

Existing Comprehensive Plan (with proposed changes)**WHAT YOU WILL FIND IN THIS CHAPTER:**

- A discussion of shoreline areas in the City of Tukwila;
- An overview of the Shoreline Management Act and how it applies in Tukwila;
- Goals and Policies for managing development in shoreline areas; and
- A map of Tukwila’s adopted Shoreline Environment Designations.

PURPOSE

This element of the City’s Comprehensive Plan presents goals and policies related to development and restoration along the Green/Duwamish River – a shoreline of Statewide significance subject to the Washington State Shoreline Management Act (SMA) – which flows northerly through the entire length of Tukwila. A small fragment of the Black River flows into the Duwamish River just north of Fort Dent Park and is also subject to the SMA and the goals and policies of this chapter.

The Shoreline Element of the Comprehensive Plan represents the Shoreline Master Program’s role in the community-wide planning process. It reflects the relationship between shoreline development and other Comprehensive Plan goals and policies, and the importance of a shoreline vision to a community vision. The Shoreline Element identifies existing local and regional policies, land use and shoreline conditions, and sets forth shoreline goals and the policies for achieving them. These goals and policies reflect Tukwila’s priorities in these areas:

- Facilitating redevelopment and prioritizing water-dependent industrial uses in the Manufacturing/Industrial Center (MIC) and encouraging redevelopment in the Tukwila Urban Center (TUC) that recognizes the river as a valuable resource.
- Ensuring the safety of new development from flooding and from destabilized riverbanks by establishing setbacks for new construction. Setbacks will allow for eventual replacement of existing flood control levees and regrading of over-steepened banks.
- Increasing public access to the river.
- Supporting restoration of habitat along the river through a restoration plan in the Shoreline Master Program. Restoration is accomplished, in part, through removing invasive vegetation and replacing it with native species, constructing off-channel habitat, and setting back levees to incorporate a mid-slope bench that can be planted to improve habitat.

Shoreline policies encourage high-quality development and redevelopment along the river. At the same time, they recognize the value of the Green/Duwamish River as an aesthetic resource by encouraging new development in the urban center to “face” the river, providing views and public or private access to the shoreline. The policies also recognize the shoreline as an important natural resource that requires protection and restoration of shoreline ecological functions (such as habitat, surface water and flood attenuation, water quality improvement and

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others). Policies in the Master Program support restoration of shoreline ecological functions, particularly improved habitat for endangered fish species (Chinook salmon and Pacific Bull Trout).

As a whole, the Tukwila Shoreline Master Program acts as the implementation mechanism for achieving these goals and policies.

WHAT IS THE SHORELINE MANAGEMENT ACT?

The Shoreline Management Act (SMA) was approved by Washington voters in 1972 and is designed to prevent degradation of the State's shorelines from uncoordinated development.

WHERE DOES THE SHORELINE MANAGEMENT ACT APPLY?

Each city and county defines their own shoreline jurisdiction based on the provisions of the SMA and regulations from the Department of Ecology. The SMA applies to the following areas:

- Marine waters,
- Streams and rivers that have an average annual flow of at least 20 cubic feet per second,
- Upland areas within 200 feet of regulated waterbodies, and
- Wetlands and flood-prone areas associated with regulated waterbodies.

Additional information regarding the Shoreline Management Act is available on the Department of Ecology's website at: <https://ecology.wa.gov/water-shorelines/shoreline-coastal-management/shoreline-coastal-planning/shoreline-management-act-sma>

ISSUES

Department of Ecology guidelines, along with the City's obligations as a participant in the implementation of the [Green/Duwamish Salmon Habitat Plan](#), dictate that Shoreline Master Program policies and regulations be established to ensure restoration and no net loss of shoreline ecological functions. The major issue facing the City is balancing the existing and planned future urban development along the river with these requirements.

The Shoreline Management Act promotes increased recreational opportunities and public access to the shoreline environment.

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The SMA designates the Green/Duwamish River as a shoreline of Statewide significance. “Because these shorelines are major resources from which all people in the State derive benefit, the [development] guidelines and master programs must give preference to uses which favor public and long-range goals.”¹[WAC 173-16-040(5)²] The SMA states that master programs for shorelines of Statewide significance shall give preference to uses that (in order of preference):

1. Recognize and protect the statewide interest over local interest.
2. Preserve the natural character of the shoreline.
3. Result in long-term over short-term benefit.
4. Protect the resources and ecology of the shoreline.
5. Increase public access to publicly-owned areas of the shoreline.
6. Increase recreational opportunities for the public in the shoreline.
7. Provide for any other element, as defined in RCW 90.58.100, deemed appropriate or necessary (that is, that further the State’s shoreline policies).³

The Washington State Shoreline Management Act requires that, where alterations in the natural condition of a shoreline are authorized, priority shall be given to the following uses:

- Single-family residences
- Ports
- Shoreline recreational uses
- Industrial and commercial developments dependent upon a shoreline location
- Other developments that will provide an opportunity for a substantial number of people to enjoy the shoreline.

The policies established in the Tukwila Shoreline Master Program attempt to balance the river’s value as a long-term natural resource for the region with the demands of intense urban development. The City’s Shoreline Master Program also recognizes that, except for the area north of the Turning Basin, most of the Green River is not navigable by large commercial vessels and therefore opportunities to establish water-dependent uses are limited. There has been interest in providing nonmotorized water access for both recreational use and official city use (e.g., police and fire having a place to launch a motorboat).

¹ DOE: Need to find this language in act or replace

² DOE: Doesn't exist?

³ RCW 90.58.020.

Existing Comprehensive Plan (with proposed changes)**GOALS, POLICIES AND STRATEGIES**

In 2020, Tukwila’s updated its Shoreline Master Program, incorporated by reference as part of this Plan. The goals and policies of this plan have been revised to be consistent with the revisions made in the 2020 update of the City’s SMP.

Tukwila shoreline policies give priority to the economic vitality of the City’s two regional growth centers – the Manufacturing Industrial Center (MIC), and focus intense multi-purpose urban uses – such as water-enjoyment commercial activity and public access – in the Tukwila Urban Center. The policies also emphasize the importance of a variety of shoreline public access methods, both physical and visual, linked to other areas of the region. They recognize the value of the river as a natural resource by encouraging restoration – including removal of invasive plants – of wildlife habitat and native riverbank vegetation, including tree planting.

➤ Shoreline Environment Designations

The two-hundred-foot shoreline jurisdiction that comprises each shoreline environment is divided lengthwise into a shoreline-adjacent buffer and outside-buffer area and specifies allowed uses for each environment. The shoreline environments are intended to facilitate the City’s long-range objectives for land and shoreline management, including:

- Ensuring no net loss of ecological shoreline functions;
- Providing for habitat protection enhancement and restoration, to improve shoreline ecological functions degraded over time and protection of already-restored areas;
- Allowing continued and increased urban development in recognition of Tukwila’s role as a regionally-significant industrial and commercial center; and
- Providing for improved flood control, in coordination with King County and the U.S. Army Corps of Engineers.

The Shoreline Master Program provides more information on buffer size and function. The adopted buffers for each shoreline environment balance shoreline ecological function, human life and property protection (including future levee repair/ reconstruction), existing land use patterns, and State and federal agency policies.

Figure 5-1: Shoreline Management Act Jurisdiction

See image in draft

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GOAL 1 Shoreline Environment designations that meet Washington State Shoreline Management Act requirements and reflect local conditions and Tukwila’s long-term vision for its shoreline. The shoreline zone generally extends for 200 feet on either side of the Ordinary High Water mark, consistent with the Washington State Shoreline Management Act (as illustrated in Figure 5-1).

POLICIES

Shoreline Residential

Policy 1.1 In the Shoreline Residential Environment, priority shall be given to the following:

- Uses that preserve or restore the natural character of the shoreline, or promote preservation of vegetation, open space, flood plain or sensitive area lands;
- Development that is compatible with the natural and biological limitations of the land and water and that will not require extensive alteration of the shoreline or new “hard” structural shoreline stabilization. Where possible, the removal of bulkheads, revetments, levees or other “hard” structural shoreline stabilization is required. Hard structural shoreline stabilization may be replaced with alternative bioengineered bank stabilization;
- On publicly-owned property, water-dependent or water-related recreational activities that are compatible with the character of the shoreline residential areas;
- Maintenance of existing single-family residential development patterns and public open space and recreation uses;
- Residential and recreational development that promotes vegetation conservation and enhancement, sensitive areas protection, and maintenance of water quality to assure no net loss of shoreline ecological functions; and
- Residential and recreational development that contributes to the restoration of ecological functions in areas where ecological degradation has occurred over time.

Urban Conservancy Environment

Policy 1.2 In the Urban Conservancy Environment, priority shall be given to the following:

- Development that promotes vegetation conservation and enhancement, sensitive areas protection, and preservation of water quality to assure no net loss of shoreline ecological functions;
- Water enjoyment uses;
- Uses that remove shoreline armoring unless required for a shoreline-dependent use, and uses that prevent and/or minimize flood damage;
- Uses that preserve or restore shoreline ecological functions provided by vegetation, open space, flood plain or sensitive area lands;

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- Uses that minimize interference with navigation and flood control, consider impacts to public views, and allow for the safe, unobstructed passage of fish and wildlife, particularly those species dependent on migration;
- Uses that provide public access and public recreation, whenever feasible and when ecological impacts can be mitigated;
- Development that is compatible with the natural and biological limitations of the land and water that do not require extensive alteration of the shoreline or new shoreline stabilization, except for restoration projects;
- Enhancement and restoration of ecological functions; and
- Redevelopment of underutilized areas and development of commercial and industrial activities where shoreline impacts are minimized and where there is no net loss of shoreline functions.

High-intensity Shoreline Environment

- Policy 1.3** In the High-Intensity Environment, priority shall be given to the following:
- Water-dependent commercial and industrial uses;
 - Development that promotes vegetation conservation and enhancement, sensitive areas protection and preservation of water quality, to assure no net loss of shoreline ecological functions;
 - Uses that remove shoreline armoring unless required for a shoreline-dependent use, and uses that prevent and/or minimize flood damage;
 - Uses that preserve or restore shoreline ecological functions provided by vegetation, open space, flood plain or sensitive area lands;
 - Uses that minimize interference with navigation and flood control, consider impacts to public views, and allow for the safe, unobstructed passage of fish and wildlife, particularly those species dependent on migration;
 - Uses that provide public access and public recreation, whenever feasible and when ecological impacts can be mitigated;
 - Development compatible with the natural and biological limitations of the land and water that does not require extensive alteration of the shoreline or new shoreline stabilization, except for restoration projects;
 - Enhancement and restoration of ecological functions; and
 - Redevelopment of underutilized areas and development of intensive commercial and industrial activities, where shoreline impacts are minimized and where there is no net loss of shoreline functions.

Shoreline Environments

*Map 5-1: Shoreline Environment Designations*Shoreline Aquatic Environment

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- Policy 1.4** In the Shoreline Aquatic Environment, priority shall be given to the following:
- Uses that preserve or restore the natural character of the shoreline or promote preservation of vegetation, open space, flood plain or sensitive area lands;
 - Water-dependent uses;
 - Uses that remove shoreline armoring unless required for a shoreline-dependent use, and uses that prevent and/or minimize flood damage;
 - Uses that minimize interference with navigation and flood control, consider impacts to public views, and allow for the safe, unobstructed passage of fish and wildlife, particularly those species dependent on migration;
 - Uses that provide public access and public recreation, whenever feasible and when ecological impacts can be mitigated;
 - Development compatible with the natural and biological limitations of the land and water, that does not require extensive alteration of the shoreline or new shoreline stabilization, except for restoration projects;
 - Enhancement and restoration of ecological functions; and
 - Uses compatible with the adjoining shoreline environments.

Photo

The Aquatic Environment applies to areas below the ordinary High Water Mark of a lake, stream or marine water body.

➤ **Shoreline Planning and Management**

Tukwila is located in the lower reach of the Green/Duwamish River watershed, which covers 482 square miles and includes over 93 river miles from the Cascade Mountains to Elliott Bay. The City's portion of the river covers approximately 13 river miles; as a result, the City's Shoreline Master Program recognizes that – to be successful – protection and enhancement of shoreline resources is not only a City responsibility but also a regional one. The City is a member of the Water Resource Inventory Area (WRIA) 9, which covers the Green/Duwamish River watershed, and has adopted the WRIA 9 Salmon Habitat Plan that identifies specific actions and restoration projects to improve salmon habitat.

- GOAL 2** Expanded value of the river as a community and regional resource, through regional coordination of shoreline management programs and through programs that foster river appreciation and awareness, involving partnerships among businesses, schools, residents and government and community organizations.

POLICIES

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- Policy 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.
- Policy 2.2** Promote river stewardship and increase river awareness through actions which further shoreline goals, such as educational programs, community activities and partnerships with Tukwila residents, businesses, schools, government, and community organizations.
- Policy 2.3** Promote and participate in the implementation of the Watershed Resource Inventory Area (WRIA) 9 Plan, including supporting the recommended projects located in Tukwila to improve the habitat functions of the Green/Duwamish River, as well as the Plan’s policies and goals.

➤ *Land Development Use and Economic Vitality*

An objective of the City’s Shoreline Master Program, identified in the Issue section of this chapter, is to allow continued and increased urban development in recognition of the City’s role as a regionally- significant industrial and commercial center, while also ensuring no net loss of shoreline ecological functions. The following policies address these objectives.

- GOAL 3** Development along the shoreline that fosters the economic vitality of Tukwila while preserving the long-term benefits of the river.

General Policies

- Policy 3.1** Implement shoreline design guidelines to:
- Encourage design that views the river as an amenity;
 - Guide the design of shoreline multiple uses;
 - Establish techniques for increasing shoreline multiple use;
 - Prioritize locations for uses; and
 - Encourage removal of invasive species with nonchemical methods and maintenance of native planted vegetation to minimize the presence of invasive species.
- Policy 3.2** Design and locate all shoreline development to minimize impacts on areas identified as important for other river uses, such as wildlife and aquatic habitat, river vegetation, public access and recreation, historical resources, and flood control.

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- Policy 3.3** When no other feasible alternative exists, allow structures for water dependent uses to be placed in the water, or structural reinforcement of the riverbank, only when this provides a significant, long-term public benefit, does not interfere with navigation or flood management, does not cause a loss of shoreline function or is essential to a water-dependent use.⁴
- Policy 3.4** Prohibit the construction of new flood control facilities unless constructed to incorporate habitat restoration features, and work to remove existing shoreline armoring – where possible – to restore habitat functions.
- Policy 3.5** Recognize and promote the river’s contribution to the economic vitality of Tukwila, as a valuable amenity for existing and future businesses which depend on or benefit from a shoreline location.
- Policy 3.6** Ensure that shoreline development does not diminish the commercial navigability of the river.

Tukwila Urban Center Development

- Policy 3.7** Design and locate shoreline development in the Tukwila Urban Center to encourage water enjoyment uses that:
- Provide for shoreline multiple uses consistent with the underlying zoning;
 - Provide additional benefits, such as riverbank restoration, fishing piers, non-motorized boat launches, river views, or interpretive signs;
 - Support public access to and along the shoreline;
 - Provide water-enjoyment uses as a transition between the river and non-water uses;
 - Encourage efficient use of land through such techniques as clustering, mixed-use projects, cooperative parking or parking located under principal structures, and shared utility and access corridors; and
 - Ensure that new development and re-development in the Urban Center acknowledges the goal of a continuous street façade along Christensen Road and the riverfront, and locates parking facilities to the interior of the lot.

(See also: *Shoreline Design Quality policies*)⁵

Manufacturing Industrial Center Development

- Policy 3.8** Ensure that non-water dependent shoreline development in the MIC provides for shoreline multiple uses to the extent that site security and the success of

⁴ Replaced Tukwila language with more specific language in adopted SMP

⁵ These were listed below - they have been moved to a better location

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industrial operations are not jeopardized; ensures no net loss of shoreline function and provides adequate mitigation for the loss of shoreline multiple use opportunities.

Policy 3.9 Allow opportunities for commercial and recreational marinas to locate in Tukwila downstream of the turning basin, where compatible with existing and future navigability and existing and future ecological restoration projects.

(See also: Shoreline Design Quality policies)

Development Outside the Tukwila Urban Center or Manufacturing Industrial Center

Policy 3.10 Design and locate shoreline development outside of the Tukwila Urban Center and the MIC to:

- Provide for shoreline multiple uses;
- Provide water-enjoyment uses as transitions between the river and non-water-dependent uses;
- Encourage efficient use of land through such techniques as clustering, mixed-use projects, cooperative parking or parking located under principal structures, and shared utility and access corridors; and
- Treat the river as an amenity in the design and location of the project.

(See also: Shoreline Design Quality policies)

➤ **Private Property Rights**

GOAL 4 Protect rights of property owners to reasonable use and enjoyment of private property through appropriate location, access to, and design of shoreline uses.

POLICIES

Policy 4.1 Design, locate and manage shoreline uses in a manner that maintains reasonable use and enjoyment of private property.

Policy 4.2 Design and locate public access in a way that is appropriate for the site, depending on site conditions and private property concerns.

Policy 4.3 Special sensitivity is required for residential property; therefore, all single-family residential development of four or fewer single-family residential lots is excluded from requirements to provide private or public access. Single-family property owners are not exempt from the responsibility to improve the habitat value of the shoreline environment.

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Policy 4.4 Maintain flexibility in methods of obtaining access, to allow for different site conditions and private property concerns that might conflict with access, such as privacy, safety and security.

Policy 4.5 Obtain additional easement area to permit the improvement of river habitat, by setting back levees or removing revetments and other hard shoreline armoring, and replacing with more habitat-friendly shoreline treatment.

➤ *Shoreline Design Quality*

GOAL 5 Enhanced identity of the river as a unique community asset through high-quality development and public activities that reflect Tukwila’s history and sense of community pride.

POLICIES

Policy 5.1 Require that shoreline development outside of the MIC:

- Ensures no net loss of shoreline function;
- Is designed to be consistent with Tukwila river design guidelines;
- Reflects principles of high-quality design in such areas as site planning, architecture and landscaping; and
- Includes setbacks, bulk, height, density, landscape buffers and provisions for open space that enhance the shoreline environment.

Policy 5.2 Require that shoreline development in the MIC:

- Is designed to be consistent with Tukwila shoreline design guidelines;
- Maintains or enhances the existing visual quality along the river;
- Provides trees and other landscaping to buffer industrial uses that are incompatible with other river uses; and
- Provides amenities that enhance enjoyment of the river by employees.

Photo

Tukwila’s Manufacturing/Industrial Center is an important regional industrial center located along the Duwamish River.

➤ *Access and Recreational Use*

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Public access to shorelines of the State is one of the key goals of the Shoreline Management Act; of the seven uses identified in RCW 90.58.020 as having preference in the shoreline, two relate to public access and recreation.

In addition to the Green River Trail, which runs along much of the length of the river through the City, Tukwila is fortunate to have a number of other public access sites along the river. The following goals and policies support preserving existing public access sites and providing additional public access to the river. To support implementation of these goals and policies, the City's development regulations include incentives for private development projects to provide public access to the shoreline.

GOAL 6 **Increase the amount and diversity of opportunities for public recreation and access to and along the river, including visual and cultural access, access to the water's edge, opportunities for small boat navigation and access, and connections to other neighborhoods consistent with the shoreline character.**

General Policies

Policy 6.1 Retain and improve areas identified as important in the network of public access to the river, including cross-town connections, former railroad rights-of-way and unimproved street-end rights-of-way, historic sites, unique natural features, or other areas valuable for their interpretive potential.

Policy 6.2 Maintain existing parks along the shoreline and acquire additional park land to increase access and recreation opportunities.

Policy 6.3 Incorporate river access requirements to guide the design, location, and management of shoreline public access in all subdivisions and short plats over four lots, as well as multi-family, commercial, and industrial development; to identify types of access appropriate and feasible for various site conditions and locations; and to establish strategies, funding sources and priorities for acquisition and enhancement of shoreline public access.

Photo

Shoreline rails provide important public access opportunities for Tukwila residents.

Policy 6.4 Design, locate and manage public access for diverse types and variable levels of intensity, in order to minimize impacts on vulnerable features of the natural environment and to minimize conflicts with private property uses.

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- Policy 6.5** Where shoreline development provides public access areas, reserve such areas through the means most appropriate for the type, scale and impacts of the development, such as donation or sale of an easement or right-of-way to the City.
- Policy 6.6** Support the implementation of the King County Green River Trail – per the existing King County Green River Trail Master Plan – as well as pedestrian/bicycle connections with the Trail from properties on the opposite bank and the expansion of this Trail, where appropriate.

Policies For Development Outside Manufacturing Industrial Center

- Policy 6.7** Require subdivisions, multifamily residential uses, and commercial and industrial uses along the shoreline to provide a trail for public access along the river, in areas identified for trail connections consistent with the King County Green River Trail Master Plan, Shoreline Master Program, or any other approved access plan. Require any property not included in the King County Green River Trail Plan to provide public access or a private natural area in lieu of physical public access.⁶
- Policy 6.8** Where shoreline public access is provided, ensure that it is designed to be safe and convenient and includes access amenities such as benches, drinking fountains, public parking areas, handicapped access and appropriate lighting, consistent with the shoreline access guidelines.
- Policy 6.9** Except for single-family residential development of four or fewer single-family residential lots, shoreline developments shall maintain views of the water from the shoreline and from upland areas, through appropriate design of building height, bulk and modulation, windows, breezeways, and outdoor spaces.
- Policy 6.10** Public access improvements should be designed and constructed to:
- Look and “feel” welcoming to the public.
 - Connect to public areas, street ends, and other pedestrian or public thoroughfares.
 - Enhance the character of Tukwila.
 - Avoid conflicts with water-dependent uses.
 - Provide for public safety and minimize impacts to private property and individual privacy and security.
 - Require a low level of operation and maintenance.

⁶ Not included in state-adopted SMP

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- Ensure that construction (i.e., structures and access pathways) incorporates environmentally-sensitive design and materials (e.g., non-toxic, natural materials).

Policy 6.11 Improve pedestrian connections between the river, Green River Trail and the Urban Center’s commercial, office, and residential uses.

Policies for Development in Manufacturing Industrial Center

Policy 6.12 For MIC properties included in the King County Green River Trail Master Plan, require shoreline development to provide a trail for public access along the river.

Policy 6.13 Where shoreline public access is provided, ensure that it is designed to be safe and convenient, and includes access amenities such as benches, drinking fountains, public parking areas, handicapped access, and appropriate lighting, consistent with the shoreline access guidelines.

Policy 6.14 For MIC properties not included in the King County Green River Trail Plan, require shoreline development to provide public access or a private natural area in lieu of public access, or otherwise mitigate the loss of public access.

Transportation Within the Shoreline Zone

GOAL 7 Safe corridors and amenities for pedestrians, cyclists, and users of public transportation, allowing more citizens to access and enjoy the river.

POLICIES

Policy 7.1 Design and locate transportation uses within the shoreline jurisdiction to be compatible with shoreline vegetation or other habitat features, turn-outs or parking areas for public access, boat ramps, biofiltration swales to protect water quality, public art, or interpretive signs.

Policy 7.2 Ensure that transportation uses within the shoreline jurisdiction and within those corridors identified as river cross-connections provide safe, convenient and attractive pedestrian, bicycle, and boater access and facilities for public transportation.

Policy 7.3 Minimize transportation impacts on the natural environment (such as noises, odors, and air or water pollution), and enhance the natural environment

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wherever possible through low impact development, green stormwater infrastructure, planting trees, and other habitat features.

- Policy 7.4** Encourage maintenance of the river’s navigability up to the turning basin⁷— where this achieves a greater public interest and a balance between costs and benefits to the broader community, and impacts to the habitat functions of the river – in recognition of the historical significance of navigation and its importance to the economic vitality of water-dependent uses and the MIC.

Historical Resource Use

- GOAL 8** Recognition of the river’s contribution to Tukwila history and community identity through identification, enhancement, restoration and protection of sites with historic and cultural value, and through development of interpretive and educational programs.

POLICIES

- Policy 8.1** Ensure that shoreline development reflects the river’s important role in Tukwila history, and that long-term public use of the river as a historical resource is protected by providing for the identification, protection and interpretation of unique historic and archaeological features.
- Policy 8.2** Ensure that public shoreline development reflects the river’s natural features and community traditions.
- Policy 8.3** Ensure that archaeological artifacts and sites are protected when development takes place in the shoreline jurisdiction.

