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1200 King County Courthouse
516 Third Avenue
Seattle, WA 98104

KING COUNTY

Signature Report

Motion 16870

Proposed No. 2025-0204.1 **Sponsors** Quinn and Perry

A MOTION accepting the King County 30-Year Forest Plan in accordance with Ordinance 19881, Section 377.

WHEREAS, the 2015 Strategic Climate Action Plan thirty-year plan for maximizing the percentage of tree cover in both urban and rural King County while accommodating population and economic growth and meeting goals and needs for local agriculture and food production, wildfire prevention, and working forests, and

WHEREAS, to meet this requirement the King County department of natural resources and parks developed the King County 30-Year Forest Plan with input from nonprofits, municipalities, tribes, forestland owners and managers, and community members, and

WHEREAS, the King County 30-Year Forest Plan was finalized in February 2021 and provides a shared county-wide vision, while providing a roadmap for the department of natural resources and parks to better manage our forests by identifying priority goals, strategies, and actions, and

WHEREAS, Ordinance 19881, Section 377, requires the executive to transmit the thirty-year forest plan;

NOW, THEREFORE, BE IT MOVED by the Council of King County:

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The King County council hereby accepts the King County 30-Year Forest Plan, Attachment A to this motion.

Motion 16870 was introduced on 7/22/2025 and passed by the Metropolitan King County Council on 9/2/2025, by the following vote:

Yes: 8 - Balducci, Barón, Dembowski, Mosqueda, Perry, Quinn, von Reichbauer and Zahilay
No: 1 - Dunn

KING COUNTY COUNCIL
KING COUNTY, WASHINGTON

Signed by:
Girmay Zahilay
1AEA3C5077F8485...
Girmay Zahilay, Chair

ATTEST:

DocuSigned by:
Melani Hay
8DE1BB375AD3422...
Melani Hay, Clerk of the Council

Attachments: A. King County 30-Year Forest Plan

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Attachment A

Motion 16870

King County

30-YEAR FOREST PLAN

February 2021

King County
Department of
Natural Resources and Parks

Clean Water
Healthy Habitat

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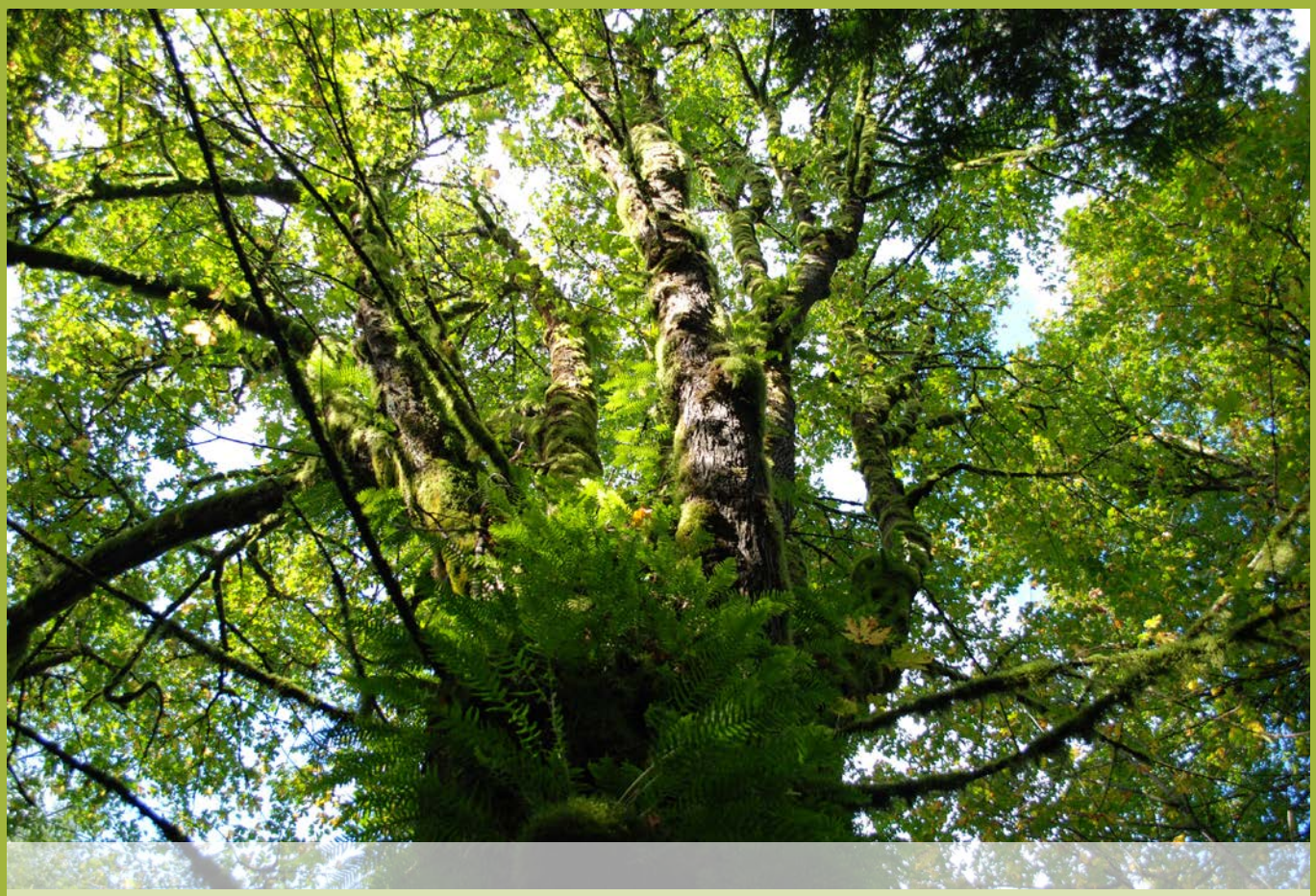

