can go above and beyond stormwater requirements by retrofitting nearby roads and other high-pollutant-generating areas (see land use element).

South Thornton Natural Drainage

South Thornton Natural Drainage System Project

Seattle Public Utilities will construct natural drainage systems at four sites in the southern portion of the Thornton Creek basin. Natural drainage systems consist of shallow depressions built in the roadway shoulder (the space between the street edge and the property line) and are filled with deep-rooted plants and spongy soils that temporarily hold and clean polluted stormwater from streets before it reaches Thornton Creek. This project will improve water quality in the creek, lower the risk of flooding, slow down traffic, and beautify streets.

Seattle Public Utilities is partnering with the Seattle Department of Transportation to incorporate walkways into some streets in the neighborhood that do not currently have formalized sidewalks, which aligns with community requests to install pedestrian improvements.

Source: *South Thornton Natural Drainage*

Road retrofits for fish passage and other habitat improvements

Does the plan identify and support projects that remove fish passage barriers, improve flow, manage sediment, and other efforts that improve habitat impacted by the transportation system? Roads often reduce wildlife habitat by concentrating roadway stormwater runoff discharge and creating barriers and unsafe conditions.

Model policies:

- Puyallup Policy NE - 8.15. *Encourage improvements such as removal of fish barriers to the fisheries habitat of watercourses when abutting properties are developed.*

  NE - 8.18. *Use bridges as the preferred method of crossing a watercourse that has habitat suitable for fish use or may be rehabilitated for fish use in the future. Prohibit the use of culverts where a fish barrier would result. Design bridges to allow for small animal migration under the bridge most of the time. Remove fish barriers where an existing fish barrier exists.*
- Snohomish County 3.D.2. *The county shall consider correcting the highest priority fish passage problems in unincorporated Snohomish County to improve the conservation of ESA-listed and non-listed salmonid populations.*

Examples: Snohomish County Fish Passage Culvert Program, King County Fish Passage Restoration Program

Resource: Washington Department of Fish and Wildlife Fish Passage, WSDOT Habitat Restoration Partnerships

Example performance indicators: number/percentage of fish passage barriers in the jurisdiction corrected, number/percentage of habitat projects completed

Utilities Element

As the main home for water infrastructure provisions in the comprehensive plan, opportunities to support Puget Sound recovery in the utilities element include support for collaborative and watershed-based stormwater planning and projects, water reuse (including rainwater capture), incentive programs for stormwater BMPs, public private partnerships, and maintenance. The land use element discusses stormwater systems, retrofits, and regional facilities, which are key strategies to improve and protect water quality.

Collaborative and watershed-based stormwater planning

Does the plan support improving water quality through projects, programs, and planning for improved stormwater systems? Are efforts collaborative and watershed-based? Incorporating provisions from stormwater, surface water, and other related functional plans can help integrate and implement these plans. The comprehensive plan can also support the development or update of these plans. Working across departments and jurisdictions in the watershed can create greater impact.

Model policies:

- Redmond Policy NE-73. *Complete and maintain Watershed Management Plans for all areas in the city. Address water quality, habitat, stormwater runoff, and flooding issues. Review each plan for effectiveness at least once each five years.*
- Puyallup Policy U- 5.6. *Coordinate water quality improvement programs with adjoining jurisdictions whose surface waters flow into or through Puyallup.*

Sauk River

Our Green/Duwamish

Partners in the Green/Duwamish watershed are working together to develop strategies to strengthen communities and improve air, land, and water conditions. The coalition helps to coordinate work in the watershed to manage habitat restoration, salmon recovery, flood control, stormwater management, and more.

Example projects: Redmond Watershed Management Plan, Bear Creek Watershed Management Study, Tacoma Regional Stormwater Facility Plan, Everett Surface Water Comprehensive Plan, Snohomish County Little Bear Creek Basin Plan, Kenmore Surface Water Master Plan

Resources: NPDES permit stormwater planning by jurisdiction (identification of priority watersheds, retrofits, and practices), City Habitats Resources/Toolkit, Ecology Stormwater Control Transfer Program, Commerce Building Cities in the Rain, The Nature Conservancy Stormwater Heatmap, Stormwater management program elements for small, unpermitted communities in Puget Sound

Example performance indicator: number/percentage of watersheds in the jurisdiction with stormwater or surface water plans

Note: The land use element discusses both regional facilities and incentivizing developers to incorporate effective low impact development approaches and go above and beyond existing stormwater permit requirements.