Natural Environment and Habitat Use

The Green/Duwamish River has undergone extensive modifications in the past, to reduce channel migration and limit the extent and duration of valley flooding by constructing levees and revetments. These modifications to the river system have negatively impacted ecological functions, including hydrology, water quality, riparian habitat and in-stream habitat. River flows have been modified by dam construction, stream diversion, and urban development. River

⁷ DOE: Question for DOE about this – navigability extends beyond this location in non-motorized boats

Heidi Watters

Add here and/or in Environment. WQ of the River does start with tributaries, so want it mentioned both places.

⁸ Evaluate with DOE

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management and levees have reduced the connection between the rivers and their floodplains, changing the spatial extent of habitat, and increasing the potential for negative water quality impacts. Disturbances to the channel banks have resulted in areas that are dominated by non-native invasive species. Wood, in the form of riparian trees and in-channel wood, is generally lacking throughout the system, which has a negative impact on riparian and aquatic habitats.

The following goals and policies seek to improve the ecological function of the river system.

Photo

Aerial view of North Winds Weir Off-Channel Habitat (photo courtesy of WRIA9)

GOAL 9 Restored, enhanced, and protected natural environmental resources along the river, including trees, wildlife habitat, and features with value for long-term public, scientific and educational uses.

POLICIES

- Policy 9.1** Ensure that shoreline development results in no net loss of shoreline ecological function and minimizes impacts on wildlife, and that significant vegetation, sandbars, wetlands, watercourses and other critical areas identified as important for habitat are maintained through the proper location, design, construction, and management of all shoreline uses and activities.
- Policy 9.2** Ensure that shoreline development and activities protect riverbank vegetation and, where feasible, restore degraded riverbanks in accordance with the vegetation management provisions of the Shoreline Master Program, in order to minimize and compensate for impacts on fish and wildlife habitat.
- Policy 9.3** Mitigate unavoidable disturbances of significant vegetation or habitat through replacement of habitat and provision of interpretive features consistent with the shoreline access guidelines.
- Policy 9.4** Support relief from certain Shoreline Master Program requirements for properties affected by habitat restoration projects that result in the movement of the ordinary high water mark.
- Policy 9.5** Support establishing the Transition Zone – given its importance for subtidal and intertidal habitats – as the priority area for habitat restoration projects, to allow

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salmonids to gradually adjust to the change between fresh and saltwater conditions.⁹

Water Quality, Surface Water, and Flood Control Use

A system of levees and revetments have been constructed along a major portion of the river in Tukwila. The City has adopted a minimum levee profile to promote river bank stability, protect structures, and enhance shoreline ecological functions. The minimum levee profile incorporates a mid-slope bench that provides a wider river channel to accommodate higher flows during storm events, and that allows planting of native vegetation to improve habitat functions. The vegetation on the mid-slope bench will also reduce the speed of water flows during storm events.

POLICIES

- Policy 10.1** Design, locate and manage shoreline development including streets, flood control projects, surface water drainage and sewer systems, clearing and grading activities, and landscaping in a manner that minimizes opportunities for pollutants to enter the river, provides erosion control, and otherwise protects water quality.
- Policy 10.2** Design, manage and mitigate flood control uses to minimize impacts on other shoreline uses such as trees and riverbank vegetation, public access and recreation, and fish habitat; and set them back from the river, where feasible for the project, with land areas between the water and the levee set aside as open space for public recreation or wildlife habitat.
- Policy 10.3** Consistent with project feasibility, mitigate unavoidable negative impacts on other shoreline uses owing to flood control uses through such measures as restoration of trees and native riverbank vegetation, provision of public access to the water's edge, interpretive features, or other mitigation of loss of opportunities for shoreline multiple uses.
- Policy 10.4** Obtain additional easements, where needed, from property owners to set back levees to improve flood control and shoreline habitat functions. Where possible, as redevelopment occurs, replace bulkheads, revetments or other hard bank

⁹ DOE Not exactly what is in adopted SMP, but better language... DOE adopted: *Support establishing the Transition Zone as the priority area for habitat restoration projects given its importance for subtidal and intertidal habitats to allow salmonids to gradually adjust to the change between fresh and saltwater conditions*

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stabilization with more natural levees, riverbanks, or other shoreline treatments, to improve flood control, ecological functions and habitat.

Figure 5-2: Proposed profile for reconfigured levees

Public Health, Safety and Welfare

GOAL 11 Shoreline uses that do not endanger public health, safety and welfare, or the capacity of the river to provide long-term benefits and resources to the community.¹⁰

Policy 11.1 Design, locate and manage shoreline uses, such as capital improvement projects and private development, in a manner that does not endanger public health, safety and welfare, and enhances the capacity of the river to provide long-term benefits and resources to the community.

Shoreline Use Preferences¹¹

Goal 12: Tukwila, in developing and implementing its shoreline master program for shorelines of statewide significance, including the Green/Duwamish River, shall give preference to uses in the following order of preference ~~that~~**which**:

1. Recognize and protect the statewide interest over local interest;
2. Preserve the natural character of the shoreline;
3. Result in long term over short term benefit;
4. Protect the resources and ecology of the shorelines;
5. Increase public access to publicly owned areas of the shorelines;
6. Increase recreational opportunities for the public in the shoreline;
8. Provide for any other element as defined in RCW 90.58.100 deemed appropriate or necessary.

¹⁰ DOE: In adopted SMP

¹¹ DOE: In adopted SMP; omitted from Tukwila SMP

Existing Comprehensive Plan (with proposed changes)

RELATED INFORMATION

Shoreline Master Program

Washington State Shoreline Management Act

Washington State Department of Ecology – Shoreline Information

Water Resource Inventory Area (WRIA) 9: Green/Duwamish Salmon Habitat Restoration Plan

Existing Comprehensive Plan (with proposed changes)

Implementation Strategies¹²

The time frames for Implementation Strategies are as follows:

- Near Term: 2025 to 2029
- Mid Term: 2030 to 2034
- Log Term: 2035 to 2039
- Ongoing

Policy #	Strategy #		Responsible for Implementation	Time Frame	Reference Heading (2015 Update)
Goal 2	Implementation Strategies - Shoreline Planning and Management				
		WRIA 9 Salmon Habitat Plan			
		Tukwila SMP Restoration Plan			
		King County Flood Hazard Management Plan			
Goal 3	Land Development Use and Economic Vitality				
3.7	3.7.1	Shoreline Design Guidelines			
3.7	3.7.2	Development Standards			
3.7	3.7.3	Tukwila Urban Center Plan			
Goal 4	Private Property Rights				
4.1, 4.2		River design guidelines			
4.1, 4.2		River access guidelines			
4.1, 4.2		Shoreline development standards			
4.3, 4.4, 4.5		Shoreline design guidelines			
Goal 5	Shoreline Design Quality				
5.1		Shoreline design guidelines			
5.1		Shoreline development standards			
5.1		Tukwila Urban Center Plan			
5.2	5.2.1	Shoreline design guidelines			
5.2	5.2.2	Shoreline development standards			

¹² DOE: These "implementation strategies" are pretty useless, compared to what is expected from Impl. Strats regionally.

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Policy #	Strategy #		Responsible for Implementation	Time Frame	Reference Heading (2015 Update)
Goal 6 Access and Recreational Use					
6.1 to 6.3		Shoreline design guidelines			Access and Recreational Use
6.1 to 6.3		Shoreline public access guidelines			Access and Recreational Use
6.1 to 6.3		Shoreline development standards			Access and Recreational Use
6.1 to 6.3		Walk and Roll Plan			Access and Recreational Use
6.1 to 6.3		Parks and Open Space Plan			Access and Recreational Use
6.7 & 6.8		King County Green River Trail Master Plan			Access and Recreational Use: Development outside MIC
6.7 & 6.8		Shoreline public access standards			Access and Recreational Use: Development outside MIC
6.7 & 6.8		Walk and Roll Plan			Access and Recreational Use: Development outside MIC
6.7 & 6.8		Parks and Open Space Plan			Access and Recreational Use: Development outside MIC
6.9		Shoreline design guidelines			Access and Recreational Use: Development outside MIC
6.12-6.14		Shoreline design guidelines			Policies for Development outside MIC

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Policy #	Strategy #		Responsible for Implementation	Time Frame	Reference Heading (2015 Update)
6.12-6.14		Shoreline access guidelines			Policies for Development outside MIC
6.12-6.14		Walk and Roll Plan			Policies for Development outside MIC
6.12-6.14		Parks and Open Space Plan			Policies for Development outside MIC
Goal 10	Water Quality, Surface Water, and Flood Control Use				
10.1-10.4		Increase levee setback to incorporate flatter, more stable slope and vegetated mid-slope benches ¹³			
10.1-10.4		Shoreline access guidelines			
10.1-10.4		Surface Water Management Plan			
10.1-10.4		WRIA 9 Plan water quality policies			
10.1-10.4		Shoreline Restoration Plan ¹⁴			

¹³ DOE: This was omitted from Tukwila's list of implementation strategies, but appears in adopted SMP
¹⁴ DOE: In adopted SMP, but not in Tukwila Element

Existing Comprehensive Plan (with proposed changes)

Existing Comprehensive Plan (with proposed changes)**WHAT YOU WILL FIND IN THIS CHAPTER:**

- A discussion of shoreline areas in the City of Tukwila;
- An overview of the Shoreline Management Act and how it applies in Tukwila;
- Goals and Policies for managing development in shoreline areas; and
- A map of Tukwila’s adopted Shoreline Environment Designations.

PURPOSE

This element of the City’s Comprehensive Plan presents goals and policies related to development and restoration along the Green/Duwamish River – a shoreline of Statewide significance subject to the Washington State Shoreline Management Act (SMA) – which flows northerly through the entire length of Tukwila. A small fragment of the Black River flows into the Duwamish River just north of Fort Dent Park and is also subject to the SMA and the goals and policies of this chapter.

The Shoreline Element of the Comprehensive Plan represents the Shoreline Master Program’s role in the community-wide planning process. It reflects the relationship between shoreline development and other Comprehensive Plan goals and policies, and the importance of a shoreline vision to a community vision. The Shoreline Element identifies existing local and regional policies, land use and shoreline conditions, and sets forth shoreline goals and the policies for achieving them. These goals and policies reflect Tukwila’s priorities in these areas:

- Facilitating redevelopment and prioritizing water-dependent industrial uses in the Manufacturing/Industrial Center (MIC), ~~and~~ and encouraging redevelopment in the Tukwila Urban Center (TUC) that recognizes the river as a valuable resource.
- Ensuring the safety of new development from flooding and from destabilized riverbanks by establishing setbacks for new construction. Setbacks will allow for eventual replacement of existing flood control levees and regrading of over-steepened banks.
- Increasing public access to the river.
- Supporting restoration of habitat along the river through a restoration plan in the Shoreline Master Program. Restoration is accomplished, in part, through removing invasive vegetation and replacing it with native species, constructing off-channel habitat, and setting back levees to incorporate a mid-slope bench that can be planted to improve habitat.

Shoreline policies encourage high-quality development and redevelopment along the river. At the same time, they recognize the value of the Green/Duwamish River as an aesthetic resource by encouraging new development in the urban center to “face” the river, providing views and public or private access to the shoreline. The policies also recognize the shoreline as an important natural resource that requires protection and restoration of shoreline ecological functions (such as habitat, surface water and flood attenuation, water quality improvement and

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others). Policies in the Master Program support restoration of shoreline ecological functions, particularly improved habitat for endangered fish species (Chinook salmon and Pacific Bull Trout).

As a whole, the Tukwila Shoreline Master Program acts as the implementation mechanism for achieving these goals and policies.

WHAT IS THE SHORELINE MANAGEMENT ACT?

The Shoreline Management Act (SMA) was approved by Washington voters in 1972 and is designed to prevent degradation of the State's shorelines from uncoordinated development.

WHERE DOES THE SHORELINE MANAGEMENT ACT APPLY?

Each city and county defines their own shoreline jurisdiction based on the provisions of the SMA and regulations from the Department of Ecology. The SMA applies to the following areas:

- Marine waters,
- Streams and rivers that have an average annual flow of at least 20 cubic feet per second,
- Upland areas within 200 feet of regulated waterbodies, and
- Wetlands and flood-prone areas associated with regulated waterbodies.

Additional information regarding the Shoreline Management Act is available on the Department of Ecology's website at: <https://ecology.wa.gov/water-shorelines/shoreline-coastal-management/shoreline-coastal-planning/shoreline-management-act-sma>
~~<http://www.ecy.wa.gov/programs/sea/shorelines/smp/index.html>~~

ISSUES

Department of Ecology guidelines, along with the City's obligations as a participant in the implementation of the [Green/Duwamish Salmon Habitat Restoration Plan](#), dictate that Shoreline Master Program policies and regulations be established to ensure restoration and no net loss of shoreline ecological functions. The major issue facing the City is balancing the existing and planned future urban development along the river with these requirements.

The Shoreline Management Act promotes increased recreational opportunities and public access to the shoreline environment.

Existing Comprehensive Plan (with proposed changes)**SHORELINE MANAGEMENT ACT PRIORITIES**

The SMA designates the Green/Duwamish River as a shoreline of Statewide significance. “Because these shorelines are major resources from which all people in the State derive benefit, the [development] guidelines and master programs must give preference to uses which favor public and long-range goals.”¹[WAC 173-16-040(5)²] The SMA states that master programs for shorelines of Statewide significance shall give preference to uses that (in order of preference):

1. Recognize and protect the statewide interest over local interest.
2. Preserve the natural character of the shoreline.
3. Result in long-term over short-term benefit.
4. Protect the resources and ecology of the shoreline.
5. Increase public access to publicly-owned areas of the shoreline.
6. Increase recreational opportunities for the public in the shoreline.
7. Provide for any other element, as defined in RCW 90.58.100, deemed appropriate or necessary (that is, ~~which~~ that further the State’s shoreline policies).³

The Washington State Shoreline Management Act requires that, where alterations in the natural condition of a shoreline are authorized, priority shall be given to the following uses:

- Single-family residences
- Ports
- Shoreline recreational uses
- Industrial and commercial developments dependent upon a shoreline location
- Other developments that will provide an opportunity for a substantial number of people to enjoy the shoreline.

The policies established in the Tukwila Shoreline Master Program attempt to balance the river’s value as a long-term natural resource for the region with the demands of intense urban development. The City’s Shoreline Master Program also recognizes that, except for the area north of the Turning Basin, most of the Green River is not navigable by large commercial vessels and therefore opportunities to establish water-dependent uses are limited. [There has been interest in providing nonmotorized water access for both recreational use and official city use \(e.g., police and fire having a place to launch a motorboat\).](#)

¹ DOE: Need to find this language in act or replace

² DOE: Doesn't exist?

³ [RCW 90.58.020.](#)

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GOALS, POLICIES AND STRATEGIES

In 2020, Tukwila's updated its ~~2011-approved~~ Shoreline Master Program, ~~which is~~ incorporated by reference as part of this Plan. The goals and policies of this plan have been ~~revised~~ to be consistent with the revisions made in the 2020 update of the City's SMP. ~~some of the 1995 Comprehensive Plan goals and policies and added new ones to address new issues, changed conditions along the river, or new requirements established by the Washington State Department of Ecology.~~

Tukwila shoreline policies give priority to the economic vitality of the City's two regional growth centers – the Manufacturing Industrial Center (MIC) ~~mic~~, and focus intense multi-purpose urban uses – such as water-enjoyment commercial activity and public access – in the Tukwila Urban Center. The policies also emphasize the importance of a variety of shoreline public access methods, both physical and visual, linked to other areas of the region. They recognize the value of the river as a natural resource by encouraging restoration – including removal of invasive plants – of wildlife habitat and native riverbank vegetation, including tree planting.

➤ Shoreline Environment Designations

The two-hundred-foot shoreline jurisdiction that comprises each shoreline environment is divided lengthwise into a shoreline-adjacent buffer and outside-buffer area, and specifies allowed uses ~~are specified~~ for each environment. The shoreline environments are intended to facilitate the City's long-range objectives for land and shoreline management, including:

- Ensuring no net loss of ecological shoreline functions;
- Providing for habitat protection enhancement and restoration, to improve shoreline ecological functions degraded over time and protection of already-restored areas;
- Allowing continued and increased urban development in recognition of Tukwila's role as a regionally-significant industrial and commercial center; and
- Providing for improved flood control, in coordination with King County and the U.S. Army Corps of Engineers.

The Shoreline Master Program provides more information on buffer size and function. The adopted buffers for each shoreline environment balance shoreline ecological function, human life and property protection (including future levee repair/ reconstruction), existing land use patterns, and State and federal agency policies.

Figure 5-1: Shoreline Management Act Jurisdiction

See image in draft

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GOAL ~~5~~.1

Shoreline Environment designations that meet Washington State Shoreline Management Act requirements, ~~7~~ and reflect local conditions and Tukwila's long-term vision for its shoreline.

The shoreline zone generally extends for 200 feet on either side of the Ordinary High Water mark, consistent with the Washington State Shoreline Management Act (as illustrated in Figure 5-1).

POLICIES

Shoreline Residential

- 5.Policy 1.1** ~~SHORELINE RESIDENTIAL ENVIRONMENT.~~ In the Shoreline Residential Environment, priority shall be given to the following:
- ~~■~~ Uses that preserve or restore the natural character of the shoreline, or promote preservation of vegetation, open space, flood plain or sensitive area lands;
 - ~~■~~ Development that is compatible with the natural and biological limitations of the land and water and that will not require extensive alteration of the shoreline or new "hard" structural shoreline stabilization. Where possible, the removal of bulkheads, revetments, levees or other "hard" structural shoreline stabilization is required. Hard structural shoreline stabilization may be replaced with alternative bioengineered bank stabilization;
 - ~~■~~ On publicly-owned property, water-dependent or water-related recreational activities that are compatible with the character of the shoreline residential areas;
 - ~~■~~ Maintenance of existing single-family residential development patterns and public open space and recreation uses;
 - ~~■~~ Residential and recreational development that promotes vegetation conservation and enhancement, sensitive areas protection, and maintenance of water quality to assure no net loss of shoreline ecological functions; and
 - ~~■~~ Residential and recreational development that contributes to the restoration of ecological functions in areas where ecological degradation has occurred over time.

Urban Conservancy Environment

- Policy 5.1.2** ~~URBAN CONSERVANCY ENVIRONMENT.~~ In the Urban Conservancy Environment, priority shall be given to the following:

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- Development that promotes vegetation conservation and enhancement, sensitive areas protection, and preservation of water quality to assure no net loss of shoreline ecological functions;
- Water enjoyment uses;
- Uses that remove shoreline armoring unless required for a shoreline-dependent use, and uses that prevent and/or minimize flood damage;
- Uses that preserve or restore shoreline ecological functions provided by vegetation, open space, flood plain or sensitive area lands;
- Uses that minimize interference with navigation and flood control, consider impacts to public views, and allow for the safe, unobstructed passage of fish and wildlife, particularly those species dependent on migration;
- Uses that provide public access and public recreation, whenever feasible and when ecological impacts can be mitigated;
- Development that is compatible with the natural and biological limitations of the land and water that do not require extensive alteration of the shoreline or new shoreline stabilization, except for restoration projects;
- Enhancement and restoration of ecological functions; and
- Redevelopment of underutilized areas and development of commercial and industrial activities where shoreline impacts are minimized and where there is no net loss of shoreline functions.

~~5.1.3—High-intensity Shoreline Environment:~~

Policy 1.3 In the High-Intensity Environment, priority shall be given to the following:

- Water-dependent commercial and industrial uses;
- Development that promotes vegetation conservation and enhancement, sensitive areas protection and preservation of water quality, to assure no net loss of shoreline ecological functions;
- Uses that remove shoreline armoring unless required for a shoreline-dependent use, and uses that prevent and/or minimize flood damage;
- Uses that preserve or restore shoreline ecological functions provided by vegetation, open space, flood plain or sensitive area lands;
- Uses that minimize interference with navigation and flood control, consider impacts to public views, and allow for the safe, unobstructed passage of fish and wildlife, particularly those species dependent on migration;
- Uses that provide public access and public recreation, whenever feasible and when ecological impacts can be mitigated;
- Development compatible with the natural and biological limitations of the land and water that does not require extensive alteration of the shoreline or new shoreline stabilization, except for restoration projects;
- Enhancement and restoration of ecological functions; and

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- Redevelopment of underutilized areas and development of intensive commercial and industrial activities, where shoreline impacts are minimized and where there is no net loss of shoreline functions.

Shoreline Environments

Map 5-1: Shoreline Environment Designations

Shoreline Aquatic Environment

Policy 5-1.4 ~~SHORELINE AQUATIC ENVIRONMENT~~—In the Shoreline Aquatic Environment, priority shall be given to the following:

- Uses that preserve or restore the natural character of the shoreline or promote preservation of vegetation, open space, flood plain or sensitive area lands;
- Water-dependent uses;
- Uses that remove shoreline armoring unless required for a shoreline-dependent use, and uses that prevent and/or minimize flood damage;
- Uses that minimize interference with navigation and flood control, consider impacts to public views, and allow for the safe, unobstructed passage of fish and wildlife, particularly those species dependent on migration;
- Uses that provide public access and public recreation, whenever feasible and when ecological impacts can be mitigated;
- Development compatible with the natural and biological limitations of the land and water, that does not require extensive alteration of the shoreline or new shoreline stabilization, except for restoration projects;
- Enhancement and restoration of ecological functions; and
- Uses compatible with the adjoining shoreline environments.

Photo

The Aquatic Environment applies to areas below the ordinary High Water Mark of a lake, stream or marine water body.

➤ **Shoreline Planning and Management**

Tukwila is located in the lower reach of the Green/Duwamish River watershed, which covers 482 square miles and includes over 93 river miles from the Cascade Mountains to Elliott Bay. The City's portion of the river covers approximately 13 river miles; as a result, the City's Shoreline Master Program recognizes that – to be successful – protection and enhancement of shoreline resources is not only a City responsibility but also a regional one. The City is a member of the Water Resource Inventory Area (WRIA) 9, which covers the Green/Duwamish

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River watershed, and has adopted the WRIA 9 Salmon Habitat Plan that identifies specific actions and restoration projects to improve salmon habitat.

GOAL ~~5.2~~ _____

Expanded value of the river as a community and regional resource, through regional coordination of shoreline management programs and through programs that foster river appreciation and awareness, involving partnerships among businesses, schools, residents and government and community organizations.

POLICIES

~~5.2~~ Policy 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.

Policy ~~5.2~~ 2.2 Promote river stewardship and increase river awareness through actions which further shoreline goals, such as educational programs, community activities and partnerships with Tukwila residents, businesses, schools, government, and community organizations.

Policy ~~5.2~~ 2.3 Promote and participate in the implementation of the Watershed Resource Inventory Area (WRIA) 9 Plan, including supporting the recommended projects located in Tukwila to improve the habitat functions of the Green/Duwamish River, as well as the Plan's policies and goals.

~~Implementation Strategies – Shoreline Planning and Management~~

- ~~• WRIA 9 Salmon Habitat Plan~~
- ~~• Tukwila SMP Restoration Plan~~
- ~~• King County Flood Hazard Management Plan~~

➤ **Land Development Use and Economic Vitality**

An objective of the City's Shoreline Master Program, identified in the Issue section of this chapter, is to allow continued and increased urban development in recognition of the City's role as a regionally- significant industrial and commercial center, while also ensuring no net loss of shoreline ecological functions. The following policies address these objectives.

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GOAL 5.3

Development along the shoreline that fosters the economic vitality of Tukwila while preserving the long-term benefits of the river.

General Policies

Policy 5.3.1 Implement shoreline design guidelines to:

- Encourage design that views the river as an amenity;
- Guide the design of shoreline multiple uses;
- Establish techniques for increasing shoreline multiple use;
- Prioritize locations for uses; and
- ~~Encourage removal of invasive species with nonchemical methods and maintenance of native~~
- planted vegetation to minimize the presence of invasive species.

5.Policy 3.2 Design and locate all shoreline development to minimize impacts on areas identified as important for other river uses, such as wildlife and aquatic habitat, river vegetation, public access and recreation, historical resources, and flood control.

Policy 5.3.3 When no other feasible alternative exists, allow structures for water dependent uses to be placed in the water, or structural reinforcement of the riverbank, only when this provides a significant, long-term public benefit, does not interfere with navigation or flood management, does not cause a loss of shoreline function or is essential to a water-dependent use.⁴

~~Allow structures to be placed in the water, or structural reinforcement of the riverbank, only when this provides a significant, long term public benefit, does not interfere with navigation or flood management, does not cause a loss of shoreline function, or is essential to a water-dependent use.~~

Policy 5.3.4 Prohibit the construction of new flood control facilities unless constructed to incorporate habitat restoration features, and work to remove existing shoreline armoring – where possible – to restore habitat functions.