Land Acknowledgment and King County Treaty Obligation to Tribes

We acknowledge that the forests that are the focus of this plan are in the traditional territory of the Coast Salish people and we express gratitude for their stewardship of the land and its resources. As King County carries out the work outlined in this plan, we do so with our obligation to Tribal Treaty Rights and sovereignty at the forefront. This plan was developed with Tribal consultation and input and the actions outlined herein require King County to maintain and further develop our government-to-government relationships with regional Tribes as we work to improve forest cover and conditions to better provide the natural and cultural resources that Tribal people rely upon to meet their spiritual, subsistence, and economic needs.

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King County

30-YEAR FOREST PLAN

February 2021

King County
Department of Natural Resources and Parks
Water and Land Resources Division
Forestry Program
201 South Jackson Street, Suite 600
Seattle, WA 98104-3855
206-296-8042
www.kingcounty.gov/forestry

Clean Water
Healthy Habitat

KCIT-DCE File: 2102_10057L_30yrForestPlan.indd

Alternate formats available

Voice: 206-296-6519 TTY Relay: 711

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ELI BROWNELL

King County
Department of
Natural Resources and Parks

January 28, 2021

Dear readers:

I am pleased to present King County's 30-Year Forest Plan, which puts forth a vision for the county's forests and outlines an ambitious approach. It calls on King County and partners, including cities, nonprofits, state and federal governments, Tribes, communities, and forest landowners and managers, to work collaboratively so that our forests provide a broad suite of ecological values, while also supporting human health and cultural values.

The essential benefits provided by forests must be equitably available to all residents of King County. This has never been clearer than in 2020, as the COVID-19 pandemic has led more people to get out into our forests and other green spaces, highlighting their importance for supporting community well-being and the need to improve and expand access. Even as the population of King County grew over recent decades, we have sustained forest cover in many parts of rural King County. At the same time, we have seen losses of forest cover in urban areas and this plan recognizes that we need specific strategies and partnerships to increase forest cover and improve forest health in urban areas.

King County's Land Conservation Initiative established ambitious goals to protect some of the County's remaining highest-priority forestland over the coming decades. We need to expand traditional funding sources. We are exploring innovative opportunities that quantify the ecological services that forestlands provide and create revenue streams that can then be reinvested in forest protection and restoration. King County's recently launched Forest Carbon Program is a good example. Additionally, King County has developed a comprehensive program to purchase conservation easements and options that reduce the property tax burden for private forestland owners who agree to protect and manage their forests.

While acknowledging these challenges, this plan provides a powerful blueprint to help us collectively and effectively manage King County's forests. Thanks to the generous participation and significant input from partners and forestland owners around the County, this plan provides important direction for future forest stewardship, while deliberately considering equity as part of every chapter. Our forests are both challenged by climate change and, when protected and well-managed, can be part of the solution. While access to adequate funding is always a challenge, many of the strategies can be implemented with existing resources while we seek new resources for others.