Incentivizing rain gardens and low impact development BMPs

Does the plan support providing incentives to install rain gardens and other low impact development BMPs on private and public land? While these are generally small-scale projects, the cumulative impact of widespread implementation can be significant. Funding and policy support is needed to incentivize practices that are not required.

Model policies:

- Olympia Policy PN 1.10. *Increase the use of low impact and green building development methods through education, technical assistance, incentives, regulations, and grants.*

- Shoreline Policy CD32. *Use Low Impact Development techniques or green street elements, except when determined to be unfeasible. Explore opportunities to expand the use of natural surface water treatment in the right-of-way through partnerships with public and private property owners.*

Example program: Olympia Rain Garden Incentive Program, Shoreline Soak It Up Rebate Program

Resources: Puget Sound Green Stormwater Infrastructure Incentives Programs, Green Stormwater Infrastructure Assistance Programs Guidebook, Rain Garden Handbook for Western Washington

Water reuse

Does the plan encourage water reuse? Reusing water can help to conserve water and manage stormwater.

Model policies:

- King County Policy F-217e. *King County will increase water efficiency and conservation, and reduce purchased water consumption through appropriate and economically feasible reuse of wastewater effluent, recycled water, stormwater, and harvested rainwater.*
- Olympia Policy PU-4.1. *Encourage and allow re-use techniques, including rainwater collection, greywater systems, and use of Class A reclaimed water as alternatives to use of potable water, in order to enhance stream flows or recharge aquifers, while also protecting water quality.*

Example project: King County Chinook Building

Resources: Department of Health Onsite Nonpotable Water Systems Rules, Resources for Onsite Non-Potable Water Programs

Example performance indicator: number of buildings or facilities with rainwater capture and reuse systems

Stormwater Public-Private Partnerships

Does the plan encourage public-private partnerships to accelerate stormwater solutions? Public agencies can partner with the private sector to build and maintain innovative and cost-effective stormwater facilities.

Model policies:

- King County Policy F-276. *In the Urban Growth Area, regional and shared surface water management facilities should be encouraged to support infill development to preclude the need for individual on-site facilities, provide development incentives, encourage efficient use of land, and reduce overall facility maintenance costs. These facilities should be planned and financed through public and private partnerships.*
- Seattle Policy CP 1.18. *Form partnerships with nonprofit, community-based, private, and public stakeholders to establish environmental improvement goals, including carbon dioxide emission reductions, stormwater management, redevelopment and cleanup of existing marine industrial properties, sustainable design, and fish- and wildlife-habitat improvements. Develop strategies to achieve these goals that include developing funding mechanisms and legislative support.*

Example projects: Seattle/Vulcan Swale on Yale, Poulsbo/Quadrant Homes Mountain Aire Stormwater Pond and Trails, Seattle Rain City Partnerships

Resources: Commerce Guidance: Is a Community-Based Public-Private Partnership Right for Your Community?, Commerce Feasibility Assessment for Community Based Public-Private Partnerships, EPA What is a CBP3?

Example performance indicator: number of projects with stormwater public-private partnerships

Maintenance

Does the plan encourage and support adequate and long-term funding for regular maintenance of stormwater systems to protect water quality? Inspections and maintenance are required for most jurisdictions through the NPDES permit; however, this work is often underfunded. A well-funded and effective maintenance program can help to ensure that stormwater systems continue to function as designed. The need for green stormwater infrastructure maintenance can provide workforce development opportunities and career pathways.

Model policies:

- Anacortes Policy EC-4.4. *Conduct regular inspections and maintenance of City sewer and stormwater infrastructure according to public works policies to minimize negative impacts to surface and groundwater.*
- Burien Policy ST 2.14. *Develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.*

Example: Bellevue Storm and Surface Water Maintenance Standards

Resource: Ecology Western Washington Low Impact Development Operations and Maintenance Guidance

Example performance indicator: percentage of annual/regular maintenance program completed

Surface Water Element

Few comprehensive plans contain surface water elements. A surface water element can be a good place to integrate information and strategies across disciplines. The City of Kenmore's comprehensive plan has a surface water element.