Policy 5.3.5 Recognize and promote the river’s contribution to the economic vitality of Tukwila, as a valuable amenity for existing and future businesses which depend on or benefit from a shoreline location.

Policy 5.3.6 Ensure that shoreline development does not diminish the commercial navigability of the river.

⁴ Replaced Tukwila language with more specific language in adopted SMP

Existing Comprehensive Plan (with proposed changes)

Tukwila Urban Center Development Policy

- Policy 5.3.7** Design and locate shoreline development in the Tukwila Urban Center to encourage water enjoyment uses that:
- Provide for shoreline multiple uses consistent with the underlying zoning;
 - Provide additional benefits, such as riverbank restoration, fishing piers, non-motorized boat launches, river views, or interpretive signs;
 - Support public access to and along the shoreline;
 - Provide water-enjoyment uses as a transition between the river and non-water uses;
 - Encourage efficient use of land through such techniques as clustering, mixed-use projects, cooperative parking or parking located under principal structures, and shared utility and access corridors; and
 - Ensure that new development and re-development in the Urban Center acknowledges the goal of a continuous street façade along Christensen Road and the riverfront, and locates parking facilities to the interior of the lot.

(See also: Shoreline Design Quality policies)⁵

~~Implementation Strategies – Land Development Use and Economic Vitality~~

- ~~• Shoreline Design Guidelines~~
- ~~• Development standards~~
- ~~• Tukwila Urban Center Plan~~

Policy for Manufacturing Industrial Center Development Outside the Tukwila Urban Center or MIC

- Policy 5.3.8** Ensure that non-water dependent shoreline development in the MIC provides for shoreline multiple uses to the extent that site security and the success of industrial operations are not jeopardized; ensures no net loss of shoreline function and provides adequate mitigation for the loss of shoreline multiple use opportunities.

- Policy 3.9** Allow opportunities for commercial and recreational marinas to locate in Tukwila downstream of the turning basin, where compatible with existing and future navigability and existing and future ecological restoration projects.

(See also: Shoreline Design Quality policies)

⁵ These were listed below - they have been moved to a better location

Existing Comprehensive Plan (with proposed changes)

Development Outside the Tukwila Urban Center or Manufacturing Industrial Center

Policy 3.10 Design and locate shoreline development outside of the Tukwila Urban Center and the MIC to:

- Provide for shoreline multiple uses;
- Provide water-enjoyment uses as transitions between the river and non-water-dependent uses;
- Encourage efficient use of land through such techniques as clustering, mixed-use projects, cooperative parking or parking located under principal structures, and shared utility and access corridors; and
- Treat the river as an amenity in the design and location of the project.

(See also: Shoreline Design Quality policies)

MIC Development Policies

~~5.3.9 — Ensure that non-water dependent shoreline development in the MIC provides for shoreline multiple uses to the extent that site security and the success of industrial operations are not jeopardized, ensures no net loss of shoreline function, and provides adequate mitigation for loss of shoreline multiple use opportunities.~~

~~5.3.10 — Allow opportunities for commercial and recreational marinas to locate in Tukwila downstream of the turning basin, where compatible with existing and future navigability and existing and future ecological restoration projects.~~

➤ **Private Property Rights**

GOAL 5.4

Protect rights of property owners to reasonable use and enjoyment of private property through appropriate location, access to, and design of shoreline uses.

POLICIES

Policy 5.4.1 Design, locate and manage shoreline uses in a manner that maintains reasonable use and enjoyment of private property.

Policy 5.4.2 Design and locate public access in a way that is appropriate for the site, depending on site conditions and private property concerns.

Implementation Strategies – Private Property Rights

Existing Comprehensive Plan (with proposed changes)

- ~~● River design guidelines~~
- ~~● River access guidelines~~
- ~~● Shoreline development standards~~

Policy 5.4.3 Special sensitivity is required for residential property; therefore, all single-family residential development of four or fewer single-family residential lots is excluded from requirements to provide private or public access. Single-family property owners are not exempt from the responsibility to improve the habitat value of the shoreline environment.

Policy 5.4.4 Maintain flexibility in methods of obtaining access, to allow for different site conditions and private property concerns that might conflict with access, such as privacy, safety and security.

Policy 5.4.5 Obtain additional easement area to permit the improvement of river habitat, by setting back levees or removing revetments and other hard shoreline armoring, and replacing with more habitat-friendly shoreline treatment.

~~— Implementation Strategy~~

- ~~● Shoreline design guidelines~~

~~➤ Shoreline Design Quality~~

GOAL 5.5 _____

Enhanced identity of the river as a unique community asset through high-quality development and public activities that reflect Tukwila's history and sense of community pride.

POLICIES

Policy 5.5.1 Require that shoreline development outside of the MIC:

- Ensures no net loss of shoreline function;
- Is designed to be consistent with Tukwila river design guidelines;
- Reflects principles of high-quality design in such areas as site planning, architecture and landscaping; and
- Includes setbacks, bulk, height, density, landscape buffers and provisions for open space that enhance the shoreline environment.

Implementation Strategies

Existing Comprehensive Plan (with proposed changes)

- ~~River design guidelines~~
- ~~Shoreline development standards~~
- ~~Tukwila Urban Center Plan~~

- Policy 5.5.2** Require that shoreline development in the MIC:
- ~~Is designed to be consistent with Tukwila shoreline design guidelines;~~
 - ~~Maintains or enhances the existing visual quality along the river;~~
 - ~~Provides trees and other landscaping to buffer industrial uses that are incompatible with other river uses; and~~
 - ~~Provides amenities that enhance enjoyment of the river by employees.~~

Photo

Tukwila's Manufacturing/Industrial Center is an important regional industrial center located along the Duwamish River.

~~Implementation Strategy~~

- ~~Shoreline design guidelines~~
- ~~Shoreline development standards~~

➤ Access and Recreational Use

Public access to shorelines of the State is one of the key goals of the Shoreline Management Act; of the seven uses identified in RCW 90.58.020 as having preference in the shoreline, two relate to public access and recreation.

In addition to the Green River Trail, which runs along much of the length of the river through the City, Tukwila is fortunate to have a number of other public access sites along the river. The following goals and policies support preserving existing public access sites and providing additional public access to the river. To support implementation of these goals and policies, the City's development regulations include incentives for private development projects to provide public access to the shoreline.

GOAL 5.6

Increase the amount and diversity of opportunities for public recreation and access to and along the river, including visual and cultural access, access to the water's edge, opportunities for small boat navigation and access, and connections to other neighborhoods consistent with the shoreline character.

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General Policies

Policy 5.6.1 Retain and improve areas identified as important in the network of public access to the river, including cross-town connections, former railroad rights-of-way and unimproved street-end rights-of-way, historic sites, unique natural features, or other areas valuable for their interpretive potential.

Policy 5.6.2 Maintain existing parks along the shoreline, and acquire additional park land to increase access and recreation opportunities.

Policy 5.6.3 Incorporate river access requirements to guide the design, location, and management of shoreline public access in all subdivisions and short plats over four lots, as well as multi-family, commercial, and industrial development; to identify types of access appropriate and feasible for various site conditions and locations; and to establish strategies, funding sources and priorities for acquisition and enhancement of shoreline public access.

Implementation Strategies

- ~~Shoreline design guidelines~~
- ~~Shoreline public access guidelines~~ n ~~Shoreline development standards~~ n ~~Walk and Roll Plan~~
- ~~Parks and Open Space Plan~~

Photo

Shoreline rails provide important public access opportunities for Tukwila residents.

Policy 5.6.4 Design, locate and manage public access for diverse types and variable levels of intensity, in order to minimize impacts on vulnerable features of the natural environment and to minimize conflicts with private property uses.

Policy 5.6.5 Where shoreline development provides public access areas, reserve such areas through the means most appropriate for the type, scale and impacts of the development, such as donation or sale of an easement or right-of-way to the City.

Policy 5.6.6 Support the implementation of the King County Green River Trail – per the existing King County Green River Trail Master Plan – as well as pedestrian/bicycle connections with the Trail from properties on the opposite bank and the expansion of this Trail, where appropriate.

Existing Comprehensive Plan (with proposed changes)

Policies For Development Outside [Manufacturing Industrial Center](#)

Policy 5.6.7 Require subdivisions, ~~multi-family~~ multifamily residential uses, and commercial and industrial uses along the shoreline to provide a trail for public access along the river, in areas identified for trail connections consistent with the King County Green River Trail Master Plan, Shoreline Master Program, or any other approved access plan. Require any property not included in the King County Green River Trail Plan to provide public access or a private natural area in lieu of physical public access.⁶

Implementation Strategies

- ~~King County Green River Trail Master Plan~~
- ~~Shoreline public access standards~~
- ~~Walk and Roll Plan~~
- ~~Parks and Open Space Plan~~

5. Policy 6.8 Where shoreline public access is provided, ensure that it is designed to be safe and convenient and includes access amenities such as benches, drinking fountains, public parking areas, handicapped access and appropriate lighting, consistent with the shoreline access guidelines.

Implementation Strategies

- ~~Shoreline access guidelines~~
- ~~King County Green River Trail Master Plan~~
- ~~Walk and Roll Plan~~
- ~~Parks and Open Space Plan~~

Policy 5.6.9 Except for single-family residential development of four or fewer single-family residential lots, shoreline developments shall maintain views of the water from the shoreline and from upland areas, through appropriate design of building height, bulk and modulation, windows, breezeways, and outdoor spaces.

Implementation Strategy

- ~~Shoreline design guidelines~~

Policy 5.6.10 Public access improvements should be designed and constructed to:

⁶ Not included in state-adopted SMP

Existing Comprehensive Plan (with proposed changes)

- Look and “feel” welcoming to the public.
- Connect to public areas, street ends, and other pedestrian or public thoroughfares.
- Enhance the character of Tukwila.
- Avoid conflicts with water-dependent uses.
- Provide for public safety and minimize impacts to private property and individual privacy and security.
- Require a low level of operation and maintenance.
- Ensure that construction (i.e., structures and access pathways) incorporates environmentally-sensitive design and materials (e.g., non-toxic, natural materials).

Policy 5.6.11 Improve pedestrian connections between the river, Green River Trail and the Urban Center’s commercial, office, and residential uses.

Policies for Development in Manufacturing Industrial Center

~~POLICIES FOR DEVELOPMENT IN MIC~~

Policy 5.6.12 For MIC properties included in the King County Green River Trail Master Plan, require shoreline development to provide a trail for public access along the river.

Policy 5.6.13 Where shoreline public access is provided, ensure that it is designed to be safe and convenient, and includes access amenities such as benches, drinking fountains, public parking areas, handicapped access, and appropriate lighting, consistent with the ~~river~~ [shoreline](#) access guidelines.

Policy 5.6.14 For MIC properties not included in the King County Green River Trail Plan, require shoreline development to provide public access or a private natural area in lieu of public access, or otherwise mitigate the loss of public access.

Implementation Strategies

- ~~Shoreline design guidelines~~
- ~~Shoreline access guidelines~~
- ~~Walk and Roll Plan~~
- ~~Parks and Open Space Plan~~

Transportation Within the Shoreline Zone

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GOAL 5.7.7

Safe corridors and amenities for pedestrians, cyclists, and users of public transportation, allowing more citizens to access and enjoy the river.

POLICIES

- Policy 5.7.1** Design and locate transportation uses within the shoreline jurisdiction to be compatible with shoreline vegetation or other habitat features, turn-outs or parking areas for public access, boat ramps, biofiltration swales to protect water quality, public art, or interpretive signs.
- Policy 5.7.2** Ensure that transportation uses within the shoreline jurisdiction and within those corridors identified as river cross-connections provide safe, convenient and attractive pedestrian, bicycle, and boater access and facilities for public transportation.
- Policy 5.7.3** Minimize transportation impacts on the natural environment (such as noises, odors, and air or water pollution), and enhance the natural environment wherever possible through ~~planting trees~~ low impact development, green stormwater infrastructure, planting trees, and other habitat features.
- Policy 5.7.4** Encourage maintenance of the river's **navigability up to the turning basin**⁷— where this achieves a greater public interest and a balance between costs and benefits to the broader community, and impacts to the habitat functions of the river – in recognition of the historical significance of navigation and its importance to the economic vitality of water-dependent uses and the MIC.

Historical Resource Use**GOAL 5.8.8**

Recognition of the river's contribution to Tukwila history and community identity through identification, enhancement, restoration and protection of sites with historic and cultural value, and through development of interpretive and educational programs.

POLICIES

- Policy 5.8.1** Ensure that shoreline development reflects the river's important role in Tukwila history, and that long-term public use of the river as a historical resource is

⁷ DOE: Question for DOE about this – navigability extends beyond this location in non-motorized boats

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protected by providing for the identification, protection and interpretation of unique historic and archaeological features.

Policy 5.8.2 Ensure that public shoreline development reflects the river's natural features and community traditions.

Policy 5.8.3 Ensure that archaeological artifacts and sites are protected when development takes place in the shoreline jurisdiction.

Natural Environment and Habitat Use

The Green/Duwamish River has undergone extensive modifications in the past, to reduce channel migration and limit the extent and duration of valley flooding by constructing levees and revetments. These modifications to the river system have negatively impacted ecological functions, including hydrology, water quality, riparian habitat and in-stream habitat. River flows have been modified by dam construction, stream diversion, and urban development. River management and levees have reduced the connection between the rivers and their floodplains, changing the spatial extent of habitat, and increasing the potential for negative water quality impacts. Disturbances to the channel banks have resulted in areas that are dominated by non-native invasive species. Wood, in the form of riparian trees and in-channel wood, is generally lacking throughout the system, which has a negative impact on riparian and aquatic habitats.

The following goals and policies seek to improve the ecological function of the river system.

Photo

Aerial view of North Winds Weir Off-Channel Habitat (photo courtesy of WRIA9)

GOAL 5.9

Restored, enhanced, and protected natural environmental resources along the river, including trees, wildlife habitat, and features with value for long-term public, scientific and educational uses.

POLICIES

Policy 5.9.1 Ensure that shoreline development results in no net loss of shoreline ecological function and minimizes impacts on wildlife, and that significant vegetation, sandbars, wetlands, watercourses and other critical areas identified as important

Heidi Watters

Add here and/or in Environment. WQ of the River does start with tributaries, so want it mentioned both places.

⁸ Evaluate with DOE

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for habitat are maintained through the proper location, design, construction, and management of all shoreline uses and activities.

Policy 5-9.2 Ensure that shoreline development and activities protect riverbank vegetation and, where feasible, restore degraded riverbanks in accordance with the vegetation management provisions of the Shoreline Master Program, in order to minimize and compensate for impacts on fish and wildlife habitat.

Policy 5-9.3 Mitigate unavoidable disturbances of significant vegetation or habitat through replacement of habitat and provision of interpretive features consistent with the shoreline access guidelines.

Policy 5-9.4 Support relief from certain Shoreline Master Program requirements for properties affected by habitat restoration projects that result in the movement of the ordinary high water mark.

Policy 5-9.5 Support establishing the Transition Zone – given its importance for subtidal and intertidal habitats – as the priority area for habitat restoration projects, to allow salmonids to gradually adjust to the change between fresh and saltwater conditions.⁹

Water Quality, Surface Water, and Flood Control Use

A system of levees and revetments have been constructed along a major portion of the river in Tukwila. The City has adopted a minimum levee profile to promote river bank stability, protect structures, and enhance shoreline ecological functions. The minimum levee profile incorporates a mid-slope bench that provides a wider river channel to accommodate higher flows during storm events, and that allows planting of native vegetation to improve habitat functions. The vegetation on the mid-slope bench will also reduce the speed of water flows during storm events.

POLICIES

Policy 5-10.1 Design, locate and manage shoreline development including streets, flood control projects, surface water drainage and sewer systems, clearing and grading activities, and landscaping in a manner that minimizes opportunities for

⁹ DOE Not exactly what is in adopted SMP, but better language... DOE adopted: *Support establishing the Transition Zone as the priority area for habitat restoration projects given its importance for subtidal and intertidal habitats to allow salmonids to gradually adjust to the change between fresh and saltwater conditions*

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pollutants to enter the river, provides erosion control, and otherwise protects water quality.

Policy 5.10.2 Design, manage and mitigate flood control uses to minimize impacts on other shoreline uses such as trees and riverbank vegetation, public access and recreation, and fish habitat; and set them back from the river, where feasible for the project, with land areas between the water and the levee set aside as open space for public recreation or wildlife habitat.

Policy 5.10.3 Consistent with project feasibility, mitigate unavoidable negative impacts on other shore–line uses owing to flood control uses through such measures as restoration of trees and native riverbank vegetation, provision of public access to the water’s edge, interpretive features, or other mitigation of loss of opportunities for shoreline multiple uses.

Policy 5.10.4 Obtain additional easements, where needed, from property owners to set back levees to improve flood control and shoreline habitat functions. Where possible, as redevelopment occurs, replace bulkheads, revetments or other hard bank stabilization with more natural levees, riverbanks, or other shoreline treatments, to improve flood control, ecological functions and habitat.

Implementation Strategies

- ~~Where possible, increase levee setback~~
- ~~Shoreline access guidelines~~
- ~~Surface Water Management Plan~~
- ~~WRIA 9 Plan water quality policies~~

Figure 5-2: Proposed profile for reconfigured levees

Public Health, Safety and Welfare

GOAL 11 Shoreline uses that do not endanger public health, safety and welfare, or the capacity of the river to provide long-term benefits and resources to the community.¹⁰

Policy 5.11.1 Design, locate and manage shoreline uses, such as capital improvement projects and private development, in a manner that does not endanger public health, safety and welfare, and enhances the capacity of the river to provide long-term benefits and resources to the community.

¹⁰ DOE: In adopted SMP

Existing Comprehensive Plan (with proposed changes)**Implementation Strategies – Private Property Rights****Shoreline Use Preferences**¹¹

- Goal 12:** Tukwila, in developing and implementing its shoreline master program for shorelines of statewide significance, including the Green/Duwamish River, shall give preference to uses in the following order of preference that~~which:~~
1. Recognize and protect the statewide interest over local interest;
 2. Preserve the natural character of the shoreline;
 3. Result in long term over short term benefit;
 4. Protect the resources and ecology of the shorelines;
 5. Increase public access to publicly owned areas of the shorelines;
 6. Increase recreational opportunities for the public in the shoreline;
 8. Provide for any other element as defined in RCW 90.58.100 deemed appropriate or necessary.

River design guidelines

River access guidelines

Shoreline development standards

Implementation Strategies – Land Development Use and Economic Vitality

¹¹ DOE: In adopted SMP; omitted from Tukwila SMP

Existing Comprehensive Plan (with proposed changes)**RELATED INFORMATION**

[Shoreline Master Program](#)

[Washington State Shoreline Management Act](#)

[Washington State Department of Ecology – Shoreline Information](#)

[Water Resource Inventory Area \(WRIA\) 9: Green/Duwamish Salmon Habitat Restoration Plan](#)

~~[Shoreline Design Guidelines](#)~~

~~[Development standards](#)~~

~~[Tukwila Urban Center Plan](#)~~

~~[Implementation Strategies – Shoreline Planning and Management](#)~~

~~[WRIA 9 Salmon Habitat Plan](#)~~

~~[Tukwila SMP Restoration Plan](#)~~

~~[King County Flood Hazard Management Plan](#)~~

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Implementation Strategies¹²

The time frames for Implementation Strategies are as follows:

- [Near Term: 2025 to 2029](#)
- [Mid Term: 2030 to 2034](#)
- [Log Term: 2035 to 2039](#)
- [Ongoing](#)

Policy #	Strategy #		Responsible for Implementation	Time Frame	Reference Heading (2015 Update)
Goal 2	Implementation Strategies - Shoreline Planning and Management				
		WRIA 9 Salmon Habitat Plan			
		Tukwila SMP Restoration Plan			
		King County Flood Hazard Management Plan			
Goal 3	Land Development Use and Economic Vitality				
3.7	3.7.1	Shoreline Design Guidelines			
3.7	3.7.2	Development Standards			
3.7	3.7.3	Tukwila Urban Center Plan			
Goal 4	Private Property Rights				
4.1, 4.2		River design guidelines			
4.1, 4.2		River access guidelines			
4.1, 4.2		Shoreline development standards			
4.3, 4.4, 4.5		Shoreline design guidelines			
Goal 5	Shoreline Design Quality				
5.1		Shoreline design guidelines			
5.1		Shoreline development standards			
5.1		Tukwila Urban Center Plan			
5.2	5.2.1	Shoreline design guidelines			
5.2	5.2.2	Shoreline development standards			

¹² DOE: These "implementation strategies" are pretty useless, compared to what is expected from Impl. Strats regionally.

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Policy #	Strategy #		Responsible for Implementation	Time Frame	Reference Heading (2015 Update)
Goal 6	Access and Recreational Use				
6.1 to 6.3		Shoreline design guidelines			Access and Recreational Use
6.1 to 6.3		Shoreline public access guidelines			Access and Recreational Use
6.1 to 6.3		Shoreline development standards			Access and Recreational Use
6.1 to 6.3		Walk and Roll Plan			Access and Recreational Use
6.1 to 6.3		Parks and Open Space Plan			Access and Recreational Use
6.7 & 6.8		King County Green River Trail Master Plan			Access and Recreational Use: Development outside MIC
6.7 & 6.8		Shoreline public access standards			Access and Recreational Use: Development outside MIC
6.7 & 6.8		Walk and Roll Plan			Access and Recreational Use: Development outside MIC
6.7 & 6.8		Parks and Open Space Plan			Access and Recreational Use: Development outside MIC
6.9		Shoreline design guidelines			Access and Recreational Use: Development outside MIC
6.12-6.14		Shoreline design guidelines			Policies for Development outside MIC

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Policy #	Strategy #		Responsible for Implementation	Time Frame	Reference Heading (2015 Update)
6.12-6.14		Shoreline access guidelines			Policies for Development outside MIC
6.12-6.14		Walk and Roll Plan			Policies for Development outside MIC
6.12-6.14		Parks and Open Space Plan			Policies for Development outside MIC
Goal 10	Water Quality, Surface Water, and Flood Control Use				
10.1-10.4		Increase levee setback to incorporate flatter, more stable slope and vegetated mid-slope benches ¹³			
10.1-10.4		Shoreline access guidelines			
10.1-10.4		Surface Water Management Plan			
10.1-10.4		WRIA 9 Plan water quality policies			
10.1-10.4		Shoreline Restoration Plan ¹⁴			

¹³ DOE: This was omitted from Tukwila's list of implementation strategies, but appears in adopted SMP
¹⁴ DOE: In adopted SMP, but not in Tukwila Element

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RELATED INFORMATION

~~Shoreline Master Program~~

~~Washington State Shoreline Management Act~~

~~Washington State Department of Ecology — Shoreline Information~~

~~Water Resource Inventory Area (WRIA) 9: Green/Duwamish Salmon Habitat Restoration Plan~~

— 5

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WHAT YOU WILL FIND IN THIS CHAPTER:

- A description of the natural resources and environmentally critical areas present in the City of Tukwila;
- A discussion of local City efforts to protect Tukwila’s natural resources; and
- Goals and Policies for protecting sensitive natural resources, including the urban forest.

PURPOSE

This element of the Comprehensive Plan addresses the City’s natural environment – air, land and water resources – by guiding future development in a manner that protects the community’s environment, improves the quality of life in the City, and provides reasonable protection of community residents from natural hazards.

To be healthy and sustainable, a community must integrate the natural environment into urban development design. The natural environment and its associated ecological processes provide many benefits to Tukwila, including:

- Visual relief from the hard, constructed surfaces of urban development;
- Fish and wildlife habitat;
- Air and water quality;
- Surface water runoff management;
- Recreational opportunities for interaction with nature;
- Human health; and
- Aesthetic and economic benefits.

Trees and vegetation also provide critical environmental services which, in turn, affect the quality of life of residents, visitors, daytime workers and neighboring communities. Some of the benefits of trees are shown below.

¹

The City conducted a required periodic update of its critical areas regulations in 2018 and 2019.² This included a Public Outreach Plan that used a variety of methods to notify the general public and property owners including an open house, mailings, notice in a stormwater bill, postings on the City’s website, creation of a broadcast email group that received updates of the process, and articles in the City’s Hazelnut newsletter.

Goals and Policies for the protection of *Paleontological and Archaeological Resources* previously listed in this element have been moved to the **Community Image Element**.