This plan is a living document that – like a forest – may need to adapt as conditions change and new science becomes available. However, the priorities and goals outlined provide us with strong guidance and direction for the work ahead. Thank you to all who contributed your time, energy, and ideas. We look forward to working with you to make this vision a reality.

Sincerely,

Christie J. True

Christie True, Director
King County Department of Natural Resources and Parks

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Executive Summary

The 30-Year Forest Plan (or "Forest Plan") was developed with input from King County staff, Tribes, nonprofits, municipalities, forestland owners and managers, and community members in order to:

- Develop a shared county-wide vision, including priorities and goals associated with rural and urban forest cover and forest health as well as strategies for achieving that vision over the next 30 years.
- Ensure that county forests continue to play a role in mitigating impacts of climate change, while also guiding the County and partners towards strategies that allow us to meet multiple goals as we expand and enhance forest cover.

The 30-Year Forest Plan is a synthesis of that input that outlines priorities and goals to be met by King County's Department of Natural Resources and Parks (DNRP) and the many partners whose work is critical to the health and longevity of the region's forests. Our goal is for the plan to serve as a resource and guide for our collective efforts over the next three decades.

Overview of Priorities and Goals

Through our outreach process, we identified seven priority areas relating to the value and benefits of forests. Within each priority area, we identified goals that relate to forests and tree cover, including specific goals related to cultural resources and equity. The Forest Plan is intended to support maintaining and providing access to cultural resources in King County forests, honoring treaty-use rights, and incorporating Tribal input into management. The identified priorities and goals include:

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Climate

Contribute to climate change mitigation by increasing carbon sequestration and storage in King County forests and increase resilience and preparedness for climate change effects on forests.

1. Increase the amount of carbon stored in forests in King County to the greatest extent practicable while protecting biodiversity and improving forest health.
2. Increase the resilience of existing forests and newly planted trees to the effects of climate change.
3. Improve the preparedness of communities near forests for potential increase in fire risk caused by climate change.
4. Equity and cultural resources: Maintain western red cedar, which may be susceptible to drought stress associated with climate change, and other species of cultural significance that provide cultural resources and values to area Tribes.

Forest Health

Improve and restore forest health, including increasing resilience to disease, invasive species, drought, and climate change; sustaining biodiversity, improving wildlife habitat, and restoring connectivity; and maintaining or improving ecological functions.

1. Increase the area of healthy and resilient forestland.
2. Increase connectivity of protected forestland to improve wildlife habitat.
3. Equity and cultural resources: Create a broader public understanding of pre-settlement forest stewardship by the Coast Salish peoples and the resulting forest conditions as a baseline for healthy, complex, and biodiverse forests; improve forest conditions that support the ability of Tribes to exercise treaty rights and cultural practices; improve forest health in forests close to under-served communities.

Urban Forest Canopy

Increase tree canopy in urban areas, with a focus on areas with the lowest canopy cover, and maintain and improve the health of existing urban forests.

1. Maintain and increase existing tree canopy in urban areas, prioritizing areas with low canopy cover.
2. Maintain urban trees and improve urban forest health.
3. Equity and cultural resources: Increase tree canopy above current baseline in urban unincorporated areas with low canopy cover and support urban forest projects as a foundation for youth training to develop tomorrow's forestry leaders.

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Human Health

Prioritize tree canopy improvements and increased access to forested spaces to improve human health outcomes and advance health equity.

1. Increase tree canopy with improvements focused in geographies and communities with residential areas subject to high levels of summer heat and/or pollution or other human health disparities.
2. Improve access to forested spaces, prioritizing communities where the needs are greatest, and support outdoor recreation opportunities that can provide physical and mental health benefits.
3. Equity and cultural resources: Increase use, engagement, and sense of belonging in forested parks where access to or use of parks and green space is below the regional average.

Salmon Habitat

Increase and improve forest cover and condition in areas where it can enhance salmon habitat.

1. Protect, increase, and improve the extent and health of riparian forests.
2. Protect, increase, and improve the extent and forest health in the headwaters of salmon streams to improve ecological function and protect water quality and quantity.
3. Equity and cultural resources: Align salmon habitat restoration with Tribal priorities and use culturally important plant species in salmon habitat restoration.