Excerpts from Kenmore surface water element

Surface Water Management is an interdisciplinary practice and many of the policies and programs discussed in this element affect other Comprehensive Plan Elements. This element provides guidance for the overall surface water management program, which expands beyond this element.

Planning requirements

The Growth Management Act (GMA) does not require a surface water management element for comprehensive plans. However, components of surface and storm water management are referenced in other elements, including land use, capital facilities, transportation, parks and recreation, natural environment and shoreline.

Goals, objectives and policies

Goal SW-1. Develop, maintain, manage and improve a surface water system that serves the community, enhances the quality of life and protects the environment. Objective SW-1.1. Effectively manage the city's municipal separate storm sewer system and private surface water systems in a manner that reduces flooding, maintains water quality and protects the natural environment.

Policy SW-1.1.2 Implement and update as necessary the City's Stormwater Management Program Plan, which describes the City's programs for public education & outreach, public involvement & participation, illicit discharge detection & elimination, controlling runoff from new development, redevelopment & construction sites, municipal operations & maintenance and total maximum daily load.

Policy SW-1.1.3 Adopt and implement an approved Surface Water Design Manual, as needed, which is equivalent to the current Washington State Department of Ecology Stormwater Management Manual for Western Washington.

Policy SW-1.1.4 Where feasible, the City will make low impact development (LID) the preferred and commonly-used approach to site development. LID is a stormwater and land use management strategy that strives to mimic pre-disturbance hydrologic processes of infiltration, filtration, storage, evaporation and transpiration by emphasizing conservation, use of on-site natural features, site planning and distributed stormwater management practices that are integrated into a project design.

Policy SW-1.1.5 Implement a Capital Improvement Program that maintains and improves the MS4 in a manner that enhances and protects the City's natural environment, mitigates flooding problems, improves water quality, promotes a reliable and safe transportation network and provides the community a safe and healthy place for living, working and recreation.

Objective SW-1.2 Protect, maintain, enhance and restore natural surface water systems

Policy SW-1.2.2 Support natural environment policies outlined in the Natural Environment Element of the City of Kenmore Comprehensive Plan, which include protection of wetlands, plants and wildlife, maintaining and promoting a diversity of species and habitat, participation in Watershed Resource Inventory Area 8 (WRIA 8) and using low impact development best management practices.

Policy SW-1.2.4 Protect, enhance and restore flood storage, conveyance functions and ecological values of floodplains, wetlands and riparian corridors through the development and implementation of capital improvement projects, studies and plans. Current and past efforts can be found in more detail in the Surface Water Master Plan and Capital Improvement Program Plan.

Policy SW-1.2.6 Promote and support opportunities for regional coordination and watershed level management of the City's natural surface water systems.