¹ Old information; deleted

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Benefits of Trees

ENVIRONMENTAL

- Fish and wildlife habitat
- Improved air quality
- Storm water mitigation
- Reduced energy consumption
- Sequestration of carbon
- Stabilization of slopes

SOCIAL

- Lower crime rates
- Mental health benefits
- Improved physical health
- Aesthetics and quality of life

ECONOMIC

- Consumer satisfaction/ increased spending
- Increased property values
- Reduced maintenance of road surfaces (shade)
- Green infrastructure – reduced cost over installing and maintaining surface water infrastructure

The Natural Environment Element sets forth goals and policies to guide the protection and management of wetlands, watercourses, springs, fish and wildlife habitat areas, and geologically hazardous areas – collectively called “environmentally critical areas”. It also includes goals and policies related to flood management, surface water management, water quality, and the urban forest (the combination of trees, shrubs and other plants that make up the formal landscaped areas of the City and the natural areas in our parks and on private property).

Tukwila Pond serves as both wetland habitat and temporary stormwater storage.

[Image]

Southgate Creek is an example of a watercourse with little riparian protection from urban impacts.

[Image]

THE STATE OF TUKWILA’S URBAN ENVIRONMENT

Tukwila encompasses about nine square miles, and much of the city lies within an extensive valley centered on the Lower Green/Duwamish River watershed. The valley is virtually flat and almost entirely built out except for the currently undeveloped Tukwila South area. The upland areas of the City have rolling topography and numerous areas with steep and potentially unstable slopes. Many of the steep hillsides are forested with second- or third-growth trees and understories with a mix of native and invasive vegetation. These areas – together with the City’s numerous streams, wetlands, springs and the River – provide important fish and wildlife habitat

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that coexist with the built environment. The following is a summary of conditions in the constituent elements of Tukwila’s environment.

WETLANDS AND WATERCOURSES

As urban development has occurred, natural drainage corridors have been altered or placed in culverts, and wetlands have been filled. Remnant wetlands remain in some of the City’s parks, on undeveloped slopes (formed by springs and groundwater seeps), in freeway interchanges, and in other areas of the City. Wetlands and watercourses have been provisionally identified and mapped on the City’s Environmentally Critical Areas Map. The City has purchased Tukwila Pond and Macadam wetland for preservation. Tukwila Pond serves as both a wetland and temporary storm water storage pond for commercial development on its north side. Macadam wetland collects mostly natural surface water from the steep slopes located on its east side.

FISH SPECIES IN TUKWILA

Fish species found in the Green/Duwamish River include the following:

- Cutthroat trout
- Puget Sound Chinook salmon (threatened)
- Puget Sound Steelhead (threatened)
- Chum salmon
- Coho salmon
- Pink salmon
- Sockeye salmon
- Bull trout (threatened)

Resident Cutthroat trout are found in Tukwila’s streams, as well as other fish and aquatic species.

Cutthroat trout photo courtesy of Washington Department of Fish & Wildlife.

Stream alterations have affected wildlife and fish habitat. There are a few remaining open channels in the four main streams in Tukwila (Johnson Creek, Gilliam Creek, Southgate Creek and Riverton Creek), which have been channelized, relocated and piped for much of their length. Construction of urban streets and highway systems and driveways required watercourses to be placed in culverts, which have blocked or made fish passage difficult. All the streams discharge into the Green/Duwamish River.

Stormwater Runoff – coupled with steep slopes in the upper reaches of Gilliam, Southgate and Riverton Creeks – has caused scouring and erosion in the stream channels, resulting in deepened ravines with steep banks, instability, bank erosion and downstream sedimentation. The lower reaches of Tukwila’s streams are generally lacking in pools and woody debris, which are important for good fish habitat. Thus, the open reaches of Tukwila’s streams are generally in deteriorated conditions with poor riparian habitat and narrow buffers. In fact, many



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tributaries of the urban watercourses flow in roadside ditches with little protection from urban impacts. Recent City-led projects to remove flap-gates are working at enriching stream habitat at River outlets by removing barriers, increasing complexity, replanting and increasing hydrologic connectivity.

FISH AND WILDLIFE

The Washington Department of Fish and Wildlife (WDFW) has mapped and identified priority habitats and species in Tukwila to ensure their protection and management. They include: the Green/Duwamish River; reaches of Gilliam Creek, Southgate Creek and Riverton Creek; riparian areas (areas adjacent to streams and rivers) and freshwater wetlands. Also mapped are wetland complexes and Johnson Creek in Tukwila South.

The Shoreline Master Program provides more detail on the City's involvement with the Water Resource Inventory Area 9 (WRIA 9) and the Green/Duwamish River Salmon Habitat Plan, which guides local sponsor restoration planning and implementation for Chinook salmon habitat.

Volunteers removing invasive blackberry - Duwamish River Shoreline Restoration Project

[Image]

Community volunteers stocking Coho salmon in Southgate Creek.

[Image]

Pacific tree frog at wetland restoration site.

[Image]

Tukwila residents and businesses are actively involved in stewardship, wildlife protection, and enhancement through City-sponsored activities such as Green Tukwila, as well as in private initiatives to restore shorelines and open spaces and annually stock and incubate Coho salmon eggs in local creeks. In addition, the City's NPDES program works to educate citizens, businesses and school age children on ways to improve water quality and directly benefit salmon habitat.

Waterfowl areas in Tukwila include Tukwila Pond and the wetlands in Tukwila South, both of which provide important winter habitat for migrating waterfowl and permanent habitat for other waterfowl. More than 50 species of birds have been recorded at Tukwila Pond. Other bird species found in Tukwila include osprey, which regularly nest near the Green/ Duwamish River; hawks; and passerine birds. Other wildlife species found in Tukwila include harbor seals, coyotes, deer, Eastern Grey squirrels, beaver, otter, nutria, turtles (mostly non-native red-eared sliders), garter snakes, snails, amphibians (non-native bullfrogs, native Pacific tree frogs and salamanders), opossum and raccoons.

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FLOOD MANAGEMENT

Tukwila’s urban center, the light industrial and manufacturing area south of South 180th Street, part of Tukwila South, and Fort Dent Park are protected from flooding of the Green River by levee systems. The City participates in the National Flood Insurance Program administered by the Federal Emergency Management Agency (FEMA), which has mapped regulated floodplains in Tukwila. Mapped floodplains and the levee systems are explained in more detail in the Shoreline Element of the Comprehensive Plan.

Impervious surfaces and the reduction of natural wetland functions have caused localized flooding from streams periodically, at varying levels of severity on some areas of public right-of-way, as well as private properties where inadequate or no surface water infrastructure exists. The City has resolved many of the flooding problems through improvements to surface water infrastructure.³ The surface water management system (surface water utility) is described in more detail in the Utilities Element of the Comprehensive Plan. More detailed information on localized flooding problems is provided in the City’s Comprehensive Surface Water Management Plan.

EARTH RESOURCES AND GEOLOGIC HAZARDS

The City has mapped areas with steep and unstable slopes, including active landslide areas, to ensure that there is adequate review of slope stability if development is proposed in these areas. In addition, there are coal formations on the southwest side of Interurban Avenue South, some of which have been mined and are defined as environmentally critical areas based on the City of Tukwila Abandoned Underground Coal Mine Hazard Assessment, May 1990.

WATER QUALITY

The City has conducted periodic water quality studies that have indicated Tukwila’s streams and the Green/Duwamish River suffer from poor water quality due to stormwater runoff, small buffers, and suboptimal vegetation. Rain events wash contaminants off rooftops, driveways, sidewalks, parking lots and roads into the watercourses. Runoff from these areas can contribute to high temperatures in urban streams and carry contaminants into streams and wetlands.

New developments are required to implement Green Stormwater Infrastructure⁴ and comply with flow control and water quality treatment requirements intended to moderate and treat discharges that flow towards streams. There are, however, still areas of Tukwila where runoff from impervious surfaces discharges directly to streams and the river with no treatment. (See Natural Environment Element Regulatory Background Report for more information on water quality.)

³ Old reference; removed

⁴ “Green” stormwater infrastructure is designed to mimic nature and capture rainwater where it falls. See Glossary.

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Riparian habitat plays a valuable role in protecting stream water quality. Adequately-sized and healthy riparian buffers help to mitigate a variety of pollutant impacts. Shade streams reduce the high water temperatures that contribute to anaerobic stream conditions, which have lethal effects on fish and other aquatic species. Unfortunately, most of Tukwila's streams have poor quality, narrow riparian areas.

AIR QUALITY

Tukwila lies in the air quality region made up of King, Kitsap, Pierce and Snohomish counties. Air quality is monitored and managed by the Puget Sound Clean Air Agency. Through the efforts of the Clean Air Agency, King County as a whole generally has good air quality, however, climate conditions have increasingly had an impact on air quality in Tukwila and the region. Wildfires have created air quality concerns as harmful chemicals and tiny particles suspended in the air create health issues for the public. During these periods of smoke exposure, the City follows the guidance of regional, state, and national health, emergency management, and air quality partners in providing public education and community response options.

Tukwila is divided throughout by significant transportation corridors, including Washington 599, and Washington 518, as well as Interstates 5 and 405. These road systems have been found to negatively impact community health. A study completed by the Puget Sound Clean Air Agency (PSCAA) documented that some areas of Tukwila bear among the worst air quality health impacts from road systems within King, Pierce, Snohomish, and Kitsap counties. "Tukwila/Allentown" was identified as the most impacted of the "Highly Impacted Communities", and the "Tukwila/Kent" area experienced the third worst air quality. Much of that impact comes from diesel pollution, as well as industrial source pollution.

In addition, the Duwamish Valley south of Seattle suffers from higher particulate pollution levels that are damaging to human health. This corridor provides valuable economic services to the region in terms of transportation corridors, industry, and commerce, which comes at a cost to the area's inhabitants.

CLIMATE CHANGE

The impacts of climate change in Tukwila affect several aspects of the natural environment, as well as the provision of utilities to its residents. Climate modelling indicates that the region will experience warmer temperatures, changing the precipitation pattern towards less snow and more rain during the winter. This poses challenges to flood hazard mitigation within Tukwila and the valley, and also will impact the regional water supply. Climate change causes sea levels to rise, which would affect the tidally-influenced portions of the Green/Duwamish River, raising water levels in the river and causing tidal waters to reach further upriver and into streams. This, in turn, could impact flood hazard mitigation measures and fish and wildlife habitat, with

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particular detriment to salmon. Other possible effects of climate change could include new and increased insect infestations in the City's urban forest; changes in wildlife behavior and diversity; increased demands on City resources; and reduced availability of water supplies for drinking water, irrigation of gardens, landscaped areas, street trees and parks.

Increases in temperatures could exacerbate existing heat island effects in the highly developed areas of the City where there is a significant amount of impervious surface (buildings, streets, and parking lots). Recently, King County created a heat map⁵, showing how Tukwila, with a relatively large paved footprint, can reach extremely high temperatures and is unable to cool at night during extreme heat events. Tukwila residents and workers are thus being increasingly exposed to heat-related illness, at an inequitable rate as compared to other parts of the region. This underscores the importance of increasing tree canopy in these areas to help reduce temperatures during the summer months, particularly over impervious surfaces such as parking lots. High water temperatures are already a problem for salmon in the Green/Duwamish River, where there is a lack of shade from trees along the shoreline in many areas. Restoration plantings and maintaining large trees on the shoreline will help improve conditions for salmon in the river and in its tributaries, and help to reduce even greater water temperatures that could be caused by climate change.

TUKWILA'S URBAN FOREST

A tree engulfed by invasive English ivy.

[Image]

7

The "City of Tukwila Urban Tree Canopy Assessment," was last updated 2012, although work is underway to update the study⁸. The assessment quantifies existing urban tree canopy, as well as impervious surfaces, surface water, grasslands and bare soils. Assessment information shapes the basis for several new goals and policies relating to the urban forest. (See the assessment report appended to this chapter of the Comprehensive Plan.)

The City is fortunate to have remnant stands of second- or third-growth native forests and good canopy coverage in its low density residential areas -- on undeveloped steep slopes and in some of its parks (for example, Crystal Springs Park and Tukwila Park). However, these forest stands lack active management and suffer from over-crowding, lack of diversity, and infestations of invasive plants like blackberry and ivy, all of which compromise their sustainability. Trees in undeveloped areas are threatened by future development. Aging trees in already-developed residential and commercial areas become hazardous and require removal, and are not always

⁵<https://kingcounty.gov/en/legacy/elected/executive/constantine/news/release/2021/june/23-heat-mapping-results>

⁷ Data is dated to 2015 – have been unable to do a recalculation for 2023

⁸ The 2023 canopy is completed – we are dissecting the data to finalize the summary at this time

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replaced with new trees. Many landslide hazard slopes in Tukwila currently enjoy the protection of canopy coverage, however the lack of active management leaves this protective factor vulnerable to threats.

The City has street trees of varying species, sizes, health, and maturity planted on City rights-of-way throughout Tukwila. They range from large canopy trees to small canopy or young trees that do not provide many benefits. Street trees often do not get replaced when they are damaged or removed and do not all get the level of care or the conditions they need to thrive.

Shade trees are generally lacking in most of the City's commercial parking lots and other landscaped areas. Trees in these areas are often improperly pruned or removed and not replaced. Trees throughout the City are frequently damaged by installation or maintenance of infrastructure and new development.

The Green/Duwamish River and the City's streams generally have narrow riparian buffers, the result of development occurring before protective buffer widths were required. These too-small buffers have been impacted by urbanization, and the increasing amounts of impervious surface, reducing the amount of urban forest in these areas. Some reaches of the river are characterized by large native canopy trees (Foster Golf Course, for example), while in other areas there is little to no tree canopy and large expanses of invasive vegetation instead. Trees have been removed from the Green River levee south of SR 405 to meet Corps of Engineers requirements. New efforts to increase multi-benefit approaches to flood control may take ecology further into account.

Several environmental restoration projects to enhance the urban forest have been completed and also are underway in the City's parks, wetlands, and streams, and along the Duwamish River. Trees have been planted along the river by King County as mitigation for removal of trees elsewhere. The City also plants hundreds of trees in its parks each year; requires trees as part of landscaping for commercial, industrial, office and multi-family developments; and requires tree replacement in environmentally critical areas.

The City does not have, however, a comprehensive written urban forestry plan, street tree, or other program in place to ensure retention, protection, and maintenance of a healthy urban forest across all areas of the City. A program to improve the urban forest should include the following emphasis:

- Preservation of existing trees and forest;
- Preservation and improvement of the "tree-growing" environment (i.e., adequate growing conditions for trees);
- Planting for the long term (i.e., ensuring that the right tree is placed in the right place with sufficient provisions for tree maintenance and care);

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- Monitoring for emerging threats to the urban forest; and
- Promotion of the environmental equity goals that should be realized in the urban forest.

REGULATIONS

In addition to the State Growth Management Act, many regulations at the federal, State, and local levels apply to the management of Tukwila's natural environment. More information can be found in the Background Report for this Element.

ISSUES

In the Natural Environment Element, several key issues are addressed that reflect new community priorities and respond to new regulations at the local, regional, State, and federal levels. The goals and policies that follow respond to these identified issues.

ENVIRONMENTAL QUALITY, COMMUNITY EDUCATION AND ENVIRONMENTAL STEWARDSHIP

In order to foster best practices for protecting Tukwila's environmental quality, improve the protection and restoration of the City's environmentally critical areas and fish and wildlife habitat, and improve air and water quality, the City needs to provide information and education to the community in various forms. In addition, the City should continue to expand efforts, in collaboration with other organizations and businesses, to engage the community through hands-on environmental stewardship and restoration activities. Policies regarding the protection of fish and wildlife and climate change are also important to incorporate into the Natural Environment Element.

ENVIRONMENTALLY CRITICAL AREAS

Although Tukwila has enacted significant revisions to its Environmentally Critical Areas regulations over the years, most recently in 2020, new policies are needed to reflect the current best available science information, and new federal and State regulations and guidelines. Tukwila also needs to improve the protection of watercourses, and find mechanisms and resources to ensure that compensatory mitigation is successful for the long term. A great deal of nonconforming development was legally established prior to current regulations, and continues to negatively impact the quality of the City's buffers. To ameliorate the impact of these damaging developments, the City should partner with, and provide incentives to, landowners to encourage redevelopment that conforms to current standards.

FISH AND WILDLIFE HABITAT

The listing of Puget Sound Chinook salmon and Bull Trout under the Endangered Species Act has underscored the need for the City to protect and restore habitat for fish and other wildlife. Continued restoration efforts and new sources of funding are needed to carry out habitat restoration on the Green/Duwamish River and its tributaries. The City must continue to be

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actively involved in shaping programs and helping implement the WRIA 9 Salmon Habitat Enhancement Plan, in collaboration with other local jurisdictions and county, State and federal government agencies.

WATER QUALITY

More efforts are needed to improve and protect water quality in the City's wetlands, watercourses, springs, and the Green/Duwamish River; therefore, the City needs to ensure that adequate resources are available. Programs for monitoring water quality, retrofitting surface water management systems where there are water quality problems, and improving riparian buffers are important actions for the City to carry out.

SURFACE WATER MANAGEMENT

With new State requirements for the management of surface water, the City must modify its surface water regulations and begin implementing and requiring low-impact development techniques for surface water system retrofits and for new development. The City operates its street drain network (MS4) under a State issued NPDES Permit (Permit) and manages the ditches, swales, ponds, pipes, vaults, catch basins and manholes to be consistent with an approved manual of Best Management Practices (BMPs). The MS4 Permit requires the City to use an approved manual. Tukwila adopted the King County Surface Water Design Manual and all its appendices and correlations to control construction permits along with public and private operations and maintenance of all components of the surface water system, including groundwater.

FLOOD MANAGEMENT

Because the City has levees along parts of the Green/Duwamish River to reduce flood potential, it is necessary for the City to coordinate with County and federal officials and neighboring local jurisdictions, on maintenance and rebuilding of the levees and ensuring that federal certification is continued, where applicable. Also, due to the listing of Chinook salmon and other aquatic species under the Endangered Species Act and Corps of Engineers policies limiting vegetation on levees, the City needs to be involved in efforts to achieve good riparian conditions, while not compromising the integrity of levees or losing federal certification.

The King County Flood Control District prioritizes the design and implementation of a multi-benefit floodplain approach that reduces flood risks, ensures public safety and restores river ecosystems in an equitable and just manner. The ten multi-benefits include: equity and social justice, environmental justice, habitat protection and salmon recovery, jobs and sustainable livelihoods, open space conservation, productive and viable agriculture, recreational opportunities, resilient communities and ecosystems, sustainable and clean water, and sustainable development.

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EARTH RESOURCES

The definition of steep slopes should be clarified, and new policies are needed to require setbacks and better protect trees on steep slopes.

TREES AND THE URBAN FOREST

The City needs to establish policies and programs to protect and enhance the urban forest, including enforcing and continually improving policies for protecting trees, increasing tree canopy, and ensuring sufficient resources to properly maintain trees, improve tree health, and reduce potential hazards to the public.

GOALS, POLICIES AND STRATEGIES

Environmental Quality and Stewardship

GOAL 1 **The City’s air, land, and water resources are restored and protected for future generations and are resilient to a changing climate¹⁰.**

POLICIES

Policy 1.1 Anticipate the effects of climate change by incorporating Best Available Science, considering long-term climate change projections, and planning for adaptive management of City regulations and internal procedures, as needed.

Policy 1.2 Develop and implement environmental strategies that use integrated and interdisciplinary approaches to environmental assessment and planning, in coordination with local jurisdictions, tribes, and other stakeholders.¹¹

Policy 1.3 Collaborate with federal, state, and tribal¹² fish and wildlife agencies to identify priority habitats and species, to establish appropriate protections to ensure no net loss of ecological functions and values.¹³

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¹⁰ Consultant addition

¹¹ Policy K_EN-2;

¹² EN-2

¹³ Consultant addition; other recycling policies are in Capital Facilities: partial K_EN-2

¹⁴ This policy should be eliminated for conciseness. Protection of priority species and habitats is included in Policy 4.1.2 and 4.1.4

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- Policy 1.4** Provide guidance to assist applicants in understanding and complying with federal and State fish and wildlife regulations for all public and private sector projects.
- Policy 1.5** Develop and implement programs that encourage and incentivize Tukwila residents and businesses to take active measures to protect, enhance, and plan for changing conditions of Tukwila’s natural environment to increase climate resiliency. Such measures could include, but are not limited to, the use of Low Impact Development (LID) techniques, natural streambank restoration, non-toxic lawn care, and composting and recycling.¹⁵
- Policy 1.6** Identify and preserve regionally significant open space networks through implementation of the Regional Open Space Conservation Plan. Develop strategies and funding to protect lands that provide the following valuable functions:
- a. Ecosystem linkages and migratory corridors crossing jurisdictional boundaries;
 - b. Physical or visual separation providing buffers between incompatible uses;
 - c. Active and passive outdoor recreation opportunities;
 - d. Wildlife habitat and migration corridors that preserve and enhance ecosystem resiliency in the face of urbanization and climate change;
 - e. Preservation of ecologically sensitive, scenic, or cultural resources; and
 - f. Urban green space, habitats, and ecosystems.¹⁶
- GOAL 2** **An educated public that understands the importance of protecting and enhancing the functions and values of environmentally critical areas, including fish and wildlife habitat conservation areas, wetlands, floodplains, and the Green/Duwamish River, and actively assists in their stewardship.**
- POLICIES**
- Policy 2.1** Develop and expand free or low-cost educational programs and materials for the community about the benefits of protecting and enhancing the City’s environmentally critical areas, the urban forest and wildlife habitat, and individual responsibilities for their stewardship in a changing climate. The City should continue to develop and support community-oriented wildlife

¹⁵ Consultant: Consider incentivizing measures that are resilient to a changing climate. Other practices that utilize the most current water conservation technologies and strategies such as water-smart landscapes, rainwater harvesting, and green infrastructure should also be considered and incentivized.

¹⁶ K_EN-20, a-f

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educational programs, such as the Tukwila Backyard Wildlife Program, and communicate the requirements of City environmental regulations so as to maximize compliance and minimize code enforcement actions and environmental degradation.¹⁷

Policy 2.2 Provide individualized education and technical support to residential property owners and general guidance to businesses regarding environmental stewardship and climate change resiliency strategies.

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Policy 2.3 Collaborate with environmental organizations and businesses to support recruiting and training of environmental stewards, identify and sponsor restoration projects, incorporate climate change-focused strategies and provide logistical support for their work. Action should be taken to encourage expanding the citizen volunteer base in Tukwila for restoration and enhancement of the City's natural areas to promote the continued health of these systems.²¹

The lack of a Goal #3 will be addressed with final formatting

Water Resources

GOAL 4 Water resources that function as a healthy, integrated system; provide a long-term public benefit from enhanced environmental quality; are resilient from a range of climate-related events including increased flood events, changes in water temperature, and drought; and have the potential to reduce public infrastructure costs.²²

¹⁷ Combined with Policy 4.3 to enhance conciseness.

¹⁸ Combined into 4.3.1

¹⁹ Removed – redundant with Goal 2.

²⁰ This policy should be eliminated and combined with Policy 4.3.2.

²¹ This policy should encourage collaborative efforts with the community to help ensure ecosystem functions are retained and are resilient to climate change.

²² Climate change is anticipated to impact water resources by increasing the frequency and severity of flooding and temperature-related impacts.

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Wetlands/ Fish And Wildlife Habitat Conservation Areas

GOAL 5 Vital and self-sustaining fish and wildlife habitat areas and habitat corridors are protected and restored and that provide, where appropriate, opportunities for recreational and educational uses.²³

POLICIES

Policy 5.1 Restore, protect, and enhance watershed functions and values through environmentally critical area restoration projects on public and private land to build resilience to climate change through ecological solutions. Restoration projects should improve habitat corridors and connections, particularly in riparian management zones and floodplain wetlands, wherever feasible.²⁴

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Policy 5.2 Develop best management practices (BMPs) for stormwater management and related maintenance activities to avoid impacts to riparian management zones or other environmentally critical areas. Where riparian vegetation is disturbed through development or maintenance activities, restoration should be required to preserve the functions and values of the habitat.²⁶

Policy 5.3 Identify staff, financial support, or funding opportunities for restoration projects, wherever feasible, to enhance anadromous fish habitat in riparian management zones, wetlands and the Green/Duwamish River, including projects identified in the Shoreline Master Program (SMP) Habitat Restoration Program, the Water Resource Inventory Area (WRIA) 9 Salmon Habitat Plan, WRIA 9 Duwamish-Green Watershed Restoration and Enhancement Plan, or other regional watershed restoration plans.²⁷

Policy 5.4 Ensure that new development, open space protection efforts, and mitigation projects support the State's streamflow restoration law. Promote robust,

²³ The inclusion of habitat corridors will aid in the protection of the function and values of fish and wildlife habitat conservation areas, as well as other environmentally critical areas.