Water Quality and Quantity

Maintain and expand forest canopy where it provides the most benefit for improving water quality and quantity, reducing stormwater runoff, and reducing flooding.

1. Maintain and expand forest cover in areas identified as having poor water quality or high pollutant loads to streams and rivers, where forest cover improvement can provide benefits.
2. Maintain and expand forest cover to improve water quantity conditions in areas identified as having high potential to mitigate flooding or where protecting groundwater is a priority.
3. Equity and cultural resources: Integrate equity considerations into prioritization of stormwater projects involving forest cover.

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Sustainable Timber

Support an ecologically sustainable and economically viable timber industry that promotes maintenance of ecological functions in working forests and local economic development.

1. Maintain healthy working forests and prevent forest fragmentation and the conversion of working forests to non-forested uses.
2. Increase the use of forestry practices that improve ecological functions (such as carbon sequestration, fish and wildlife habitat, and hydrologic cycling) in working forests.
3. Improve access to and condition of infrastructure and markets that support sustainable forestry practices.
4. Equity and cultural resources: Increase equity in the timber industry and diversity of forestry professionals, in particular those trained in ecological forest management practices and the cultural importance of forests.

Strategies and Implementation

In addition to outlining priorities and goals, the 30-Year Forest Plan identifies specific strategies for achieving each goal. The strategies sections are broken out into broad strategies to guide work for both King County and partners, and specific actions related to each strategy that King County DNRP will lead. These actions will guide work within DNRP and our collaboration with other King County departments, our partners, and communities.

While this plan is the only county-wide vision for forest health and tree canopy, many of the actions that DNRP will lead are linked to other County strategies and initiatives. By aligning the Forest Plan with other King County work, we will be able to advance this vision more quickly and effectively. The plans and initiatives most closely aligned with the Forest Plan include Clean Water Healthy Habitat, the Land Conservation Initiative, the 2020 Strategic Climate Action Plan, and the Equity and Social Justice Strategic Plan.

Implementation will begin with work on a set of pilot projects in the first year of the plan (2021). Another set of DNRP-led actions that will be completed in the first five years include those that directly align with the 2020 SCAP and have commitments for completion by the end of 2025. Other DNRP-led actions will be identified for implementation in the next five years, with prioritization based on: ability to provide multiple benefits (i.e., contributing to multiple priorities); contribution to other plans and initiatives, in particular Equity and Social Justice (ESJ); and availability of funding. The Forest Plan will be revisited every five years to evaluate progress and identify priority actions for the next five-year period.

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Introduction

The **30-Year Forest Plan** (or "Forest Plan") was developed with input from King County staff, nonprofits, municipalities, Tribes, forestland owners and managers, and community members in order to:

- Develop a shared county-wide vision, including priorities and goals associated with rural and urban forest cover and health, and strategies for achieving that vision over the next 30 years.
- Ensure that county-wide forests continue to play a role in mitigating impacts of climate change, while also guiding King County and partners towards strategies that allow us to meet multiple goals as we expand and enhance forest cover.

This plan is aligned with King County's **Clean Water Healthy Habitat Strategic Plan**, which highlights healthy forests and more green space as one of six key goal areas. The development of this plan began with a commitment in the County's **2015 Strategic Climate Action Plan** (SCAP) to plant at least one million trees with partners in King County by 2020 through the **1 Million Trees** initiative and to work with partners to develop a **30-Year Forest Plan** to guide efforts to maintain and enhance the county's forest cover from 2020-2050 (throughout this plan, "County" refers to King County government, its operations, and the land it manages, while "county" and "county-wide" refer to the geographic area of King County and crosses land ownerships). Recognizing that efforts to combat climate change must be both immediate and thoughtfully planned for lasting impacts, 1 Million Trees allowed the County and partners to take fast, decisive action to plant a large number of trees for climate benefits, while the 30-Year Forest Plan has allowed the County to better understand the other priorities, in addition to climate, that should guide our long-term forest planning (Figure 1).

Figure 1.
Benefits provided by forests.

Forests provide a range of benefits, including:

Storing carbon and providing climate benefits

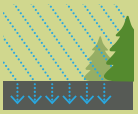
Offering a shady respite that cools streams and sidewalks.

Enhancing salmon and other wildlife habitat.

Providing wood and non-timber products.