Climate Change Mitigation and Resilience Element

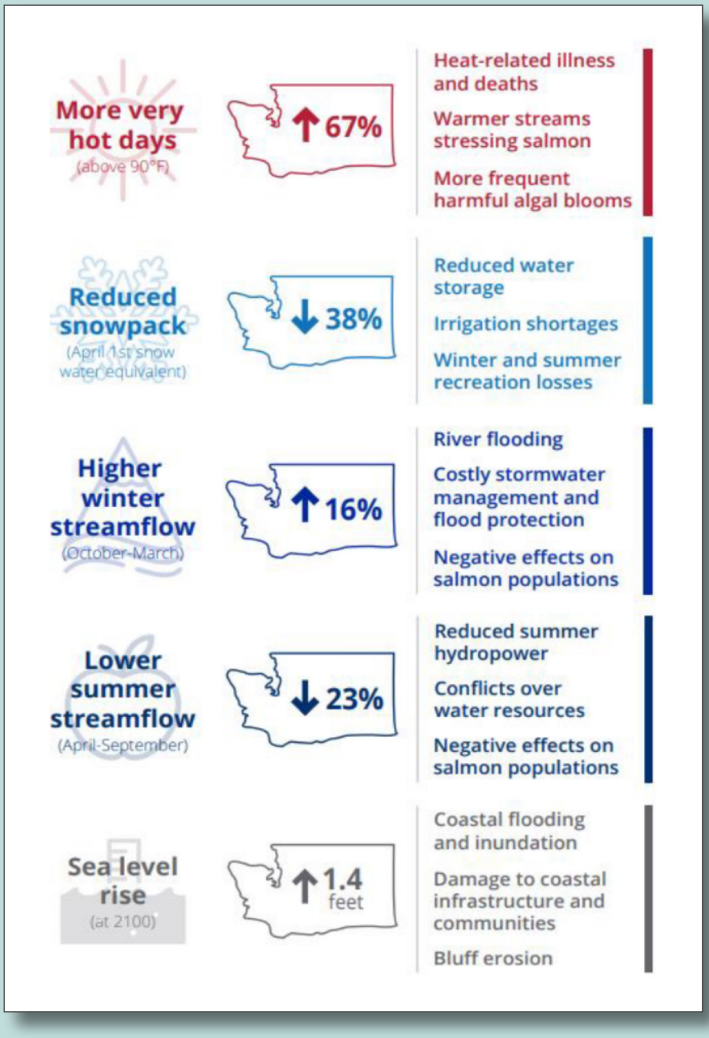
Climate change affects stormwater systems and exacerbates stormwater impacts (Exhibit 4). Higher intensity storms increase stormwater runoff from impervious surfaces, resulting in increased stormwater management and infrastructure maintenance costs. This increases demands on stormwater management systems and increases the potential for more combined stormwater and sanitary sewer overflows. It also decreases opportunities for stormwater infiltration and increases the frequency of flooding and drought.

The guidance listed below includes detailed information on climate change-related topics, including stormwater, to be addressed in comprehensive plans.

Resources:

- Commerce Climate Program and Guidance
- PSRC Climate Change and Resilience Guidance

Exhibit 4. Washington climate impacts



Source: Climate Impacts Group

Capital Facilities Element

The capital facilities element or plan should include stormwater retrofits, fish passage barrier removals, habitat improvement projects, and other projects that improve the health of Puget Sound. It must inventory capital facilities owned by public entities, show the locations and capacities of the capital facilities, and forecast future needs (RCW 36.70A.070(3)).

The element includes a six-year plan that will finance capital facilities within projected funding capacities and clearly identifies sources of public funding. The element also includes a financing plan for years 7-20 that typically has a lower level of specificity. Capital facilities elements can support Puget Sound recovery by incorporating stormwater, parks, transportation, and other projects that protect and improve water quality and wildlife habitat. Exhibit 5 provides an example of surface water capital facility projects in the Kenmore capital facilities element.

Model policies:

- Redmond Policy NE-74. *Incorporate the applicable and effective recommendations of Watershed Management Plans into the City's Comprehensive Plan, development regulations, and capital facility plans.*
- Whatcom County Policy 10H-12-4. *Identify and implement a long-term funding source to provide for water resource protection services, including nonpoint source identification and enforcement of applicable county regulations.*

Resources: Commerce Capital Facilities Planning Guidebook

Example performance indicator: number of stormwater retrofits and regional facilities in the capital facilities element

Note: Cities and utilities can now use debt, such as municipal bond proceeds to finance rebates or direct installations for onsite water systems, including low impact development BMPs (Government Accounting Standards Board 62).

Exhibit 5. Example Project List in Capital Facilities Plan, Kenmore Surface Water Facilities Capital Improvements, 2015–2035 Fiscally Unconstrained List

Project Detail	Total Dollar Amount
Little Swamp Creek Culvert Replacement at 192nd Street	395,000
0056 Culvert Replacement and Repairs at 190th Street	1,111,000
Surface Water Component of SR 522 Corridor Improvement Project – West A	634,000
Tributary 0056 Evaluation	100,000
Ditch Rehabilitation	68,000
Tributary 0057 Evaluation	25,000
Sammamish Tributary 02 Evaluation	25,000
Small Works Projects	1,000,000
Strawberry Hills Surfaces Water Facility Retrofit	460,000
Wallace Swamp Creek Park Pond Beaver Management	96,000
Little Swamp Creek Relocation	1,274,000
Northgate Heights LID Retrofit	1,588,000
Juanita Drive Surface Water Facility Retrofit	698,000
Total	**$ 7,474,000**