²⁴ Supporting restoration opportunities that reconnect floodplain wetlands and restore natural processes will improve water quality, fish and wildlife habitat, and mitigate impacts of flooding and erosion. When planning and prioritizing restoration projects it will be important to identify locations where these efforts will be most beneficial and effective in the long-term.

²⁵ This policy should be eliminated and combined with Policy 4.5.1 for conciseness.

²⁶ This policy should plan for increased stormwater management demands associated with increased flood events to avoid the potential for overflow events and related adverse environmental impacts.

²⁷ This policy should be broadened to include enhancement of anadromous fish habitat, including salmonids, and utilization of regional Watershed Restoration Plans, when available.

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healthy, and sustainable salmon populations and other ecosystem functions, working closely within WRIA 9 and utilizing adopted watershed plans.²⁸

Policy 5.5 Prohibit piping of watercourses, except where unavoidable for access purposes. Wherever feasible and practical, encourage removal of piped sections of watercourses when permitting any new or redevelopment activities to improve riparian habitat functions and values.²⁹

Policy 5.6 Prohibit creation of new fish barriers and, where possible, encourage elimination of existing barriers to fish passage through implementation of capital improvement projects, coordination with regional partners and the WRIA 9 Lead Entity to seek funding opportunities, and by providing incentives to private sector development.³⁰

GOAL 6 **Riparian management zones, floodplains, wetlands, and their buffers are protected from encroachment and degradation and improved through impact avoidance, mitigation, enhancement and restoration projects to increase resiliency to impacts from climate change³¹.**

POLICIES

Policy 6.1 Regulate land use and development, using Best Available Science, to protect and improve natural vegetation and hydrology, habitat corridors, and open spaces, to prevent significant erosion, sedimentation, or degradation of areas of potential geologic instability, wetlands, floodplains, fish and wildlife habitat areas and their associated buffers.³²

Policy 6.2 Ensure mitigation sequencing is applied to avoid or minimize impacts to environmentally critical areas, consistent with federal and State guidelines.³³

²⁸ En-10

²⁹ This policy should be revised to expand encouragement of removal of piped watercourses for any type of development review and highlights the purpose of removal.

³⁰ Working with regional partners will strengthen this policy and lead to better long term collaboration and results.

³¹ Supporting restoration opportunities that reconnect floodplain wetlands and restore natural processes will improve water quality, fish and wildlife habitat, and mitigate impacts of flooding and erosion.

³² Wildlife and plant species and habitats already strained by urban fragmentation will be further stressed by climate change. Consideration of habitat corridors and open spaces will aid in the protection of the function and values of environmentally critical areas.

³³ This policy should be revised to update the reference to environmentally critical areas.

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- Policy 6.3** Require and enforce mitigation in order to ensure no net loss of environmentally critical area functions, as well as mitigation designed to replace environmentally critical area acreage lost due to development.³⁴
- Policy 6.4** Ensure the effectiveness of environmentally critical area mitigation by improving City oversight, tracking, and monitoring of mitigation sites.³⁵
- Policy 6.5** Allow off-site wetland mitigation only when a site-specific study, prepared by a qualified professional, documents that there are no feasible opportunities for on-site mitigation, is greater functional benefit, no significant adverse impact to the drainage sub-basin, and no significant adverse impact to existing wetlands or riparian management zones.³⁶
- Policy 6.6** Consider creating a City in-lieu fee program for future wetland mitigation, or collaborate with King County to establish in-lieu fee sites in Tukwila for wetland restoration projects, including projects along the Green/Duwamish River shoreline, when a site specific study, prepared by a qualified professional, documents that there are no feasible opportunities for on-site mitigation.³⁷
- Policy 6.7** In collaboration with other agencies, develop a program to provide guidance to property owners interested in restoring or enhancing environmentally critical areas, shorelines or associated buffers on their private property that public or private sector projects can utilize to compensate for impacts on project sites that lack opportunities for on-site mitigation.³⁸

Water Quality and Quantity

- GOAL 7** **Protect, enhance and plan for changing conditions of Tukwila’s water resources for the benefits of recreation, fish and wildlife resources and habitat, flood**

³⁴ This policy should be revised to update the reference to environmentally critical areas.

³⁵ Portions of the existing policy are requirements in the CAO. It is recommended to revise the goal to focus on areas of improvement of implementation outside of the existing code requirements.

³⁶ The policy should be reinforced to document that there are no opportunities for on-site mitigation in compliance with mitigation sequencing.

³⁷ The policy should note the importance of landscape-scale, watershed-based restoration and mitigation projects and allow the City to consider off-site compensatory mitigation for projects in areas where compensatory mitigation can be difficult or impractical to achieve.

³⁸ This policy should provide additional specificity on the intent of the program to provide off-site mitigation opportunities where private property owners are willing to allow project proponents to conduct restoration or enhancement activities to compensate for impacts that have occurred on another site.

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protection, and open space to create a more climate resilient city for current and future generations.³⁹

POLICIES

- Policy 7.1** Retrofit existing City surface water systems and improve surface water management through use of low-impact development (LID) techniques for all new development and redevelopment to improve the water quality of discharges.⁴⁰
- Policy 7.2** Prevent and reduce pollution and sedimentation of water resources through implementation of surface water, stormwater, and land clearing regulations and inspections.^{41 42}
- Policy 7.3** Adopt policies, regulations, and processes, related to new or existing fossil fuel facilities, which are designed to protect and preserve natural ecosystems from the construction and operational impacts of fossil fuel facilities, and prepare for and mitigate any impacts of fossil fuel disasters the community.⁴³
- Policy 7.4** Prohibit the application of pesticides (insecticides, herbicides, fungicides, algaecides, rodenticides, etc.) to surface water systems or their buffers, unless warranted to protect ecological functions of the system, and inform applicators about State pesticide licensing regulations.⁴⁴
- Policy 7.5** Develop public outreach materials and implement management programs to reduce the use of chemicals including fertilizers and pesticides, having negative impacts on surface water systems or their buffers, unless warranted to protect ecological values and functions.⁴⁵

³⁹ Changing this language aligns this goal with sustainable practices that prioritize economic, environmental, and social benefits as well as adding a climate element.

⁴⁰ This language is in line with the Surface Water Management section of the Comprehensive Plan and is encouraged by the WA Dept. of Ecology. This will also allow for the elimination of policy 4.7.6 as it was incorporated into this policy.

⁴¹ While sediment is a type of water pollutant this policy should address all pollutants. Additionally, this policy should be expanded to include all erosion, not just erosion associated with streambanks and channels, this includes nearby hillsides and upland areas under development.

⁴² Similar to K-EN-24.

⁴³ EN-26, c & b

⁴⁴ Was part of 4.7.3, but made a separated policy because of focus, application vs. education- see 4.7.4

⁴⁵ Pesticides is an all-encompassing term and examples of pesticides do not need to be included. Nutrient loading, partially caused by lawn and garden fertilizers, are a common cause of diminished water quality and should be included in this language. Human health should not be included under this policy as this policy is applicable to

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Policy 7.6 Prevent, mitigate, and remediate harmful environmental pollutants and hazards, including light, air, noise, soil, and structural hazards, where they have contributed to racialized health or environmental disparities, and increase environmental resiliency in frontline communities.⁴⁶

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GOAL 8 Surface water generated by urban development does not exceed pre-development discharge rates.

POLICIES

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Policy 8.1 Require that all proposed development applications identify hydrologic features, both on- and off-site, that could be impacted by the project. Evaluate and prevent project impacts on on-site and off-site floodplains, wetlands, drainage features and springs to avoid adverse impacts to existing environmentally critical area hydrology to meet today's climate needs and prepare for future climate needs.⁵²

Flood Control

GOAL 9 Protect and enhance the natural flood attenuation functions of wetlands, floodplains and floodways and plan for increased seasonal flooding associated with climate change to reduce and prevent damage to life, property and public safety.⁵³

water quality and as such having good water quality will support human health. Applicators should already be aware of State pesticide licensing regulations and if not then this could be considered one of the public outreach materials that are discussed within this policy (put into new policy 4.7.4)..

⁴⁶ EN-25

⁴⁷ Eliminate this policy and combine it with Policy 4.7.3 as discussed above.

⁴⁹ Eliminate this policy and combine it with Policy 4.7.2 as illicit surface water discharges would include pollutants from stormwater and land clearing.

⁵⁰ Eliminate this policy and incorporate it into policy 4.7.1.

⁵¹ Absorbed into 4.7.1

⁵² This policy could either be removed, as it should be a requirement of the development code however adding language specific to climate change allows for it to be retained as a policy.

⁵³ This changed language is in line with Climate Change projections for Washington State and will help utilize the natural floodplain to protect the city of Tukwila.

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POLICIES

- Policy 9.1** Restrict or prohibit development that could create a danger to health, safety, and property due to potential flood hazards.⁵⁴
- Policy 9.2** Coordinate and fund holistic flood hazard management efforts through the King County Flood Control District.⁵⁵
- Policy 9.3** Work cooperatively to meet regulatory standards for floodplain development as these standards are updated for consistency with relevant federal requirements including those related to the Endangered Species Act.⁵⁶
- Policy 9.4** Wetlands provide services that have the potential to reduce impacts of climate change. As such the City of Tukwila will promote wetland restoration and enhancement throughout the city and ensure that development avoids and minimizes impacts to wetlands and their buffers, and provides compensatory mitigation to retain equal or greater wetland functions and values within the same drainage basin or watershed, and results in no net loss of wetland area except in limited circumstances.⁵⁷
- Policy 9.5** Plan for changes in seasonal flood events associated with climate change and reduce flooding that adversely affects public health, safety, and general welfare, and protect against flood damage through surface water and flood management projects.⁵⁸
- Policy 9.6** Minimize adverse impacts to water resources by conserving native shoreline vegetation or using bioengineering and natural solutions to enhance stream for banks and shoreline stability and reduce hazards associated with slope failures and erosion. Invasive plant removal and replacement of native trees and shrubs should be prioritized over retention of low functioning vegetation..⁵⁹

⁵⁴ Complying with federal regulations is not optional. Eliminate this language as it is a requirement and should already be occurring with development permits.

⁵⁵ EN-12

⁵⁶ EN-13

⁵⁷ This revised policy is better in line with BAS and incorporates the climate element.

⁵⁸ Climate change models predict an increase in winter rainfall events which has the potential to lead to increased seasonal flooding. By planning for these events the city will be able to prevent or reduce the adverse impacts associated with flood events.

⁵⁹ This revision will allow for the abatement of noxious weeds and low functioning vegetation while encouraging the retention of native plant species.

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Policy 9.7 Require mitigation to achieve the goal of no net loss of ecological functions and maintenance of good water quality by requiring setbacks, buffers, and stormwater treatment and detention facilities to adhere to BAS recommendations and guidelines.⁶⁰

GOAL 10 (Levees) - MOVED TO CAPITAL FACILITIES

Earth Resources

GOAL 11 Protect the ecological integrity of the natural environment, including functions and services, while allowing for compatible growth and development by minimizing development in geologically hazardous areas and protecting surface water features.⁶¹

POLICIES

Policy 11.1 In geologically hazardous areas, require areas where vegetation must remain undisturbed, land disturbance minimized and cut-and-fill construction limited, to protect slope stability on sites cleared for development. Require significant replanting and maintenance upon completion of development.

Policy 11.2 Require setbacks for buildings and other infrastructure where needed, from the top and/ or toe of steep slopes, to reduce risks of slope failure and risks to public safety.

Policy 11.3 Require the use of erosion control measures and, where warranted, written erosion and sediment control plans, to minimize erosion during and after construction activities on steep slopes or other erosion-prone areas.

Policy 11.4 Utilize geotechnical reports and other existing resources to update the City's GIS data to incorporate and maintain a geologically hazardous areas layer.⁶²

Policy 11.5 Ensure that proposed development projects in mapped coal mine hazard areas adequately consider and mitigate for possible risks.

⁶⁰ This policy revision will help demonstrate compliance with the GMA requirement of BAS.

⁶¹ By protecting the functions and services of the natural environment and reducing development in geologically hazardous areas the city can help reduce costs associated with flooding, erosion, and other natural disasters.

⁶² There are many resources currently available that contain geologically hazardous areas information. The WA Department of Natural Resources has a Geologic Information Portal available to the public at <https://www.dnr.wa.gov/geologyportal>.

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Policy 11.6 Actively manage protective forest canopies on geologically hazardous slopes, both public and private through regulatory requirements, incentives, investment, and partnerships.

Urban Forestry

GOAL 12 Trees are recognized by Tukwila citizens, businesses, City staff and decision-makers for their benefits to the environment, climate adaptation, urban infrastructure, and their aesthetic value.⁶³

POLICIES

Policy 12.1 Develop a formal urban forest management plan to promote and guide preservation, restoration and maintenance of a sustainable urban forest that is consistent with tree canopy goals and ecosystem management priorities, using the goals and policies of this chapter as a basis for guidance.⁶⁴

Policy 12.2 Ensure that the benefits of trees are factored into site design, zoning and permit decisions, including resistance to drought, retention of large or significant trees, tree canopy considerations, and the preservation of open space, tree, and green space.⁶⁵

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Policy 12.3 Continue to fund an urban forester/municipal arborist position within the City, to provide expertise for urban forest management planning, incorporate climate resiliency strategies, provide oversight of tree planting and maintenance, and assistance to all City departments that have responsibilities for tree management.⁶⁷

⁶³ Trees can aid in mitigating the impacts of climate change by providing shade, carbon storage and other related benefits.

⁶⁴ Urban heat island effect can be mitigated through establishment and retention of tree canopy. Open spaces and native landscaping should be managed to maintain ecosystem functions and contribute to habitat connectivity on a City-wide landscape-scale.

⁶⁵ Development actions, such as converting forests into impervious surfaces, can increase the urban heat island effect. Encouraging the preservation of open spaces and considering trees that are resistant to drought can help reduce the impacts of climate change.

⁶⁶ This policy should be eliminated and combined with Policy 4.12.2

⁶⁷ A licensed arborist or urban forester benefits the City by providing guidance on appropriate strategies that will improve the resiliency of planned or existing urban forests to the impacts associated with a changing climate.

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- Policy 12.4** Educate the public, elected officials and City staff about the importance of urban forest planning and management and benefits provided by trees in Tukwila.⁶⁸
- Policy 12.5** Develop tree valuation methods to reflect the value trees provide, including considering the benefits that trees provide in a changing climate for use in assessing fines, determining damages or estimating loss of tree benefits.⁶⁹
- Policy 12.6** Identify funding sources to support urban forestry planning and management, and establish an urban forestry budget and account to preserve and enhance the urban forest sites on publicly-owned property.⁷⁰
- Policy 12.7** Consider developing an “exceptional” or “heritage” tree program to foster tree appreciation in the community and encourage retention of open and green spaces.⁷¹
- Policy 12.8** Enhance the urban tree canopy to provide wildlife habitat, support community resilience, mitigate urban heat, manage stormwater, conserve energy, protect and improve mental and physical health, and strengthen economic prosperity. Prioritize places where Black, Indigenous, and other People of Color communities; low-income populations; and other frontline community members live, work, and play.⁷²
- Policy 12.9** Encourage public and partner organization involvement in urban forest stewardship, through volunteer events, free training workshops, and other related community events.⁷³
- GOAL 13** Overall City tree canopy increased in diversity and total cover, with an increase in the use of native species, by 2034, and No Net Loss of canopy cover in

⁶⁸ This policy should be expanded to include the importance of urban forest planning and management for clarity and continuity with the other policies in this section.

⁶⁹ The assessment of tree valuation should include the future benefits that trees provided in contributing to climate resiliency, particularly for shade and carbon storage.

⁷⁰ This policy should be expanded to define the purpose of the urban forestry planning and management fund to support City departments that have responsibilities for tree management and preservation.

⁷¹ Open spaces contribute to habitat connectivity and ecosystem functions. Retention of tree canopy can help mitigate the urban heat island effect.

⁷² EN-11

⁷³ This policy should be expanded to clarify “other means”. Promotion of community events could help encourage public participation and highlight the importance of urban forest stewardship.

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individual zoning categories, or environmentally critical areas and open spaces⁷⁴

POLICIES

- Policy 13.1** The City shall adopt and implement updated tree canopy goals and shall continue to amend policies to support stormwater management and water quality improvement in receiving waters. The City will provide mapping of City-owned or operated properties with tree canopy no later than December 31, 2028, as based on available existing data.⁷⁵
- Policy 13.2** Promote and support a systematic approach to enhancing the city through carefully planned plantings and ongoing maintenance of street trees, public landscaping, and open spaces to support a sustainable and environmentally just future for residents of Tukwila.⁷⁶
- Policy 13.3** Promote soil stability using natural drainage systems and retention of existing native vegetation when determined feasible and practical by a qualified geotechnical engineer in a site -specific assessment.⁷⁷
- Policy 13.4** Conduct forest practices within environmentally critical and shoreline areas in a manner that ensures water quality, maintains or increases tree canopy cover, and maintains native vegetation buffer strips sufficient to protect fish populations and to avoid erosion of stream banks.⁷⁸
- Policy 13.5** Ensure that required replacement trees at maturity will provide an equivalent or greater shade cover than the removed tree(s), and replacement trees are suitable species fit for future conditions based on climate change models. This

⁷⁴ This policy will be modified upon finalization of the 2023 tree inventory data; it has been broadened, while still retaining the intent of increased canopy and no net loss. By proposing to increase diversity of trees, as well as total canopy cover, the City will be more likely to resist the effects of a changing climate. Per the 2024-29 NPDES permit, by December 31, 2028, Permittees will need to adopt and implement the City's updated tree canopy goals and policies to support stormwater management and water quality improvement in receiving waters.

⁷⁵ Per 2024-29 NPDES permit

⁷⁶ Most of these policy points are implemented into other policies within this section. Proposed language encompasses these points in addition to addressing the urban heat island effect which can have detrimental effects on residents in underserved areas. By promoting and enhancing tree canopy cover and access to open space the public welfare and urban habitat areas can be greatly improved.

⁷⁷ It is important to promote the use of native vegetation to stabilize slopes when site conditions allow, however certain circumstances may require other methods of soil stabilization.

⁷⁸ This language will add clarity to the importance of the urban canopy in environmentally critical areas and the role they play in maintaining ecological integrity of these areas.

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may result in the need to have multiple trees replace a single tree and will allow for the flexibility of avoiding conflict with existing or future infrastructure and/or public or private utilities.⁷⁹

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Policy 13.6 Promote the utilization of grants and other funding opportunities to develop tree planting and urban forest rehabilitation programs for City parks, open spaces, wildlife habitats and corridors, and other publicly owned lands. Collaborate with other agencies, such as Washington’s Department of Transportation, to promote planting in highway interchanges and other locations that are underserved or at higher risk to being vulnerable to the effects of climate change.⁸⁴

Policy 13.7 Collaborate with other government, non-profit organization, school and private sector entities, to promote urban forest management and restoration, the use of native plants in the urban landscape, and removal of impervious surfaces to support the City’s tree canopy cover goals and mitigate the urban heat island effect.⁸⁵

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Policy 13.8 Evaluate current development requirements to identify opportunities to increase tree canopy, and opportunities to remove pavement and install appropriate plantings. Priority should be given to areas or zoning designations that are currently underserved or lack proximity to public open spaces and recreational areas.⁸⁷

⁷⁹ It is not always appropriate or desirable to have a species with a larger tree canopy. Preferred language would result in greater shade cover without necessarily required a larger canopy from a single tree.

⁸⁰ NG: We have this now.⁸¹ Added this last statement to 14-3.

⁸¹ Added this last statement to 14-3.

⁸² Eliminate this policy. It is repetitive of Policy 4.13.5, which we largely already have.

⁸³ Eliminate this policy. It is repetitive of Policy 4.13.5

⁸⁴ There are many opportunities for grants and other funding sources that should be utilized whenever possible. The proposed language will help promote these funding sources while expanding the areas that can benefit from these programs while preparing for a changing climate and making Tukwila a more equitable place for its residents.

⁸⁵ Broadening the language of this policy will help address not just the tree canopy but other factors that play a role in mitigating the effects of a changing climate.

⁸⁶ This policy should be eliminated as the code likely does not restrict increased plantings so long as they do not interfere with utilities or other infrastructure, and it is already a policy to preserve existing trees or replace them per Policy 4.13.5.

⁸⁷ This policy could be broadened to include all development standards, not just parking lot landscaping standards, within each zoning designation while also promoting equity.

Existing Comprehensive Plan (with proposed changes)

GOAL 14 Tukwila’s streetscapes and landscaped areas are sustainable and attractive, and its urban forest is healthy, diverse, and safe.

POLICIES

Policy 14.1 Conduct periodic tree/urban forest inventories and assess the health of trees and forests in Tukwila’s public spaces to determine maintenance needs and restoration opportunities. Any restoration should be done in coordination with Policy 4.13.8.⁸⁸

Policy 14.2 Develop maintenance plans and programs for trees on City property or rights-of-way to ensure that maintenance pruning is properly carried out, that diseases and pest infestations are managed, that hazardous trees are identified and managed in a timely manner to reduce risks, invasive vegetation is properly managed, and any replacement trees are sustainably located following the concept of “right tree, right place.”⁸⁹

Policy 14.3 Consistent with landscape code requirements, educate property owners, property managers, City and public and private utility maintenance staff, and landscape contractors to promote best practices for soil preparation, planting techniques, pruning (including near utility lines), trenching, root protection, and general tree care.⁹⁰

Policy 14.4 Enforce landscape regulations including financial guarantees, monitoring and maintenance to ensure successful plant establishment. Landscape code should state qualified professional requirements for landscape design, installation and maintenance.⁹¹

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⁸⁸ Periodic maintenance and coordination with restoration efforts supports the sustainability goal. 14.13.8 = “Develop tree planting and urban forest rehabilitation programs for City parks and other publicly-owned lands. Collaborate with other...”

⁸⁹ Streetscapes and utility corridors must be managed for public safety and long-term sustainability. Ensuring that tree management is based on expert advice that considers surrounding land use is important to reduce maintenance needs and increase sustainability. This may involve a plan that provides approved lists of tree species for specific land uses (e.g., city street, utility corridor).

⁹⁰ Simplified policy language. The focus here is on education.

⁹¹ Simplified policy to apply more broadly. This revision is consistent with current regulations under TMC 18.52–Landscape Requirements. Qualified professional standards are listed under Landscape Plan Requirements TMC 18.52.110. Current code requires professional certifications for design; BMPs are noted for installation and maintenance.

⁹² This policy was eliminated and combined with Policy 4.14.4 above.

Existing Comprehensive Plan (with proposed changes)

Policy 14.5 Ensure landscape code considers wildlife habitat corridors and urban heat island effect in landscape development standards. This includes—requiring a diversity of tree species native to the ecoregion in landscape planting plans as site conditions allow.⁹³

94 95 96 97

CLIMATE CHANGE

Goal 15: Tukwila infrastructure and investments enable Tukwila residents to make choices that emit lower greenhouse gas emissions.

Policy 15.1 Adopt and implement policies and programs that support King County’s target of reducing greenhouse gas emissions by 75% by 2040 (compared to a 2007 baseline), including net-zero emissions through carbon sequestration and other strategies, by 2050. Evaluate and update these targets over time to incorporate the latest climate science and statewide targets aimed at limiting the most severe impacts of climate change and keep global warming growth under 1.5 degrees Celsius (2.7 degrees Fahrenheit).⁹⁸

Policy 15.2 Plan for development patterns that minimize air pollution and greenhouse gas emissions, through the following actions:

- a. Direct growth to Urban Centers and other mixed-use or high-density locations that support mass transit, encourage non-motorized modes of travel, and reduce trip lengths.⁹⁹

⁹³ Cleaned up policy language and included references to climate change stressors and resiliency strategies.

⁹⁴ This policy should be eliminated. It is already covered by Policies 4.14.2 and 4.14.4 above. If a qualified professional prepares the design and installs the trees (consistent with CMC 18.40.130), then the additional policy language is unnecessary.

⁹⁵ This policy should be eliminated; the city adopted a list of approved trees in 2017, plus it is redundant with Policy 4.14.2. Appropriate street tree species should be covered in the “maintenance plans and programs for trees on City property or rights-of-way” under Policy 4.14.2

⁹⁶ This policy should be eliminated; it is generally covered under Policy 4.14.3 above. Specific requirements for utilities may be incorporated into landscape regulations, but all projects should be held to professional standards. A specific policy for transmission lines appears to be unnecessary.