Hosting recreational opportunities.

Improving water and air quality, which have environmental and human health benefits.



Reducing stormwater runoff.

Supplying scenic beauty.

Providing cultural resources and supporting cultural heritage and historic values.

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Vision and Purpose

Forests provide multiple benefits – storing carbon, improving salmon habitat, providing timber, lowering temperatures in urban areas and providing other human health benefits, improving water quality and regulating water quantity, providing recreation opportunities, and supporting cultural heritage and historic values, among others (Figure 1). However, we know that not all forest cover is the same, and where and how we focus our actions will determine what kind of benefits are created. Therefore, developing a plan for action requires understanding the objectives and values within the programs and projects led by the County and partners, as well as those of other stakeholders and the broader community. We collected input from a wide range of organizations and individuals to develop a Forest Plan that could serve as a guide for the work we all do over the next three decades. The 30-Year Forest Plan is a synthesis of that input that outlines priorities and goals to be met by King County and the many partners whose work is critical to the health and longevity of the region's forests.

While the Forest Plan is intended to serve as a broader vision for King County and partners, it also provides a roadmap for King County's Department of Natural Resources and Parks (DNRP) to:

- Better manage our forests by identifying priority goals, strategies, and actions.
- Better strategize our tree planting, forest restoration, and forest protection efforts so that they meet priorities and goals that have been identified through an in-depth outreach effort.
- Support our partners by coordinating, collaborating, and aligning County efforts with the work of others to create the most on-the-ground benefits.

Approach to Developing the Forest Plan

Plan development began by conducting outreach to King County staff, partners, and the public to better understand their values and vision for county forests over the next 30 years (Appendix 1). Between July 2019 and March 2020, we sought input on priorities, goals, and strategies for the 30-Year Forest Plan. This outreach began with the nonprofits, Tribes, and city governments that participated in the 1 Million Trees initiative and expanded to a broader audience as these groups connected us with their networks. We also sought input from a broad range of stakeholders who interact with county-wide forests in different ways. Outreach was conducted through one-on-one meetings, workshops, community events, and email correspondence.

In addition to this focused outreach, we developed an on-line public input survey that was distributed to a broader range of stakeholders, including forest landowners and managers. This survey was shared through social media, partner newsletters, and direct emails. A focused effort was made to reach out to the unincorporated urban areas where tree canopy is lowest within the county, in order to understand those communities' interests in and goals for tree cover. The resulting Forest Plan represents this range of input, and our goal is for it to serve as a resource for King County and partners over the next three decades.

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Priorities Identified

Through our outreach process, we identified seven priority areas relating to the value and benefits of forests and we outlined specific goals within each priority area. There are many interconnections among the seven priority areas, and in some cases, they share sets of strategies and actions that can serve to achieve goals in more than one priority area; these connections are noted throughout the plan. Because different groups ranked each of the priorities differently, the list of priorities is not intended to be in ranked order, and all seven of the priorities received support from multiple groups that provided input (Appendix 1).

These priorities will help King County and partners focus forestry-related actions toward shared values:

Climate

Salmon habitat

Forest health

Water quality and quantity

Urban forest canopy

Sustainable timber

Human health

Within each priority area, we also identified specific goals related to cultural resources and equity. The Forest Plan is intended to support maintaining and providing access to cultural resources in King County forests, honoring treaty-use rights, and incorporating Tribal input into management. At the same time, the plan seeks to support and advance the goals in the County's **Equity and Social Justice (ESJ) Strategic Plan**.

Organization of this Plan

This plan begins by providing background and context, including an overview of forest cover in King County, and the remainder is organized around the seven priorities that were identified through the outreach process. Each priority chapter contains:

- **Priority:** A brief description of the priority.
- **Goals:** Goals for each priority that relate to forests and tree cover, including goals that specifically address equity and cultural resources.
- **What We Heard:** A brief overview of the input we received related to the priority.
- **Background:** A description of the context, current science, and challenges related to the priority.
- **Strategies:** Specific strategies for achieving each goal. The strategies section is broken out into broad strategies to guide work for both King County and partners, and specific actions that DNRP will lead, as illustrated below.