Source: Kenmore Comprehensive Plan Capital Facilities Element

APPENDIX A. CRITICAL AREAS AND SHORELINE MANAGEMENT

Critical areas

Regulations protecting critical areas are required by the Growth Management Act (RCW 36.70A.060(2) and RCW 36.70A.172). Some considerations, examples and resources are provided below.

Does the plan address local and regional priorities for restoration of important habitat or critical areas, such as wetlands and flood plains? Has development clustering been considered to reduce development pressures on sensitive environmental systems? Is there a program in place to monitor critical areas?

Model policies:

- Mount Vernon Policy 17.1.2. *Consider the best available science to determine critical area buffers and maintain achievable ecological functions of those buffers. Use easements or equivalent protective measures to protect critical areas and critical area buffers that are not protected through public ownership.*
- Pierce County Policy LU-115.3.5. *Greenbelt areas should integrate or bridge critical areas, such as wetlands, fish and wildlife habitat areas, or designated open space areas, when possible.*

Example project: Barney Lake Conservation Area

Resources: Commerce Critical Areas (includes monitoring examples), MRSC Critical Areas

Shoreline Master Program

Shorelines are among the most valuable and fragile natural resources, and there is great concern throughout the state relating to their use, protection, restoration, and preservation. Shoreline Master Programs overlap with comprehensive plans and address stormwater. Shoreline Master Program goals and policies can be a separate comprehensive planning element or a stand-alone program. But as outlined within RCW 36.70A.480: Shorelines of the state: *The goals and policies of a shoreline master program for a county or city approved under chapter 90.58 RCW shall be considered an element of the county or city's comprehensive plan.*

Provisions from the Shoreline Master Program can also be incorporated into the land use element to encourage integration and implementation. Some considerations, examples, and resources are provided below.

Are land use designations in the comprehensive plan consistent with the local Shoreline Master Program (SMP) shoreline environment designations? The SMP shoreline designations overlay zoning codes are usually more protective. Environment designation-specific regulations include:

- Shoreline buffers and setbacks
- Impervious surface limits
- Allowed uses
- Minimum lot size and density

Exhibit A-1. Example Summary of Shoreline Dimensional Standards

Shoreline Standard	High-Intensity	Medium-Intensity	Shoreline Residential	Urban Conservancy	Aquatic[4]
Maximum Height	55 ft.[1]	55 ft.[1]	30 ft. (55 ft.[1] in areas zoned UH-900 and 40 feet in areas zoned UM-3,600)	35 ft.	N/A[6]
Shoreline Setback[2]	65 ft. (standard) may be reduced to 50 ft. (minimum) with enhancement	N/A[3]	65 ft. (standard) may be reduced to 50 ft. (minimum) with enhancement	100 ft. (standard) may be reduced to 65 ft. (minimum) with enhancement[5]	N/A[6]
Maximum Impervious Surface Coverage	50%	40%	40%	10%	N/A[6]
Minimum Lot Frontage and Width	100 ft.	100 ft.	50 ft.	100 ft.	N/A[6]
Minimum Lot Size and Lot Density	900 sq. ft. per unit (except 3,000 sq. fr. for single family)	900 sq. ft. per unit (except 3,000 sq. ft. for single family)	7,200 sq. ft. (except 900 sq. ft. per unit in UH-900 and 3,600 sq. ft. per unit in UM-3,600)	No further subdivision is allowed	N/A[6]

Source: City of SeaTac Shoreline Master Program, 2019

Model policies:

- Mitigation: Oak Harbor Shoreline Master Program Policy 5b-5. *All shoreline uses, new development and re-development are encouraged to incorporate best available science to address potential adverse effects of global climate change and sea level rise.*
- Restoration: Island County Policy G-1. *Improve shoreline functions, values, and processes over time through regulatory, voluntary, and incentive-based public and private programs and actions that are consistent with the Island County restoration plan and other approved restoration plans.*
- Vegetation Conservation: Issaquah Shoreline Master Program Policy 5.7.1. *All new shoreline development and/or uses should retain existing native shoreline buffer vegetation, with the overall purpose of protecting and maintaining functions and processes. Important functions of shoreline buffer vegetation include: stabilizing banks and attenuating erosion, providing shade to maintain cool.*

Example program: Shore Friendly (Puget Sound wide)

Resources: Ecology Shoreline Master Programs, MRSC Shoreline Management Act

Notes: Shoreline Master Program policies may be included in the land use element or as a stand-alone element (RCW 90.58.020).

Mount Rainier from Manchester

APPENDIX B. LIST OF FUNDING RESOURCES

Beyond local funds, there are a wide variety of sources that can fund stormwater solutions, including planning and design.

National Estuary Program

The Stormwater Strategic Initiative funds projects that help prevent stormwater pollution and protect the estuary. EPA coordinates with the Puget Sound Partnership and Ecology. Ecology leads an advisory team to develop an annual Investment Plan that guides the funding priorities for the year.

Washington State Department of Commerce

Commerce's Community Economic Revitalization Board (CERB) provides funding to local governments and federally-recognized Tribes for public infrastructure which supports private business growth and expansion. Eligible projects include domestic and industrial water, stormwater, wastewater, public buildings, telecommunications, and port facilities.

Washington State Department of Ecology

Ecology has several relevant funding programs.

- The Water Quality Combined Funding Program provides water quality funding opportunities by funding source, funding category, and project type. With a single application process and funding list, Ecology can create funding packages that meet the financial needs of project applicants.

- The Stormwater Capacity Grants Program awards noncompetitive grants to Phase I and Phase II NPDES municipal permittees. These grants are to fund activities and equipment necessary for permit implementation.

- The Stormwater Grants of Regional or Statewide Significance Program awards grants on a competitive basis to Phase I and Phase II NPDES municipal permittees. These grants are to fund projects that would provide benefits to more than one permittee.

Washington State Recreation and Conservation Office (RCO)

Many RCO grant programs could help fund stormwater and habitat projects.

- The Estuary and Salmon Restoration Program funds projects that restore and conserve near-shore areas in Puget Sound. The goal is to ensure Washington's estuaries, bays, and shorelines are intact, functioning, and resilient to climate change.
- The Family Forest Fish Passage Program helps private forest owners fix artificial, in-stream fish barriers.
- The Land and Water Conservation Fund provides funding to preserve and develop outdoor recreation resources, including parks and trails.
- The No Child Left Inside grant program funds outdoor environmental, ecological, agricultural, or other natural resource-based education and recreation programs serving youth.
- The Outdoor Learning Program grants support outdoor educational experiences for students.
- The Planning for Recreation Access grant program funds planning projects in communities that lack adequate access to outdoor recreation opportunities. Grants may be used to support planning, community engagement, and collaboration between local governments, community-based organizations, and residents to define outdoor recreation needs, prioritize investments to address those needs, and prepare projects for funding.
- The Salmon Recovery and Puget Sound Acquisition and Restoration program funds restoration of degraded salmon habitat and protection of existing, high-quality habitat. Projects may include the actual habitat used by salmon and the land and water that support processes important to salmon.
- The Washington Wildlife and Recreation Program provides funding for a broad range of land protection and outdoor recreation, including local and state parks, trails, water access, conservation, and restoration.

PSRC's Conservation Toolkit includes additional funding sources.

APPENDIX C. GLOSSARY

Best Management Practice: The schedules of activities, prohibitions of practices, maintenance procedures, and structural and/or managerial practices that, when used singly or in combination, prevent or reduce the release of pollutants and other adverse impacts to waters of the state.

Capital facilities: Physical features that support urban development; usually refers to features provided by public agencies, such as roads, developed parks, municipal buildings, and stormwater facilities.

Critical areas: Locations in a jurisdiction that provide critical environmental functions, such as wetlands protecting water quality and providing fish and wildlife habitat. Critical areas also include areas that help recharge aquifers used for potable water and represent particular challenges for development due to geologic or other natural conditions, such as steep slopes, landslide-prone areas, and frequently flooded areas.