⁹⁷ This policy could be deleted. Environmentally critical area regulations require no net loss of stream/wetland/buffer functions. The way this policy is phrased, it implies Net Ecological Gain is the goal, which is more than required under No-Net-Loss. Recommend the City review the intent and consider deleting this policy if No-Net-Loss standards are deemed sufficient. No-Net-Loss is what’s required under the WAC 365-196-830(4).

⁹⁸ EN-27

⁹⁹ K_EN-28a.

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- b. Through interjurisdictional and local efforts, facilitate modes of travel other than single-occupancy vehicles including transit, walking, bicycling, and carpooling.¹⁰⁰
- c. Encourage the transition to a sustainable energy future by reducing demand through efficiency and conservation, supporting the development of energy management technology, and meeting reduced needs from sustainable sources.¹⁰¹
- d. Support and provide incentives to increase the percentage of new development and redevelopment— both public and private—to be built at higher-performing energy and environmental standards.
- e. Implement infrastructure design manuals that incorporate energy saving strategies, and develop regulations that provide extra flexibility or density bonuses to proposals that implement green building standards, such as the Living Building Challenge or LEED certification.¹⁰²

- Policy 15.3** Reallocate public space dedicated to carbon intensive uses, such as single occupant vehicle lanes and parking, toward transit, pedestrian, and bike facilities.¹⁰³
- Policy 15.4** Develop minimum standards for rights-of-way and new private streets that require facilities for safe protected bicycle and pedestrian routes to all destinations.¹⁰⁵
- Policy 15.5** Ensure all federal and state air quality standards are met and reduce emissions of air toxics and greenhouse gases.¹⁰⁶
- Policy 15.6** Recognize that dense development utilizes less resources per person, and promote greater densities and mixed uses near Tukwila’s urban centers and high-capacity transit. Work with local transit and transportation agencies to provide additional multi-modal access and transit frequency to underserved areas.¹⁰⁷
- Policy 15.7** Recognize, protect, restore, and enhance Tukwila’s natural resources, by expanding or improving existing parks, wetlands, estuaries, and the urban tree canopy, and enhance access to passive and active recreation areas, improving air

¹⁰⁰ K_EN-28b and d

¹⁰¹ K_EN-4

¹⁰² K_EN28C and E

¹⁰³ K_EN-28 and EN-28b

¹⁰⁵ K_EN-28 and EN-28b

¹⁰⁶ WAC 173-420-080, MPP-En-22

¹⁰⁷ K_EN-28a, and d

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and water quality, and improving opportunities for carbon sequestration in Tukwila.¹⁰⁸

Policy 15.8: Prioritize investments in areas in proximity to underserved and historically marginalized populations in order to ensure that all Tukwila residents have equal access to public spaces, natural areas, the urban tree canopy, and the opportunity to make low-emission choices in a low-pollutant environment, regardless of their race, social, or economic status.¹⁰⁹

Policy 15.9 In order to minimize air pollution and greenhouse gas emissions, facilitate modes of travel other than single-occupancy vehicles including transit, walking, bicycling, and carpooling, plus, for trips that must be made via single-occupant vehicle, facilitate electric vehicle adoption by creating requirements for electric vehicle charging installations in residential and commercial developments.¹¹⁰

RELATED INFORMATION – to be added later

Natural Environment Background Report

Tukwila Sensitive Areas Map

Tukwila Shoreline Master Program

WRIA 9 Salmon Habitat Enhancement Plan

Abandoned Underground Coal Mine Hazards Assessment Report

Tukwila Urban Tree Canopy Assessment

Tukwila Municipal Code, Chapter 18.45

Green Tukwila 20-year Stewardship Plan

¹⁰⁸ K_EN-32

¹⁰⁹ K_EN5 and EN-25

¹¹⁰ EN-30

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WHAT YOU WILL FIND IN THIS CHAPTER:

- A description of the natural resources and ~~sensitive~~ environmentally ly-critical areas present in the City of Tukwila;
- A discussion of local City efforts ~~and citizen volunteer programs~~ to protect Tukwila's natural resources; and
- Goals and Policies for protecting sensitive natural resources, including the urban forest.

PURPOSE

This element of the Comprehensive Plan addresses the City's natural environment – air, land and water resources – by guiding future development in a manner that protects the community's environment, improves the quality of life in the City, and provides reasonable protection of community residents from natural hazards.

To be healthy and sustainable, a community must integrate the natural environment into urban development design. The natural environment and its associated ecological processes provide many benefits to Tukwila, including:

- Visual relief from the hard, constructed surfaces of urban development;
- Fish and wildlife habitat;
- Air and water quality;
- Surface water runoff management;
- Recreational opportunities for interaction with nature;
- Human health; and
- Aesthetic and economic benefits.

Trees and vegetation also provide critical environmental services which, in turn, affect the quality of life of residents, visitors, daytime workers and neighboring communities. Some of the benefits of trees are shown below.

~~DEVELOPMENT OF THE NATURAL ENVIRONMENT ELEMENT~~

~~To assist with the update of this Comprehensive Plan Chapter, the City formed the Tukwila Tree and Environment Advisory Committee, made up of members of the business and residential community. The Committee, working for over 9 months between 2012 and 2013, reviewed previous Comprehensive Plan policies in the Natural Environment and Community Image Elements, and provided input for revisions and new goals, policies, and implementation strategies.¹~~

¹ [Old information; deleted](#)

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The City conducted a required periodic update of its critical areas regulations in 2018 and 2019.² This included a Public Outreach Plan that used a variety of methods to notify the general public and property owners including an open house, mailings, notice in a stormwater bill, postings on the City’s website, creation of a broadcast email group that received updates of the process, and articles in the City’s Hazelnut newsletter.

ARCHAEOLOGICAL RESOURCES

Goals and Policies for the protection of *Paleontological and Archaeological Resources* previously listed in this element have been moved to the **Community Image Element**.

Benefits of Trees

ENVIRONMENTAL

- Fish and wildlife habitat
- Improved air quality
- Storm water mitigation
- Reduced energy consumption
- Sequestration of carbon
- Stabilization of slopes

SOCIAL

- Lower crime rates
- Mental health benefits
- Improved physical health
- Aesthetics and quality of life

ECONOMIC

- Consumer satisfaction/ increased spending
- Increased property values
- Reduced maintenance of road surfaces (shade)
- Green infrastructure – reduced cost over installing and maintaining surface water infrastructure

The Natural Environment Element sets forth goals and policies to guide the protection and management of wetlands, watercourses, springs, fish and wildlife habitat areas, and geologically hazardous areas – collectively called “environmentally criticalsensitive areas”. It also includes goals and policies related to flood management, surface water management, water quality, and the urban forest (the combination of trees, shrubs and other plants that make up the formal landscaped areas of the City and the natural areas in our parks and on private property).

Tukwila Pond serves as both wetland habitat and temporary stormwater storage.

[Image]

Existing Comprehensive Plan (with proposed changes)

Southgate Creek is an example of a watercourse with little riparian protection from urban impacts.

[Image]

THE STATE OF TUKWILA'S URBAN ENVIRONMENT

Tukwila encompasses about nine square miles, and much of the city lies within an extensive valley centered on the Lower Green/Duwamish River watershed. The valley is virtually flat and almost entirely built out except for the currently undeveloped ~~newly annexed~~ Tukwila South area, ~~which is slated for development over the next 10 to 15 years~~. The upland areas of the City have rolling topography and numerous areas with steep and potentially unstable slopes. Many of the steep hillsides are forested with second- or third-growth trees and understories with a mix of native and invasive vegetation. These areas – together with the City's numerous ~~water resources~~ streams, wetlands, springs and the River – provide important fish and wildlife habitat that coexist with the built environment. The following is a summary of conditions in the constituent elements of Tukwila's environment.

WETLANDS AND WATERCOURSES

As urban development has occurred, natural drain-age corridors have been altered or placed in culverts, and wetlands have been filled. Remnant wetlands remain in some of the City's parks, on undeveloped slopes (formed by springs and groundwater seeps), in freeway interchanges, and in other areas of the City. Wetlands and watercourses have been provisionally identified and mapped on the City's ~~Sensitive~~ Environmentally Critical Areas Map. The City has purchased Tukwila Pond and Macadam wetland for preservation. Tukwila Pond serves as both a wetland and temporary storm water storage pond for commercial development on its north side. Macadam wetland collects mostly natural surface water from the steep slopes located on its east side.

FISH SPECIES IN TUKWILA

Fish species found in the Green/Duwamish River include the following:

- Cutthroat trout
- Puget Sound Chinook salmon (threatened)
- Puget Sound Steelhead (threatened)
- Chum salmon
- Coho salmon
- Pink salmon
- Sockeye salmon
- Bull trout (threatened)

Resident Cutthroat trout are found in Tukwila's streams, as well as other fish and aquatic species.

Cutthroat trout photo courtesy of Washington Department of Fish & Wildlife.



Existing Comprehensive Plan (with proposed changes)

Stream alterations have affected wildlife and fish habitat. There are a few remaining open channels in the four main streams in Tukwila (Johnson Creek, Gilliam Creek, Southgate Creek and Riverton Creek), which have been channelized, re-located and piped for much of their length. Construction of urban streets and highway systems and driveways required watercourses to be placed in culverts, which have blocked or made fish passage difficult. All the streams discharge into the Green/Duwamish River.

Stormwater Run-off – coupled with steep slopes in the upper reaches of Gilliam, Southgate and Riverton Creeks – has caused scouring and erosion in the stream channels, resulting in deepened ravines with steep banks, instability, bank erosion and down-stream sedimentation. The lower reaches of Tukwila’s streams are generally lacking in pools and woody debris, which are important for good fish habitat. Thus, the open reaches of Tukwila’s streams are generally in deteriorated conditions with ~~generally~~ poor riparian habitat and narrow buffers. In fact, many tributaries of the urban watercourses flow in road-side ditches with little protection from urban impacts. Recent City-led projects to remove flap-gates are working at enriching stream habitat at River outlets by removing barriers, increasing complexity, replanting and increasing hydrologic connectivity.

FISH AND WILDLIFE

The Washington Department of Fish and Wildlife (WDFW) has mapped and identified priority habitats and species in Tukwila to ensure their protection and management. They include: the Green/Duwamish River; reaches of Gilliam Creek, Southgate Creek and Riverton Creek; riparian areas (areas adjacent to streams and rivers) and freshwater wetlands. Also mapped are wetland complexes and Johnson Creek in Tukwila South.

The Shoreline Master Program provides more detail on the City’s involvement with the Water Resource Inventory Area 9 (WRIA 9) and the Green/Duwamish River Salmon Habitat ~~Enhancement~~ Plan, which ~~is intended to restore habitat~~ guides local sponsor restoration planning and implementation for Chinook salmon habitat ~~and other species.~~

Volunteers removing invasive blackberry - Duwamish River Shoreline Restoration Project

[Image]

Community volunteers stocking Coho salmon in Southgate Creek.

[Image]

Pacific tree frog at wetland restoration site.

[Image]

Tukwila residents ~~citizens~~ and businesses are actively involved in stewardship, wildlife protection, and enhancement through City-sponsored activities such as ~~the Backyard Wildlife~~

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~~Program, projects to restore habitat and~~ Green Tukwila, as well as in private initiatives to restore shorelines and open spaces, and ~~and a salmon rearing project that involves school children, State wildlife officials and local businesses in annually stocking of and incubate~~ Coho salmon eggs in ~~Southgate Creek~~ local creeks. In addition, ~~t~~The City's NPDES program works to educate citizens, businesses and school age children on ways to improve water quality and directly benefit salmon habitat.

Waterfowl areas in Tukwila include Tukwila Pond and the wetlands in Tukwila South, both of which provide important winter habitat for migrating waterfowl and permanent habitat for other waterfowl. ~~Over~~ More than 50 species of birds have been recorded at Tukwila Pond. Other bird species found in Tukwila include osprey, which regularly nest near the Green/Duwamish River; hawks; and passerine birds. Other wildlife species found in Tukwila include harbor seals, coyotes, deer, Eastern Grey squirrels, beaver, otter, nutria, turtles (mostly non-native red-eared sliders), garter snakes, snails, amphibians (non-native bullfrogs, native Pacific tree frogs and salamanders), opossum and raccoons.

FLOOD MANAGEMENT

Tukwila's urban center, the light industrial and manufacturing area south of South 180th Street, part of Tukwila South, and Fort Dent Park are protected from flooding of the Green River by levee systems. The City participates in the National Flood Insurance Program administered by the Federal Emergency Management Agency (FEMA), which has mapped regulated flood-plains in Tukwila. Mapped floodplains and the levee systems are explained in more detail in the Shoreline Element of the Comprehensive Plan.

Impervious surfaces and the ~~elimination~~ reduction of natural wetland functions have caused localized flooding from streams periodically, at varying levels of severity on some areas of public right-of-way, as well as private properties where inadequate or no surface water infrastructure exists. The City has resolved many of the flooding problems through improvements to surface water infrastructure. ~~For example, periodic flooding from Gilliam Creek near Southcenter Boulevard was resolved through the construction of a regional detention facility that serves the area of Southcenter Boulevard west of Interstate 5~~³. The surface water management system (surface water utility) is described in more detail in the Utilities Element of the Comprehensive Plan. More detailed information on localized flooding problems is provided in the City's Comprehensive Surface Water Management Plan.

EARTH RESOURCES AND GEOLOGIC HAZARDS

The City has mapped areas with steep and unstable slopes, including active landslide areas, to ensure that there is adequate review of slope stability if development is proposed in these areas. In addition, there are coal formations on the southwest side of Interurban Avenue South,

³ Old reference; removed

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some of which have been mined and are defined as environmentally critical sensitive areas based on the City of Tukwila Abandoned Underground Coal Mine Hazard Assessment, May 1990.

WATER QUALITY

~~The~~ ~~Although the~~ City ~~does not have ongoing monitoring programs~~ has conducted, periodic ~~Water Quality~~ studies that have indicated ~~that~~ Tukwila's streams and the Green/Duwamish River suffer from poor water quality due to ~~surface storm~~ water runoff, small buffers, and suboptimal vegetation. Rain events wash contaminants off rooftops, driveways, sidewalks, parking lots and roads into the watercourses. Runoff from these areas can contribute to high temperatures in urban streams and ~~can~~ carry contaminants into streams and wetlands.

~~Many n~~ ~~Newer~~ developments are required to implement Green Stormwater Infrastructure⁴ and comply with ~~have~~ flow control and water quality treatment ~~facilities requirements such as sediment removal and oil water separators~~ Modular Wetlands, Tree Wells and Pervious Pavements that are intended to moderate and treat the discharges that flow ~~directly into~~ towards streams. There are, however, ~~but there are~~ still areas of Tukwila where runoff from impervious surfaces discharges directly to streams and the river with no treatment. (See Natural Environment Element Regulatory Background Report for more information on water quality.)

Riparian habitat plays a valuable role in protecting stream water quality. Adequately-sized and healthy riparian buffers help filter out to mitigate a variety of pollutant impacts. ~~s, including substances that can lead to the depletion of oxygen in streams. Riparian vegetation can also and s~~ Shade streams, ~~reduc~~ ing the high water temperatures that contribute to anaerobic stream conditions, which have and lethal effects to on fish and other aquatic species. Unfortunately, ~~However,~~ most of Tukwila's streams have poor quality, narrow riparian areas.

AIR QUALITY

Tukwila lies in the air quality region made up of King, Kitsap, Pierce and Snohomish counties. Air quality is monitored and managed by the Puget Sound Clean Air Agency. Through the efforts of the Clean Air Agency, ~~all of~~ King County as a whole currently generally has good air quality, ~~except for occasional periods when air quality in our area is considered a risk to health, particularly for members of the population with respiratory conditions~~ however, climate conditions have increasingly had an impact on air quality in Tukwila and the region. Wildfires have created air quality concerns as harmful chemicals and tiny particles suspended in the air create health issues for the public. During these periods of smoke exposure, the City follows

⁴ "Green" stormwater infrastructure is designed to mimic nature and capture rainwater where it falls. See Glossary.

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the guidance of regional, state, and national health, emergency management, and air quality partners in providing public education and community response options.

Tukwila is divided throughout by significant transportation corridors, including Washington 599, and Washington 518, as well as Interstates 5 and 405. These road systems have been found to negatively impact community health. A study completed by the Puget Sound Clean Air Agency (PSCAA) documented that some areas of Tukwila bear among the worst air quality health impacts from road systems within King, Pierce, Snohomish, and Kitsap counties. “Tukwila/Allentown” was identified as the most impacted of the “Highly Impacted Communities”, and the “Tukwila/Kent” area experienced the third worst air quality. Much of that impact comes from diesel pollution, as well as industrial source pollution.

In addition, the Duwamish Valley south of Seattle suffers from higher particulate pollution levels that are damaging to human health. This corridor provides valuable economic services to the region in terms of transportation corridors, industry, and commerce, which comes at a cost to the area’s inhabitants.

CLIMATE CHANGE

The impacts of climate change in Tukwila ~~could~~ affect several aspects of the natural environment, as well as the provision of utilities to its ~~citizens~~ residents. Climate modelling indicates that the region will experience warmer temperatures, changing the precipitation pattern towards less snow and more rain during the winter. This poses challenges to flood hazard mitigation within Tukwila and the valley, and also will impact the regional water supply. Climate change ~~could~~ cause rising sea levels to rise, which would affect the tidally-influenced portions of the Green/Duwamish River, raising water levels in the river and causing tidal waters to reach further upriver and into streams. This, in turn, could impact flood ~~control~~ hazard mitigation measures and fish and wildlife habitat, with particular detriment to salmon. Other possible effects of climate change could include new and increased insect infestations in the City’s urban forest; changes in wildlife behavior and diversity; increased demands on City resources; and reduced availability of water supplies for drinking water, irrigation of gardens, landscaped areas, street trees and parks.

Increases in temperatures could exacerbate existing heat island effects in the highly developed areas of the City where there is a significant amount of impervious surface (buildings, streets, and parking lots). Recently, King County created a heat map⁵, showing how Tukwila, with a relatively large paved footprint, can reach extremely high temperatures and is unable to cool at night during extreme heat events. Tukwila residents and workers are thus ~~are-being~~ ~~increasingly~~ increasingly exposed to heat-related illness, at an inequitable rate as compared to other parts of the region. This underscores the importance of increasing tree canopy in these

⁵<https://kingcounty.gov/en/legacy/elected/executive/constantine/news/release/2021/june/23-heat-mapping-results>

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areas to help reduce temperatures during the summer months, [particularly over impervious surfaces such as parking lots](#). High water temperatures are already a problem for salmon in the Green/Duwamish River, where there is a lack of shade from trees along the shoreline in many areas. Restoration plantings and maintaining large trees on the shoreline will help improve conditions for salmon in the river and in its tributaries, and help to reduce even greater water temperatures that could be caused by climate change.

TUKWILA'S URBAN FOREST⁶

~~The "City of Tukwila Urban Tree Canopy Assessment," completed in 2012, quantifies existing urban tree canopy as well as impervious surfaces, surface water, grasslands and bare soils. The assessment forms the basis for several new goals and policies related to the urban forest. See the assessment report appended to this chapter of the Comprehensive Plan.~~

~~The results of the study show that Tukwila has a current overall City-wide average tree canopy cover of 25% and impervious surface of 51%. The residential zones range from 33% to 51% canopy across 1,869 acres, while the industrial and commercial zones have tree canopy ranging from 9% to 49% across 2,780 acres. A tree engulfed by invasive English ivy.~~

~~[Image]~~

~~How Much are Tukwila's Trees Worth?~~

~~The value that Tukwila's trees provide to the community in terms of air quality improvements is \$493,000, as detailed in the table below.⁷~~

~~[Image]~~

[The "City of Tukwila Urban Tree Canopy Assessment," was last updated 2012, although work is underway to update the study⁸. The assessment quantifies existing urban tree canopy, as well as impervious surfaces, surface water, grasslands and bare soils. Assessment information shapes the basis for several new goals and policies relating to the urban forest. \(See the assessment report appended to this chapter of the Comprehensive Plan.\)](#)

The City is fortunate to have remnant stands of second- or third-growth native forests and [high good](#) canopy coverage in its [single-family low density](#) residential areas, on undeveloped steep slopes, and in some of its parks (for example, Crystal Springs Park and Tukwila Park). However, [these forest stands lack active management and suffer from over-crowding, lack of diversity,](#) trees and [understory vegetation in many of our parks and natural areas are plagued with](#) infestations of invasive plants like blackberry and ivy, [all of which compromises their sustainability](#). Trees in undeveloped areas are threatened by future development. Aging trees

⁶ NG: ~~Has there been an update of the canopy report?~~

⁷ Data is dated to 2015 – have been unable to do a recalculation for 2023

⁸ The 2023 canopy is completed – we are dissecting the data to finalize the summary at this time

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in already-developed residential and commercial areas become hazardous and require removal, and are not always replaced with new trees. Many landslide hazard slopes in Tukwila currently enjoy the protection of canopy coverage, however the lack of active management leaves this protective factor vulnerable to threats.

The City has street trees of varying species, sizes, health, and maturity planted on City rights-of-way throughout Tukwila. They range from large canopy trees to small canopy or young trees that do not provide many benefits. Street trees often do not get replaced when they are damaged or removed and do not all get the level of care or the conditions they need to thrive.

Shade trees are generally lacking in most of the City's commercial parking lots and other landscaped areas. Trees in these areas are often improperly pruned or removed and not replaced. Trees throughout the City are frequently damaged by installation or maintenance of infrastructure and new development.

The Green/Duwamish River and the City's streams generally have narrow riparian buffers, the result of development occurring before protective buffer widths were required ~~grandfathered in from the pre-regulatory era. These too-small buffers that~~ have been impacted by urbanization, ~~over the years,~~ and the increasing the amounts of impervious surface, ~~and~~ reducing the amount of urban forest ~~in these areas. in these areas.~~ Some reaches of the river are characterized by large native canopy trees (Foster Golf Course, for example), while in other areas there is little to no tree canopy and large expanses of invasive vegetation instead. Trees have been removed from the Green River levee, south of SR 405, to meet Corps of Engineers requirements. New efforts to increase multi-benefit approaches to flood control may take ecology further into account.

Several environmental restoration projects to enhance the urban forest have been completed ~~or~~ and also are underway in the City's parks, wetlands, and streams, and along the Duwamish River. Trees have been planted along the river by ~~the~~ King County as mitigation for removal of trees elsewhere. The City also plants hundreds of trees in its parks each year; requires trees as part of landscaping for commercial, industrial, office and multi-family developments; and requires tree replacement in environmentally critical ~~sensitive~~ areas.

~~However,~~ I the City does not have, however, a comprehensive written urban forestry plan, street tree, or other program in place to ensure retention, protection, and maintenance of a healthy urban forest across all areas of the City. A program to improve the urban forest should include the following emphasis ~~aspects~~:

- Preservation of ~~e~~ existing trees and forest;
- Preservation and ~~improvement of~~ the "tree-growing" environment (i.e., ~~provide~~ adequate growing conditions for trees); ~~and~~

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- Planting for the long term (i.e., ensuringe that the right tree is placed in the right place with sufficient provisions for tree maintenance and care);
- Monitoring for emerging threats to the urban forest; and
- Promotion of e the environmental equity goals related that should be realized to-in the urban forest.-

REGULATIONS

In addition to the State Growth Management Act, many regulations at the federal, State, and local levels apply to the management of Tukwila's natural environment. More information can be found in the Background Report for this Element.

ISSUES

In the Natural Environment Element, There are several key issues are addressed that reflect new community priorities and respond to new regulations at the local, regional, State, and federal levels ~~addressed in the Natural Environment Element~~. The goals and policies that follow respond to these identified issues.

ENVIRONMENTAL QUALITY, COMMUNITY EDUCATION AND ENVIRONMENTAL STEWARDSHIP⁹

In order to foster best practices for protecting Tukwila's environmental quality, improve the protection and restoration of the City's environmentally critical ~~sensitive~~ areas and fish and wildlife habitat, and improve air and water quality, the City needs to provide information and education to the community in various forms. In addition, the City should continue to expand efforts, in collaboration with other organizations and businesses, to engage the community through hands-on environmental stewardship and restoration activities. Policies regarding the protection of fish and wildlife and climate change are also important to incorporate into the Natural Environment ~~Chapter~~ Element.