Strategy Number and Description

Strategies	DNRP-Led Actions	Related Priorities	Related Plans	Additional Resources Needed
Approaches developed through outreach, to which many partners, including King County, will contribute	Specific actions within a strategy that will be led by DNRP Water & Land Resources Division or the Parks Division; work in collaboration with other King County departments is also highlighted	Notes overlap with any of the other six priorities	Notes overlap with the County plans listed below	Indicates where funding or other resources are needed

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Related Initiatives and Plans

While the Forest Plan is the only county-wide vision for forest health and tree canopy, many of the actions that DNRP will lead are linked to other County strategies and initiatives. By aligning the Forest Plan with other King County work, we will be able to advance this vision more quickly and effectively. The plans and initiatives most closely aligned with the Forest Plan include Clean Water Healthy Habitat, the Land Conservation Initiative, the 2020 Strategic Climate Action Plan, and the Equity and Social Justice Strategic Plan.

- **The Clean Water Healthy Habitat Strategic Plan (CWHH)** establishes a shared vision of a healthy environment providing equitable benefits to all people in King County. It outlines strategies that allow for individual plans, such as the Forest Plan, to achieve better and faster outcomes through changes in policies, practices, and systems. CWHH aligns King County's work around six shared goals, including the goal of healthy forests and more green space, which seeks to achieve three outcomes: 1) forest cover and green spaces are protected, increasing, widespread, equitably distributed, healthy, and connected in ways that sustain habitat, stream functions, carbon storage, clean air, cool waters and air temperatures, and natural streamflow; 2) human health is supported and cultural values and practices are ensured; and 3) inequities in people's access to quality green space are eliminated by 2050. The 30-Year Forest Plan includes a range of actions to support this goal and numerous strategies that align with the 13 strategies identified in CWHH for delivering faster, better results.

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- **The Land Conservation Initiative (LCI)** will preserve 65,000 acres of forests, farmlands, shorelines, and trails within 30 years, before the opportunity is lost due to population growth and development. Many of the actions identified in the 30-Year Forest Plan align with the LCI goals to protect additional forests and to provide more equitable access to forested areas, in particular in LCI Opportunity Areas, which are defined by health, income, and park access metrics. The Forest Plan calls for identification of properties within the LCI priorities that are key to meeting Forest Plan goals and working in coordination with the LCI to protect them.

- The **2020 Strategic Climate Action Plan (SCAP)** is a five-year blueprint for County climate action that outlines the County's priorities and commitments. The SCAP commits the County to Plant, Protect, and Prepare 3 Million Trees, which includes planting 500,000 trees (with a focus on increasing tree canopy cover in unincorporated urban areas where it is lowest), in addition to protecting 6,500 acres of forests and open space and restoring 1,000 acres of County forests (equivalent to 2 million trees and 500,000 trees, respectively), and stewarding sites planted through the 1 Million Trees Initiative. The SCAP also includes other forestry goals and actions associated with carbon sequestration and storage and climate preparedness. The Forest Plan incorporates all of the forestry-related SCAP actions and, in the case of 3 Million Trees, will help guide where and how SCAP actions can be implemented in order to best advance multiple priorities and goals identified here.

- **The Equity and Social Justice Strategic Plan (ESJ) 2016-2022** affirms that "All county residents should have equitable access to clean air and water, and the health and recreation benefits of King County's extensive network of regional trails, open spaces, and working farms and forests." It provides guidance for County actions and investments to "assess and address disproportionate environmental burdens and promote the equitable access to environmental benefits and resulting economic opportunities." This mandate informs each of the priority areas through specific goals and strategies focused on equity and cultural resources.

At the same time, the 30-Year Forest Plan is influenced by forest plans at the state and federal levels, most notably the Washington State Department of Natural Resources (DNR) Forest Action Plan, and the Mt. Baker-Snoqualmie National Forest Land and Resource Management Plan, along with forest plans and other plans that influence forestry developed by many cities in King County (Appendix 2). It also aligns with county-wide efforts such as the King County-Cities Climate Collaboration (K4C), through which the County and seventeen city partners coordinate climate and sustainability action. This includes shared commitments to forest protection and restoration and improving forest health and urban tree canopy. The 30-Year Forest Plan outlines strategies and actions that can help advance these commitments.

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Background and Context

Forest Cover and Distribution in King County

King County's 1,363,200 acres of land, spanning from Puget Sound to the Cascade Mountains, includes diverse natural features and topography that serve important ecological and cultural roles. The forests that cover the majority of the landscape are renown for producing some of the world's largest trees (Waring and Franklin 1979) (Figure 2). For millennia, these forests have supported indigenous communities and continue to provide a wide range of ecological benefits, including habitat for wildlife and water for many King County residents (Mojica et al. 2018).