Development regulations: Rules that a jurisdiction uses to control buildings or land use.

Equity: All people can attain the resources and opportunities that improve their quality of life and enable them to reach full potential. Those affected by poverty, communities of color, and historically marginalized communities are engaged in decision-making processes, planning, and policy making.

Green stormwater infrastructure: The use of vegetation to absorb, slow, and cleanse stormwater.

Growth Management Act: The state law that requires local governments to prepare comprehensive plans. It establishes state goals, sets deadlines for compliance, gives direction on how to prepare local plans and development regulations, and calls for early and continuous public participation (RCW 36.70A).

Impervious surface: Non-vegetated surface areas, such as roof tops, driveways, parking lots, and roads, which either prevent or retard the entry of water into the soil as under natural conditions prior to development.

Infrastructure: Public services and facilities such as sewage-disposal systems, water-supply systems, other utility systems, schools, roads, bicycle lanes, sidewalks, and transit systems.

Landscape Conservation and Local Infrastructure Program (LCLIP): LCLIP takes the concept of regional TDR further by creating a financial incentive for cities to use the tool (RCW 39.108). LCLIP can provide funding for stormwater facilities, parks, roads, and other infrastructure.

Land use code: The portion of the municipal code that contains regulations governing development activities. The land use code describes the processes and standards that apply for each zone in the city.

Low impact development: Low impact development (LID) is a stormwater and land use management strategy that tries to mimic natural hydrologic conditions by emphasizing conservation, use of on-site natural features, site planning, and distributed stormwater best management practices (BMPs) integrated into a project design. LID BMPs emphasize pre-disturbance hydrologic processes of infiltration, filtration, storage, evaporation, and transpiration. Common LID practices include bio-retention, rain gardens, permeable pavements, minimal excavation foundations, vegetated roofs, and rainwater harvesting.

Native vegetation: Vegetation comprised of plant species, other than noxious weeds, that are indigenous to the coastal region of the Pacific Northwest and which reasonably could have been expected to naturally occur on the site. Examples include trees such as Douglas fir, western hemlock, western red cedar, alder, big-leaf maple, and vine maple; shrubs such as willow, elderberry, salmonberry and salal; and herbaceous plants such as sword fern, foam flower, and fireweed.

Natural drainage systems: The use of trees, plants, ground covers, and soils to manage stormwater runoff from hard surfaces (like roofs, roads, parking lots, and sidewalks) in ways that mimic nature—slowing and cleaning polluted runoff close to its source and reducing the volume of runoff by allowing it to soak back through the soil and recharge groundwater.

Open space: Any parcel or area of land that is essentially unimproved and devoted to the preservation of natural resources, the managed production of resources, or outdoor recreation.

Policy: A statement of principle intended to guide future action in a way that will help achieve an adopted goal or goals.

Regional stormwater facility: A facility sited to manage stormwater runoff from a number of parcels or areas within a basin.

Resilience: The capacity to adapt to changing conditions and to maintain or regain functionality and vitality in the face of stress or disturbance. The ability of individuals, households, communities, and regions to maintain livable conditions in the event of natural disasters, loss of power, or other interruptions in normally available services.

Stewardship: Responsibility for monitoring or encouraging actions that affect the natural or built environment.

Stormwater: That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes and other features of a stormwater drainage system into a defined surface waterbody, or a constructed infiltration facility.

Stormwater solutions: Activities, practices, programs, and projects that when used singly or in combination, increase infiltration and/or prevent or reduce the release of pollutants and other adverse impacts to waters of the state.

Transfer of Development Rights (TDR): A market-based mechanism that encourages the voluntary transfer of growth from places where a community would like to see less development (referred to as sending areas) to places where a community would like to see more development (referred to as receiving areas).

Water Resource Inventory Area (WRIA): Areas defined by higher elevation that capture precipitation and funnel rain and snowmelt through smaller subbasins into streams, tributaries, and rivers.

Additional stormwater terms are defined in the Stormwater Management Manual for Western Washington Glossary

Redondo Beach