ENVIRONMENTALLY CRITICAL ~~SENSITIVE~~ AREAS

Although Tukwila has enacted significant revisions to its Environmentally Critical ~~Sensitive~~ Areas regulations ~~in 2004, and again in 2010, over the years, most recently in and 2019~~ 20, new policies are needed to reflect the ~~most~~ current best available science information, and new federal and State regulations and guidelines. Tukwila also needs to improve the protection of watercourses, and find mechanisms and resources to ensure that compensatory mitigation is successful for the long term. A great deal of ~~Extensive amounts of legally-nonconforming development was legally established prior to current regulations, and continues to~~ constitutes ~~to~~ negatively impact the quality of the City's buffers. To ameliorate the impact of these

⁹ ~~NG: True that we need new policies?~~

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~~damaging developments, , the City should partner with, and provide incentives to, incentivize landowners to encourage promote-redevelopment that in-a-conforms to current standards. ming fashion.~~

FISH AND WILDLIFE HABITAT

The listing of Puget Sound Chinook salmon and Bull Trout under the Endangered Species Act has underscored the need for the City to protect and restore habitat for fish and other wildlife. ~~New policies, c~~Continued restoration efforts, and new sources of funding are needed to carry out habitat restoration ~~of habitat~~ on the Green/Duwamish River and its tributaries. The City must continue to be actively involved in shaping ~~policies and~~ programs and helping implement the WRIA 9 Salmon Habitat Enhancement Plan, in collaboration with other local jurisdictions and county, State and federal government agencies.

WATER QUALITY

More efforts are needed to improve and protect water quality in the City's wetlands, watercourses, springs, and the Green/Duwamish River; therefore, the City needs to ~~make sure~~ensure that adequate resources are available. Programs for monitoring water quality, retrofitting surface water management systems where there are water quality problems, and improving riparian buffers are important actions for the City to carry out.

SURFACE WATER MANAGEMENT

With new State requirements for the management of surface water, the City must modify its surface water regulations and begin implementing and requiring low-impact development techniques for surface water system retrofits and for new development. The City operates its street drain network (MS4) under a State issued NPDES Permit (Permit) and ~~We manages the ditches, swales, ponds, pipes, vaults, catch basins and manholes following~~ to be consistent with an approved manual of Best Management Practices (BMPs). The MS4 Permit requires the City to use an approved manual. Tukwila adopted the King County Surface Water Design Manual and all its appendices and correlations to control construction permits along with public and private operations and maintenance of all components of the surface water system, including groundwater.

FLOOD MANAGEMENT

Because the City has levees along parts of the Green/Duwamish River to reduce flood potential, it is necessary for the City to coordinate with County and federal officials and neighboring local jurisdictions, on maintenance and rebuilding of the levees and ensuring that federal certification is continued, where applicable. Also, due to the listing of Chinook salmon and other aquatic species under the Endangered Species Act and Corps of Engineers policies ~~restricting~~limiting vegetation on levees, the City needs to be involved in efforts to achieve good

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riparian conditions, while not compromising the integrity of levees or losing federal certification.

The King County Flood Control District prioritizes the design and implementation of a multi-benefit floodplain approach that reduces flood risks, ensures public safety and restores river ecosystems in an equitable and just manner. The ten multi-benefits include: equity and social justice, environmental justice, habitat protection and salmon recovery, jobs and sustainable livelihoods, open space conservation, productive and viable agriculture, recreational opportunities, resilient communities and ecosystems, sustainable and clean water, and sustainable development.

EARTH RESOURCES

The definition of steep slopes should be clarified, and new policies are needed to require setbacks and better protect trees on steep slopes.

TREES AND THE URBAN FOREST

The City needs to establish policies and programs to protect and enhance the urban forest, including ~~establishing improved~~ enforcing and continually improving policies for protecting trees, increasing tree canopy, and ensuring sufficient resources to properly maintain trees, improve tree health, and reduce potential hazards to the public. ~~This Element provides new goals and policies to address these issues.~~

GOALS, POLICIES AND STRATEGIES

Environmental Quality and Stewardship

GOAL 1 The City's air, land, and water resources are restored and protected for future generations and are resilient to a changing climate¹⁰.

POLICIES

Policy 1.1 Anticipate the effects of climate change by ~~keeping abreast of current scientific data~~ incorporating Best Available Science, considering long-term climate change projections, and planning for adaptative management of ~~adapting~~ City regulations and internal procedures, as needed.

¹⁰ Consultant addition

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Policy 4.1.2 Develop and implement environmental strategies that use integrated and interdisciplinary approaches to environmental assessment and planning, in coordination with local jurisdictions, tribes, and other stakeholders.¹¹

Policy 1.3 Collaborate with federal, ~~and State,~~ and tribal¹² fish and wildlife agencies to identify priority ~~habitats species (endangered, threatened, sensitive and candidate species)~~ habitats species, to ~~determine~~ establish appropriate protection ~~s and wildlife access measures~~ to ensure no net loss of ecological functions and values.¹³

~~4.1.32 Identify impacts to wildlife from new development, and ensure protection of priority fish and wildlife habitat — including Osprey and Bald Eagle nests and Chinook and Bull Trout habitat — when issuing permits for development or considering rezoning.~~¹⁴

Policy 14.1.434 Provide guidance to assist applicants in understanding and complying with federal and State fish and wildlife ~~and endangered species~~ regulations for all public and private sector projects.

Policy 1.4.1.545 Develop and implement programs that encourage and incentivize Tukwila residents and businesses to take active measures to protect, ~~and enhance,~~ and plan for changing conditions of Tukwila's natural environment to increase climate resiliency. Such measures could include, but are not limited to, the use of Low Impact Development (LID) techniques, natural streambank restoration, non-toxic lawn care, and composting and recycling, ~~among others.~~¹⁵

Policy

€1.6 Identify and preserve regionally significant open space networks through implementation of the Regional Open Space Conservation Plan. Develop

¹¹ Policy K EN-2;

¹² EN-2

¹³ Consultant addition; other recycling policies are in Capital Facilities: partial K EN-2

¹⁴ This policy should be eliminated for conciseness. Protection of priority species and habitats is included in Policy 4.1.2 and 4.1.4

¹⁵ Consultant: Consider incentivizing measures that are resilient to a changing climate. Other practices that utilize the most current water conservation technologies and strategies such as water-smart landscapes, rainwater harvesting, and green infrastructure should also be considered and incentivized.

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strategies and funding to protect lands that provide the following valuable functions:

- a. Ecosystem linkages and migratory corridors crossing jurisdictional boundaries;
- b. Physical or visual separation providing buffers between incompatible uses;
- c. Active and passive outdoor recreation opportunities;
- d. Wildlife habitat and migration corridors that preserve and enhance ecosystem resiliency in the face of urbanization and climate change;
- e. Preservation of ecologically sensitive, scenic, or cultural resources; and
- f. Urban green space, habitats, and ecosystems.¹⁶

GOAL 4.2.2 An educated public that understands the importance of protecting and enhancing the functions and values of environmentally critical ~~environmentally critical sensitive~~ areas, including fish and wildlife habitat conservation areas, wildlife and fish habitat in the City's natural areas, wetlands, floodplains, watercourses and the Green/Duwamish River, and actively ~~and~~ assists in their stewardship.

POLICIES

Policy 2.4.2.1 ~~Develop and e~~Expand free or low-cost educational programs and materials for the community about the ~~multiple~~ benefits of protecting and enhancing the City's environmentally critical sensitive areas, ~~flood plains,~~ the urban forest and wildlife habitat, and ~~about~~ individual responsibilities for their stewardship in a changing climate. The City should continue to develop and support community-oriented wildlife educational programs, such as the Tukwila Backyard Wildlife Program, and communicate the requirements of City environmental regulations so as to maximize compliance and minimize code enforcement actions and environmental degradation.¹⁷

Policy 2.4.2.2 Provide individualized education and technical support to residential property owners and general guidance to businesses regarding environmental stewardship and climate change resiliency strategies.

~~**4.2.3** — Develop and continue to support community-oriented wildlife educational programs, such as the Tukwila Backyard Wildlife Program.~~¹⁸

¹⁶ K EN-20, a-f

¹⁷ Combined with Policy 4.3 to enhance conciseness.

¹⁸ Combined into 4.3.1

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~~GOAL 4.3~~ — ~~Increased number of Tukwila residents who are trained as environmental stewards and actively participate in environmental restoration and maintenance.~~¹⁹

~~4.3.1~~ — ~~Sponsor joint City and citizen cleanup and restoration projects, and expand the citizen volunteer base in Tukwila for restoration and maintenance of the City's natural areas.~~²⁰

Policy 2.4.3.3 Collaborate with environmental organizations and businesses to support recruiting and training of environmental stewards, identify and sponsor restoration projects, incorporate climate change-focused strategies and provide logistical support for their work. Action should be taken to encourage expanding the citizen volunteer base in Tukwila for restoration and enhancement of the City's natural areas to promote the continued health of these systems.²¹

The lack of a Goal #3 will be addressed with final formatting

Water Resources

GOAL 4.4 Water resources that function as a healthy, integrated system; provide a long-term public benefit from enhanced environmental quality; are resilient from a range of climate-related events including increased flood events, changes in water temperature, and drought; and have the potential to reduce public infrastructure costs.²²

Wetlands/~~Watercourses~~/Fish And Wildlife Habitat Conservation Areas

GOAL 4.5 Vital and self-sustaining fish and wildlife habitat areas and habitat corridors are protected and restored and that provide, where appropriate, opportunities for recreational and educational uses.²³

¹⁹ Removed – redundant with Goal 2.

²⁰ This policy should be eliminated and combined with Policy 4.3.2.

²¹ This policy should encourage collaborative efforts with the community to help ensure ecosystem functions are retained and are resilient to climate change.

²² Climate change is anticipated to impact water resources by increasing the frequency and severity of flooding and temperature-related impacts.

²³ The inclusion of habitat corridors will aid in the protection of the function and values of fish and wildlife habitat conservation areas, as well as other environmentally critical areas.

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POLICIES

Policy 5.4.5.1 Restore, protect, and enhance watershed functions and values through environmentally critical~~sensitive~~ area restoration projects on public and private~~ly-owned~~ land to build resilience to climate change through ecological solutions. Restoration projects should improve habitat corridors and connections, particularly in riparian management zones and floodplain wetlands, wherever feasible.²⁴ ~~s, and by working with property owners to restore/improve environmentally critical sensitive areas on private property.~~

~~4.5.2 Recognize, protect and enhance the value of watercourse and river riparian zones, springs and other natural areas as wildlife corridors.~~²⁵

Policy 5.4.5.32 Develop best management practices (BMPs) for stormwater management ~~surface water drainage~~ and ~~street-related~~ maintenance activities to avoid impacts to riparian management zones or other environmentally critical areas~~disturbing or destroying native riparian vegetation~~. Where riparian vegetation is disturbed through development or maintenance activities, restoration should be required to preserve the functions and values of the habitat~~restore vegetation with native species.~~²⁶

Policy 5.4.5.43 Identify staff, ~~and~~ financial support, or funding opportunities for restoration projects, wherever feasible, to enhance ~~salmonid~~ anadromous fish habitat in riparian management zones~~watercourses~~, wetlands and the Green/Duwamish River, including projects identified in the Shoreline Master Program (SMP) Habitat Restoration Program, ~~and~~ the Water Resource Inventory Area (WRIA) 9 Salmon Habitat Plan, WRIA 9 Duwamish-Green Watershed Restoration and Enhancement Plan, or other regional watershed restoration plans.²⁷

Policy 5.4 Ensure that new development, open space protection efforts, and mitigation projects support the State's streamflow restoration law. Promote robust,

²⁴ Supporting restoration opportunities that reconnect floodplain wetlands and restore natural processes will improve water quality, fish and wildlife habitat, and mitigate impacts of flooding and erosion. When planning and prioritizing restoration projects it will be important to identify locations where these efforts will be most beneficial and effective in the long-term.

²⁵ This policy should be eliminated and combined with Policy 4.5.1 for conciseness.

²⁶ This policy should plan for increased stormwater management demands associated with increased flood events to avoid the potential for overflow events and related adverse environmental impacts.

²⁷ This policy should be broadened to include enhancement of anadromous fish habitat, including salmonids, and utilization of regional Watershed Restoration Plans, when available.

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healthy, and sustainable salmon populations and other ecosystem functions, working closely within WRIA 9 and utilizing adopted watershed plans.²⁸

Policy 5.4.5.5 Prohibit piping of watercourses, except where unavoidable for access purposes. Where ver feasible and practical, ~~to create healthy riparian habitat,~~ encourage removal of piped sections of watercourses ~~as part of~~ when permitting any new or redevelopment ~~and public projects~~ activities to improve riparian habitat functions and values.²⁹

Policy 5.4.5.6 Prohibit creation of new fish barriers and, where possible, encourage elimination ~~of~~ existing barriers to fish passage through implementation of capital improvement projects, coordination with regional partners and the WRIA 9 Lead Entity to seek funding opportunities, and by providing incentives to private sector development.³⁰

GOAL 4.6 Riparian management zones, floodplains, ~~Watercourses and their buffers,~~ wetlands, and their ~~wetland~~ buffers are protected from encroachment and degradation and improved through impact avoidance, mitigation, enhancement and restoration projects to increase resiliency to impacts from climate change³¹.

POLICIES

Policy 6.4.6.1 Regulate land use and development, using Best Available Science, to protect and improve natural vegetation and hydrology, habitat corridors, and open spaces, ~~in order~~ to prevent significant erosion, sedimentation, or degradation of areas of potential geologic instability, wetlands, ~~watercourses~~ floodplains, fish and wildlife habitat areas and their associated buffers.³²

²⁸ En-10

²⁹ This policy should be revised to expand encouragement of removal of piped watercourses for any type of development review and highlights the purpose of removal.

³⁰ Working with regional partners will strengthen this policy and lead to better long term collaboration and results.

³¹ Supporting restoration opportunities that reconnect floodplain wetlands and restore natural processes will improve water quality, fish and wildlife habitat, and mitigate impacts of flooding and erosion.

³² Wildlife and plant species and habitats already strained by urban fragmentation will be further stressed by climate change. Consideration of habitat corridors and open spaces will aid in the protection of the function and values of environmentally critical areas.

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- Policy 6.4.6.2** Ensure mitigation sequencing is applied to avoid or minimize impacts to environmentally critical~~sensitive~~ areas, consistent with federal and State guidelines.³³
- Policy 6.4.6.3** Require and enforce mitigation in order to ensure no net loss of environmentally critical~~sensitive~~ area functions, as well as mitigation designed to replace environmentally critical~~sensitive~~ area acreage lost due to development.³⁴
- Policy 6.4.6.4** Ensure the effectiveness of environmentally critical~~sensitive~~ area mitigation by ~~requiring adequate environmentally critical sensitive area studies and mitigation plans, the application of mitigation sequencing, financial assurances from project proponents to ensure mitigation success, and by~~ improving City oversight, tracking, ~~of maintenance~~ and monitoring of mitigation sites.³⁵
- Policy 6.4.6.5** Allow off-site wetland mitigation only when a site-specific study, prepared by a qualified professional, documents that there are no feasible opportunities for on-site mitigation, is greater functional benefit, no significant adverse impact to the drainage sub-basin, and no significant adverse impact to existing wetlands or riparian management zones~~watercourses~~.³⁶
- Policy 6.4.6.6** Consider creating a City in-lieu fee program for future wetland mitigation, or collaborate with King County to establish in-lieu fee sites in Tukwila for wetland restoration projects, including projects along the Green/Duwamish River shoreline, when a site specific study, prepared by a qualified professional, documents that there are no feasible opportunities for on-site mitigation.³⁷
- Policy 6.4.6.7** In collaboration with other agencies, develop a program to provide guidance to property owners interested in restoring or enhancing~~using their property for sensitive environmentally critical~~ areas, ~~mitigation or~~ shorelines ~~mitigation or~~ associated buffers on their private property that public or private sector projects

³³ This policy should be revised to update the reference to environmentally critical areas.

³⁴ This policy should be revised to update the reference to environmentally critical areas.

³⁵ Portions of the existing policy are requirements in the CAO. It is recommended to revise the goal to focus on areas of improvement of implementation outside of the existing code requirements.

³⁶ The policy should be reinforced to document that there are no opportunities for on-site mitigation in compliance with mitigation sequencing.

³⁷ The policy should note the importance of landscape-scale, watershed-based restoration and mitigation projects and allow the City to consider off-site compensatory mitigation for projects in areas where compensatory mitigation can be difficult or impractical to achieve.

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can utilize to compensate for impacts on project sites that lack opportunities for on-site mitigation.³⁸

~~In collaboration with other agencies, develop a program to provide guidance to property owners interested in using their property for environmentally critical/sensitive area mitigation or shoreline mitigation.~~

Water Quality and Quantity

GOAL 4.7 Protect, enhance and plan for changing conditions of Tukwila's water resources for the benefits of recreation, fish and wildlife resources and habitat, flood protection, and open space to create a more climate resilient city for current and future generations.³⁹ ~~The water quality in Tukwila's wetlands, watercourses, fish and wildlife habitat areas and the Green/Duwamish River is improved over time.~~

POLICIES

Policy 7.1 Retrofit existing City surface water systems and improve surface water management through use of low-impact development (LID) techniques for all new development and redevelopment to improve the water quality of discharges.⁴⁰ ~~Improve surface water management and ensure provision of water quality treatment where required.~~

Policy 7.2 Prevent and reduce pollution streambank and ~~channel erosion and~~ sedimentation of water resources through implementation of surface water, stormwater, and land clearing regulations and inspections.^{41 42}

Policy 7.3 Adopt policies, regulations, and processes, related to new or existing fossil fuel facilities, which are designed to protect and preserve natural ecosystems from

³⁸ This policy should provide additional specificity on the intent of the program to provide off-site mitigation opportunities where private property owners are willing to allow project proponents to conduct restoration or enhancement activities to compensate for impacts that have occurred on another site.

³⁹ Changing this language aligns this goal with sustainable practices that prioritize economic, environmental, and social benefits as well as adding a climate element.

⁴⁰ This language is in line with the Surface Water Management section of the Comprehensive Plan and is encouraged by the WA Dept. of Ecology. This will also allow for the elimination of policy 4.7.6 as it was incorporated into this policy.

⁴¹ While sediment is a type of water pollutant this policy should address all pollutants. Additionally, this policy should be expanded to include all erosion, not just erosion associated with streambanks and channels, this includes nearby hillsides and upland areas under development.

⁴² Similar to K-EN-24.

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the construction and operational impacts of fossil fuel facilities, and prepare for and mitigate any impacts of fossil fuel disasters the community.⁴³

Policy 7.4 Prohibit the application of pesticides (insecticides, herbicides, fungicides, algaecides, rodenticides, etc.) to surface water systems or their buffers, unless warranted to protect ecological functions of the system, and inform applicators about State pesticide licensing regulations.⁴⁴

Policy 7.35 ~~Initiate educational~~ Develop public outreach materials and implement management programs to reduce the use of chemicals including fertilizers and pesticides, having negative impacts on ~~the environment or human health~~ surface water systems or their buffers, unless warranted to protect ecological values and functions.⁴⁵

Policy 7.6 Prevent, mitigate, and remediate harmful environmental pollutants and hazards, including light, air, noise, soil, and structural hazards, where they have contributed to racialized health or environmental disparities, and increase environmental resiliency in frontline communities.⁴⁶

~~4.7.4 To protect water quality, promote natural yard care, alternatives to grass lawns, and proper waste management through educational programs and publicity.~~⁴⁷

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~~4.7.5 Continue City monitoring for illicit surface water discharges, and ensure that action is taken to eliminate any such discharges.~~⁴⁹

~~4.7.6 Retrofit existing City surface water systems, including ditches conveying stormwater, to improve the water quality of discharges where there are significant water quality or fish and wildlife benefits.~~⁵⁰

⁴³ EN-26, c & b

⁴⁴ Was part of 4.7.3, but made a separated policy because of focus, application vs. education- see 4.7.4

⁴⁵ Pesticides is an all-encompassing term and examples of pesticides do not need to be included. Nutrient loading, partially caused by lawn and garden fertilizers, are a common cause of diminished water quality and should be included in this language. Human health should not be included under this policy as this policy is applicable to water quality and as such having good water quality will support human health. Applicators should already be aware of State pesticide licensing regulations and if not then this could be considered one of the public outreach materials that are discussed within this policy (put into new policy 4.7.4)..

⁴⁶ EN-25

⁴⁷ Eliminate this policy and combine it with Policy 4.7.3 as discussed above.

⁴⁸ ~~NG: Is this already a requirement?~~

⁴⁹ Eliminate this policy and combine it with Policy 4.7.2 as illicit surface water discharges would include pollutants from stormwater and land clearing.

⁵⁰ Eliminate this policy and incorporate it into policy 4.7.1.

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GOAL 8 Surface water generated by urban development does not exceed pre-development discharge rates.

POLICIES

~~**Policy 8.1** Demonstrate implementation of low impact development techniques through grant-funded public projects. Where feasible, incorporate such techniques into City capital facilities projects. Provide technical assistance to developers, and encourage the use of such techniques for stormwater management.⁵¹~~

Policy 8.21 Require that all proposed development applications identify hydrologic features, both on- and off-site, that could be impacted by the project. Evaluate and prevent project impacts on on-site and off-site ~~watercourses~~ floodplains, wetlands, drainage features and springs to avoid adverse impacts to existing environmentally critical sensitive area hydrology. to meet today's climate needs and prepare for future climate needs.⁵²

Flood Control

GOAL 9 Protect and enhance t~~The natural flood attenuation functions of wetlands, floodplains and floodways~~ and plan for increased seasonal flooding associated with climate change to ~~are protected or restored and severe flooding potential is reduce d to help and~~ prevent damage to life, property and public safety.⁵³

POLICIES

Policy 9.1 Restrict or prohibit development that could create a danger to health, safety, and property due to potential flood hazards, ~~by complying with federal regulations.~~⁵⁴

Policy 9.2 Coordinate and fund holistic flood hazard management efforts through the King County Flood Control District.⁵⁵

⁵¹ Absorbed into 4.7.1

⁵² This policy could either be removed, as it should be a requirement of the development code however adding language specific to climate change allows for it to be retained as a policy.

⁵³ This changed language is in line with Climate Change projections for Washington State and will help utilize the natural floodplain to protect the city of Tukwila.

⁵⁴ Complying with federal regulations is not optional. Eliminate this language as it is a requirement and should already be occurring with development permits.

⁵⁵ EN-12

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- Policy 9.3** Work cooperatively to meet regulatory standards for floodplain development as these standards are updated for consistency with relevant federal requirements including those related to the Endangered Species Act.⁵⁶
- Policy 9.34** Wetlands provide services that have the potential to reduce impacts of climate change. As such the City of Tukwila will promote wetland restoration and enhancement throughout the city and ensure that development avoids and minimizes impacts to wetlands and their buffers, and provides compensatory mitigation to retain equal or greater wetland functions and values within the same drainage basin or watershed, and results in no net loss of wetland area except in limited circumstances.~~Minimize the alteration of natural surface water features that retain or carry floodwaters (such as wetlands, natural flood plains and streams), and prevent land alterations that would increase potential flooding.~~⁵⁷
- Policy 9.45** Plan for changes in seasonal flood events associated with climate change and~~R~~Reduce flooding that adversely affects public health, safety, and general welfare, and protect against flood damage through surface water and flood management projects.⁵⁸
- Policy 9.56** Minimize adverse impacts to water resources by conserving native shoreline vegetation or requiring the use of~~using~~ bioengineering and natural solutions to enhance stream for banks and shoreline stability and reduce hazards associated with slope failures and erosion. Invasive plant removal and replacement of native trees and shrubs should be prioritized over retention of low functioning vegetation.~~for bank stabilization or flood control projects, where technically possible and not cost-prohibitive.~~⁵⁹
- Policy 9.57** Require mitigation to achieve the goal of no net loss of ecological functions and maintenance of good water quality by requiring setbacks, buffers, and stormwater treatment and detention facilities to adhere to BAS recommendations and guidelines.~~reduce adverse environmental impacts from engineered flood control measures on a case-by-case basis.~~⁶⁰

⁵⁶ EN-13

⁵⁷ This revised policy is better in line with BAS and incorporates the climate element.

⁵⁸ Climate change models predict an increase in winter rainfall events which has the potential to lead to increased seasonal flooding. By planning for these events the city will be able to prevent or reduce the adverse impacts associated with flood events.

⁵⁹ This revision will allow for the abatement of noxious weeds and low functioning vegetation while encouraging the retention of native plant species.

⁶⁰ This policy revision will help demonstrate compliance with the GMA requirement of BAS.

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GOAL 10 (Levees) - MOVED TO CAPITAL FACILITIES

~~GOAL 4.10~~

~~The levee system south of I-405 is constructed, maintained and certified to meet the accreditation standards of the Federal Emergency Management Administration and the City's Shoreline Master Program.~~

~~POLICIES~~

~~4.10.1 Coordinate with King County Flood Control District and the U.S. Army Corps of Engineers to inspect and maintain the City's levee system.~~

~~4.10.2 Restrict levee encroachments by adjacent property owners.~~

~~4.10.3 Continue to work with the U.S. Army Corps of Engineers to develop levee vegetation policies, consistent with Pacific Northwest conditions, that enhance habitat while at the same time protecting public safety.~~

~~4.10.4 Coordinate with the City of Kent on flood control projects that affect both jurisdictions, while complying with Tukwila's Shoreline Master Program.~~

~~Implementation Strategies—Flood Control~~

- ~~● Regulate uses, development and redevelopment—including essential facilities—in flood plains, consistent with federal regulations.~~
- ~~● Prevent cumulative effects of obstructions in a flood zone by restricting development and other actions to zero increase in flood elevation.~~
- ~~● Require flood-proofing or elevation of structures above the base flood elevation when built in a flood zone.~~
- ~~● Encourage the use of LID for surface water management for new development or redevelopment, where appropriate.~~
- ~~● Prohibit placement of structures or fill in the floodplain that would cause an increase in the elevation of the "zero rise" floodway.~~
- ~~● Increase City staff expertise in bioengineering techniques for bank stabilization.~~
- ~~● Participate in County wide flood control meetings sponsored by King County Flood Control District, the U.S. Army Corps of Engineers, and other applicable organizations.~~

Earth Resources

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GOAL 4.11

~~Potential impacts and liabilities associated with development in areas of potential geologic instability and coal mine hazard areas are minimized, erosion is prevented, and natural surface water features are protected from loss, disruption or channelization.~~ Protect the ecological integrity of the natural environment, including functions and services, while allowing for compatible growth and development by minimizing development in geologically hazardous areas and protecting surface water features.⁶¹

POLICIES

Policy 11.1 In geologically hazardous areas, require areas where vegetation must remain undisturbed, land disturbance minimized and cut-and-fill construction limited, to protect slope stability on sites cleared for development. Require significant replanting and maintenance upon completion of development.

Policy 11.2 Require setbacks for buildings and other infrastructure where needed, from the top and/ or toe of steep slopes, to reduce risks of slope failure and risks to public safety.

Policy 11.3 Require the use of erosion control measures and, where warranted, written erosion and sediment control plans, to minimize erosion during and after construction activities on steep slopes or other erosion-prone areas.

Policy 4.11.4 Utilize geotechnical reports and other existing resources to update the City's GIS data to incorporate and maintain a geologically hazardous areas layer~~Incorporate information from geotechnical reports and documented landslide and erosion-prone areas into the City's GIS data.~~⁶²

Policy 11.5 Ensure that proposed development projects in mapped coal mine hazard areas adequately consider and mitigate for possible risks.

Policy 11.6 Actively manage protective forest canopies on geologically hazardous slopes, both public and private through regulatory requirements, incentives, investment, and partnerships.

⁶¹ By protecting the functions and services of the natural environment and reducing development in geologically hazardous areas the city can help reduce costs associated with flooding, erosion, and other natural disasters.

⁶² There are many resources currently available that contain geologically hazardous areas information. The WA Department of Natural Resources has a Geologic Information Portal available to the public at <https://www.dnr.wa.gov/geologyportal>.

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Urban Forestry

GOAL 4.12

Trees are recognized by Tukwila citizens, businesses, City staff and decision-makers for their benefits to the environment, **climate adaptation**, urban infrastructure, and their aesthetic value.⁶³ ~~benefits to the environment, ability to sequester carbon, capacity to lower urban heat, the role they play in urban~~ **improving urban infrastructure and their aesthetic value.**

POLICIES

Policy 12.1 Develop a formal urban forest management plan to promote and guide preservation, restoration and maintenance of a sustainable urban forest **that is consistent with tree canopy goals and ecosystem management priorities**, using the goals and policies of this chapter as a basis for guidance.⁶⁴

Policy 12.2 Ensure that the benefits of trees are factored into site design, **zoning** and permit decisions, **including resistance to drought, retention of large or significant trees, tree canopy considerations, and the preservation of open space, tree, and green space.**⁶⁵

~~**4.12.3** Ensure that regulations recognize that larger trees provide more benefits than small trees, and that canopy over impervious surfaces is crucial to mitigating urban heating and surface water interception.~~⁶⁶

Policy 12.3 ~~Continue~~ **Seek** to ~~create and~~ fund an urban forester/municipal arborist **position** ~~Continue to expand the Urban Environmentalist's role position~~ within the City, ~~or contract for such services~~, to provide expertise for urban forest management planning, **incorporate climate resiliency strategies**, **provide** oversight of tree

⁶³ Trees can aid in mitigating the impacts of climate change by providing shade, carbon storage and other related benefits.

⁶⁴ Urban heat island effect can be mitigated through establishment and retention of tree canopy. Open spaces and native landscaping should be managed to maintain ecosystem functions and contribute to habitat connectivity on a City-wide landscape-scale.

⁶⁵ Development actions, such as converting forests into impervious surfaces, can increase the urban heat island effect. Encouraging the preservation of open spaces and considering trees that are resistant to drought can help reduce the impacts of climate change.

⁶⁶ This policy should be eliminated and combined with Policy 4.12.2

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planting and maintenance, and assistance to all City departments that have responsibilities for tree management.⁶⁷

Policy 12.4 Educate the public, elected officials and City staff about the importance of urban forest planning and management and benefits provided by trees in Tukwila.⁶⁸

Policy 12.5 Develop tree valuation methods to reflect the value trees provide, including considering the benefits that trees provide in a changing climate for use in assessing fines, determining damages or estimating loss of tree benefits.⁶⁹

Policy 12.6 Identify funding sources to support urban forestry planning and management, and establish an urban forestry budget and account to preserve and enhance the urban forest sites on publicly-owned property.⁷⁰

Policy 12.7 Consider developing an “exceptional” or “heritage” tree program to foster tree appreciation in the community and encourage retention of open and green spaces.⁷¹

Policy 12.8 Enhance the urban tree canopy to provide wildlife habitat, support community resilience, mitigate urban heat, manage stormwater, conserve energy, protect and improve mental and physical health, and strengthen economic prosperity. Prioritize places where Black, Indigenous, and other People of Color communities; low-income populations; and other frontline community members live, work, and play.⁷²

Policy 12.979 Encourage public and partner organization involvement in urban forest stewardship, through ~~through~~ volunteer events, free training workshops, and other ~~means~~ related community events.⁷³

⁶⁷ A licensed arborist or urban forester benefits the City by providing guidance on appropriate strategies that will improve the resiliency of planned or existing urban forests to the impacts associated with a changing climate.

⁶⁸ This policy should be expanded to include the importance of urban forest planning and management for clarity and continuity with the other policies in this section.

⁶⁹ The assessment of tree valuation should include the future benefits that trees provided in contributing to climate resiliency, particularly for shade and carbon storage.

⁷⁰ This policy should be expanded to define the purpose of the urban forestry planning and management fund to support City departments that have responsibilities for tree management and preservation.

⁷¹ Open spaces contribute to habitat connectivity and ecosystem functions. Retention of tree canopy can help mitigate the urban heat island effect.

⁷² EN-11

⁷³ This policy should be expanded to clarify “other means”. Promotion of community events could help encourage public participation and highlight the importance of urban forest stewardship.

Existing Comprehensive Plan (with proposed changes)

GOAL 4.13 Overall City-wide tree canopy increased in diversity and total cover, with an increase in the use of native species, to a total of 29% by 2034, and No Net Loss of canopy cover in individual zoning categories, or environmentally critical areas and open spaces.⁷⁴

Canopy cover in individual zoning categories increased by 2034 as listed below:*

Light Industrial zones: 3% increase from 20%, to achieve 23% cover

Heavy Industrial zones: 1% increase from 9%, to achieve 10% cover

Tukwila Urban Center and Tukwila South: 5% increase from 13%, to achieve 18% cover

Office and Commercial: 3% increase from 29 %, to achieve 32% cover

Parks: 5% increase from 38%, to achieve 43% cover

Public Rights-of-Way: Increase canopy coverage through street tree planting.

~~Low-Density Residential: Maintain current City-wide canopy coverage of 47%~~

~~Medium- and High-Density Residential: Maintain current City-wide coverage of 40%~~

POLICIES

Policy

13.1 The City shall adopt and implement updated tree canopy goals and shall continue to amend policies to support stormwater management and water quality improvement in receiving waters. The City will provide mapping of City-owned or operated properties with tree canopy no later than December 31, 2028, as based on available existing data.⁷⁵

Policy 4.13.12 Promote and support a systematic approach to enhancing the city through carefully planned plantings and ongoing maintenance of street trees, public landscaping, and open spaces to support a sustainable and environmentally just future for residents of Tukwila.⁷⁶

Promote tree retention throughout the City by:

⁷⁴ This policy will be modified upon finalization of the 2023 tree inventory data; it has been broadened, while still retaining the intent of increased canopy and no net loss. By proposing to increase diversity of trees, as well as total canopy cover, the City will be more likely to resist the effects of a changing climate. Per the 2024-29 NPDES permit, by December 31, 2028, Permittees will need to adopt and implement the City's updated tree canopy goals and policies to support stormwater management and water quality improvement in receiving waters.

⁷⁵ Per 2024-29 NPDES permit

⁷⁶ Most of these policy points are implemented into other policies within this section. Proposed language encompasses these points in addition to addressing the urban heat island effect which can have detrimental effects on residents in underserved areas. By promoting and enhancing tree canopy cover and access to open space the public welfare and urban habitat areas can be greatly improved.

Existing Comprehensive Plan (with proposed changes)

- ~~implementing educational programs for property owners and managers regarding tree selection and care, applicable regulations, selecting a qualified arborist, and other issues;~~
- ~~except for hazard trees or trees that interfere with underground or overhead utilities, prohibiting removal of any tree four inches or larger in diameter at breast height (dbh) on all undeveloped property without an approved development or other land use permit, to provide the opportunity to preserve healthy trees during development;~~
- ~~promoting the mutual goals of tree protection and urban development through the implementation of incentive programs and flexible site development regulations, especially to retain tree groves; and~~
- ~~requiring financial assurances for required tree replanting and maintenance.~~
- acquire or support the protection of forested lands as possible to support tree canopy goals.

Policy 4.13.23 ~~Improve retention of trees on steep slopes~~ Promote soil stability using natural drainage systems and retention of existing native vegetation when determined feasible and practical by a qualified geotechnical engineer in a site -specific assessment.⁷⁷

Policy 4.13.34 ~~Conduct forest practices within~~ Continue to protect trees in environmentally critical ~~sensitive areas and the shoreline~~ areas in a manner that ensures water quality, maintains or increases tree canopy cover, and maintains native vegetation buffer strips sufficient to protect fish populations and to avoid erosion of stream banks ~~through relevant regulations.~~⁷⁸

Policy 4.13.45 Ensure that required replacement trees at maturity will ~~have~~ provide an equivalent ~~or or greater shade cover~~ larger canopies than the removed tree(s), and replacement trees are suitable species fit for future conditions based on climate change models. This may result in the need to have multiple trees replace a single tree and will allow for the flexibility of avoiding conflict with ~~except where~~ existing or future infrastructure and/or public or private utilities ~~impede the planting of large trees.~~⁷⁹

⁷⁷ It is important to promote the use of native vegetation to stabilize slopes when site conditions allow, however certain circumstances may require other methods of soil stabilization.

⁷⁸ This language will add clarity to the importance of the urban canopy in environmentally critical areas and the role they play in maintaining ecological integrity of these areas.

⁷⁹ It is not always appropriate or desirable to have a species with a larger tree canopy. Preferred language would result in greater shade cover without necessarily required a larger canopy from a single tree.

Existing Comprehensive Plan (with proposed changes)

~~4.13.5 Develop mechanisms for protecting tree roots for public and private surface and⁸⁰ underground infrastructure installation, including—in some cases—requiring the presence of a certified arborist when working in the critical root zone; replacement of trees where damage is unavoidable; and either requiring replanting or payment into a tree replacement fund as compensation, if planting on site is not feasible. Establish reasonable procedures to ensure consideration of tree root protection during routine or emergency maintenance of existing utilities, and provide training to City and other public utility maintenance staff on root protection techniques.⁸¹~~

~~4.13.6 Establish criteria for requiring professional assessment and corrective actions by property owners who damage code-required landscaping, street trees, or other required trees by topping, poor pruning practices or root disturbance.⁸²~~

~~4.13.7 Where trees are regulated and required replacement trees cannot be accommodated on a site, establish procedures for off-site planting of replacement trees or payment into a dedicated tree replacement fund.⁸³~~

Policy 4.13.86 Promote the utilization of grants and other funding opportunities to ~~D~~develop tree planting and urban forest rehabilitation programs for City parks, open spaces, wildlife habitats and corridors, and other publicly owned lands. Collaborate with other agencies, such as Washington’s Department of Transportation, to promote planting in highway interchanges and other locations that are underserved or at higher risk to being vulnerable to the effects of climate change.⁸⁴

Policy 4.13.97 Collaborate with other government, non-profit organization, school and private sector entities, to promote urban forest management and restoration, the use of native plants in the urban landscape, and removal of impervious surfaces to support the City’s tree canopy cover goals and mitigate the urban heat island effect.⁸⁵

⁸⁰ NG: We have this now.

⁸¹ Added this last statement to 14-3.

⁸² Eliminate this policy. It is repetitive of Policy 4.13.5, which we largely already have.

⁸³ Eliminate this policy. It is repetitive of Policy 4.13.5

⁸⁴ There are many opportunities for grants and other funding sources that should be utilized whenever possible. The proposed language will help promote these funding sources while expanding the areas that can benefit from these programs while preparing for a changing climate and making Tukwila a more equitable place for its residents.

⁸⁵ Broadening the language of this policy will help address not just the tree canopy but other factors that play a role in mitigating the effects of a changing climate.

NATURAL ENVIRONMENT

Chapter 4X

Existing Comprehensive Plan (with proposed changes)

~~4.13.10 Provide flexibility in the landscape code to promote increased tree planting and/or planting of large canopy trees, and reward the preservation of existing healthy trees to assist in meeting the City's canopy goals.⁸⁶~~

~~Policy 4.13.11~~⁸ Evaluate current ~~parking lot landscape development~~ requirements to identify opportunities to increase tree canopy, ~~and~~ and ~~Also identify opportunities to remove de-pavement and install appropriate plantings. and re-plant. Priority should be given to areas or zoning designations that are currently underserved or lack proximity to public open spaces and recreational areas.~~⁸⁷

GOAL 4.14 Tukwila's streetscapes and landscaped areas are sustainable and attractive, and its urban forest is healthy, diverse, and safe.

POLICIES

~~Policy 4.14.1~~ Conduct periodic ~~Develop~~ tree/urban forest inventories ~~if indicated by an urban forestry management plan,~~ and assess the health of trees and forests in Tukwila's public spaces to determine maintenance needs and restoration opportunities. Any restoration should be done in coordination with Policy 4.13.8.⁸⁸

~~Policy 4.14.2~~ Develop maintenance plans and programs for trees on City property or rights-of-way to ensure that maintenance pruning is properly carried out, that diseases and pest infestations are managed, that hazardous trees are identified and managed in a timely manner to reduce risks, ~~and that~~ invasive vegetation is properly managed, and any replacement trees are sustainably located following the concept of "right tree, right place."⁸⁹

~~Policy 4.14.3~~ Modify ~~Consistent with Maintain effective~~ landscape code requirements, ~~and~~ educate property owners, property managers, City and public and private utility

⁸⁶ This policy should be eliminated as the code likely does not restrict increased plantings so long as they do not interfere with utilities or other infrastructure, and it is already a policy to preserve existing trees or replace them per Policy 4.13.5.

⁸⁷ This policy could be broadened to include all development standards, not just parking lot landscaping standards, within each zoning designation while also promoting equity.

⁸⁸ Periodic maintenance and coordination with restoration efforts supports the sustainability goal. 14.13.8 = "Develop tree planting and urban forest rehabilitation programs for City parks and other publicly-owned lands. Collaborate with other..."

⁸⁹ Streetscapes and utility corridors must be managed for public safety and long-term sustainability. Ensuring that tree management is based on expert advice that considers surrounding land use is important to reduce maintenance needs and increase sustainability. This may involve a plan that provides approved lists of tree species for specific land uses (e.g., city street, utility corridor).

Existing Comprehensive Plan (with proposed changes)

~~maintenance staff, and landscape maintenance companies~~ contractors and tree companies to promote best practices for soil preparation, planting techniques, pruning (including near utility lines), trenching, root protection, and general tree care.⁹⁰

- 4. Policy 14.4** Enforce landscape regulations including financial guarantees, monitoring and maintenance to ensure successful plant establishment. Landscape code should state qualified professional requirements for landscape design, installation and maintenance. ~~Ensure that landscaping and replacement trees in new development or re-development are properly cared for and thrive in perpetuity, through such means as maintenance agreements, monitoring and enforcement.~~⁹¹

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- Policy 4.14.65** Modify landscape code considers wildlife habitat corridors and urban heat island effect in landscape development standards. This includes to requiring a diversity of tree species native to the ecoregion in landscape planting plans as site conditions allow. ~~and consideration of species already present in the vicinity.~~⁹³

- ~~**4.14.7** Establish minimum standards and landscape specifications to ensure long-term tree health for street trees, required landscape trees and required replacement trees, including minimum soil volume, soil quality, plant quality, planting techniques, irrigation, mulching, tree pruning, and prohibition of topping.~~⁹⁴

- ~~**4.14.8** Develop an approved/recommended tree list for street trees, landscape perimeter plant-ing and parking lots that recognizes the importance of the concept of “right tree, right place”, taking into account available planting space and infrastructure/utility conflicts, and that considers the importance of species diversity,~~

⁹⁰ Simplified policy language. The focus here is on education.

⁹¹ Simplified policy to apply more broadly. This revision is consistent with current regulations under TMC 18.52–Landscape Requirements. Qualified professional standards are listed under Landscape Plan Requirements TMC 18.52.110. Current code requires professional certifications for design; BMPs are noted for installation and maintenance.

⁹² This policy was eliminated and combined with Policy 4.14.4 above.

⁹³ Cleaned up policy language and included references to climate change stressors and resiliency strategies.

⁹⁴ This policy should be eliminated. It is already covered by Policies 4.14.2 and 4.14.4 above. If a qualified professional prepares the design and installs the trees (consistent with CMC 18.40.130), then the additional policy language is unnecessary.

Existing Comprehensive Plan (with proposed changes)

~~climate conditions, canopy coverage goals, allergy issues, urban wildlife benefits, and tolerance of urban conditions.~~⁹⁵

~~4.14.89 Work with electric utility providers to limit trimming of trees and other vegetation to that which is necessary for the safety and maintenance of transmission lines, where feasible and according to American National Standards Institute (ANSI) professional arboricultural specifications and standards. Explore options to increase resources for directional pruning to maintain large trees near overhead utilities.~~⁹⁶

~~4.14.910 Perform vegetation management that is needed in utility rights-of-way that are located in environmentally critical sensitive areas or shoreline areas, in a manner that will maintain, restore or improve the shoreline or environmentally critical sensitive area ecological function.~~⁹⁷

CLIMATE CHANGE

~~Goal 4.15: Tukwila's residents are empowered by Tukwila City infrastructure and investments enable Tukwila residents to make choices that emit lower greenhouse gas emissions.~~

~~Policy 15.1 Adopt and implement policies and programs that support King County's target of reducing greenhouse gas emissions by 75% by 2040 (compared to a 2007 baseline), including net-zero emissions through carbon sequestration and other strategies, by 2050. Evaluate and update these targets over time to incorporate the latest climate science and statewide targets aimed at limiting the most severe impacts of climate change and keep global warming growth under 1.5 degrees Celsius (2.7 degrees Fahrenheit).~~⁹⁸

⁹⁵ This policy should be eliminated; the city adopted a list of approved trees in 2017, plus it is redundant with Policy 4.14.2. Appropriate street tree species should be covered in the "maintenance plans and programs for trees on City property or rights-of-way" under Policy 4.14.2

⁹⁶ This policy should be eliminated; it is generally covered under Policy 4.14.3 above. Specific requirements for utilities may be incorporated into landscape regulations, but all projects should be held to professional standards. A specific policy for transmission lines appears to be unnecessary.

⁹⁷ This policy could be deleted. Environmentally critical area regulations require no net loss of stream/wetland/buffer functions. The way this policy is phrased, it implies Net Ecological Gain is the goal, which is more than required under No-Net-Loss. Recommend the City review the intent and consider deleting this policy if No-Net-Loss standards are deemed sufficient. No-Net-Loss is what's required under the WAC 365-196-830(4).

⁹⁸ EN-27

Existing Comprehensive Plan (with proposed changes)

Policy 15.2 Plan for development patterns that minimize air pollution and greenhouse gas emissions, through the following actions:

- a. Direct growth to Urban Centers and other mixed-use or high-density locations that support mass transit, encourage non-motorized modes of travel, and reduce trip lengths.⁹⁹
- b. Through interjurisdictional and local efforts, facilitate modes of travel other than single-occupancy vehicles including transit, walking, bicycling, and carpooling;¹⁰⁰
- c. Encourage the transition to a sustainable energy future by reducing demand through efficiency and conservation, supporting the development of energy management technology, and meeting reduced needs from sustainable sources.¹⁰¹
- d. Support and provide incentives to increase the percentage of new development and redevelopment— both public and private—to be built at higher-performing energy and environmental standards.
- e. Implement infrastructure design manuals that incorporate energy saving strategies, and develop regulations that provide extra flexibility or density bonuses to proposals that implement green building standards, such as the Living Building Challenge or LEED certification.¹⁰²

Policy 4.15.13 Reallocate public space dedicated to carbon intensive uses, such as single occupant vehicle lanes and parking, toward transit, pedestrian, and bike facilities.¹⁰³
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Policy 4.15.24 Develop minimum standards for rights-of-way and new private streets that require facilities for safe protected bicycle and pedestrian routes to all destinations.¹⁰⁵

Policy 15.5 Ensure all federal and state air quality standards are met and reduce emissions of air toxics and greenhouse gases.¹⁰⁶

⁹⁹ [K_EN-28a.](#)

¹⁰⁰ [K_EN-28b and d](#)

¹⁰¹ [K_EN-4](#)

¹⁰² [K_EN28C and E](#)

¹⁰³ [K_EN-28 and EN-28b](#)

~~¹⁰⁴ [K_EN-28B](#)~~

¹⁰⁵ [K_EN-28 and EN-28b](#)

¹⁰⁶ [WAC 173-420-080, MPP-En-22](#)

Existing Comprehensive Plan (with proposed changes)

[Policy 4.15.56](#) Recognize that dense development utilizes less resources per person, and promote ~~-~~greater densities and mixed uses near Tukwila’s urban centers and high-capacity transit. Work with local transit and transportation agencies to provide additional multi-modal access and transit frequency to underserved areas.¹⁰⁷

[Policy 4.15.67](#) Recognize, protect, restore, and enhance Tukwila’s natural resources, by expanding or improving existing parks, wetlands, estuaries, and the urban tree canopy, and enhance~~ing~~ access to passive and active recreation areas, improving air and water quality, and improving ~~growing the urban tree canopy~~ opportunities for carbon sequestration in Tukwila.¹⁰⁸

[Policy 4.15.78:](#) Prioritize investments in areas ~~that~~ in proximity to ~~contain~~ underserved and historically marginalized populations in order to ensure that all Tukwila residents have equal access to public spaces, natural areas, the urban tree canopy, and the opportunity to make low-emission choices in a low-pollutant environment, regardless of their race, social, or economic status.¹⁰⁹

[Policy 4.15.9](#) In order to minimize air pollution and greenhouse gas emissions, facilitate modes of travel other than single-occupancy vehicles including transit, walking, bicycling, and carpooling, plus, for trips that must be made via single-occupant vehicle, facilitate electric vehicle adoption by creating requirements for electric vehicle charging installations in residential and commercial developments.¹¹⁰

RELATED INFORMATION – [to be added later](#)

Natural Environment Background Report

¹⁰⁷ [K EN-28a, and d](#)

¹⁰⁸ [K EN-32](#)

¹⁰⁹ [K EN5 and EN-25](#)

¹¹⁰ [EN-30](#)

Existing Comprehensive Plan (with proposed changes)

Tukwila Sensitive Areas Map

Tukwila Shoreline Master Program

WRIA 9 Salmon Habitat Enhancement Plan

Abandoned Underground Coal Mine Hazards Assessment Report

Tukwila Urban Tree Canopy Assessment

Tukwila Municipal Code, Chapter 18.45
[Green Tukwila 20-year Stewardship Plan](#)