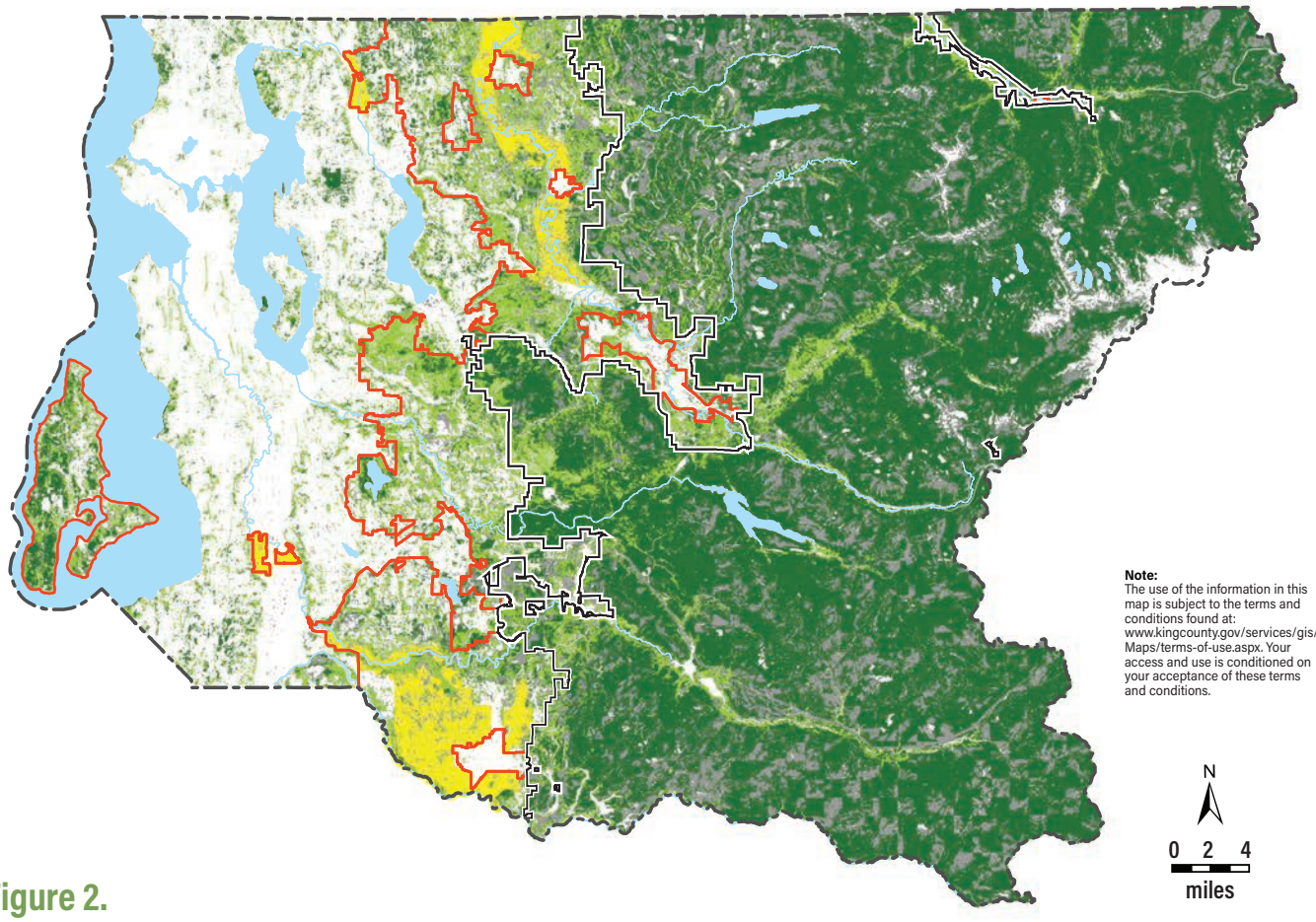

Figure 2.

Forests cover more than 800,000 acres in King County, or approximately 60% of the county.

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In 2016, 60% of the county (811,063 acres) was still covered by forests. Almost three-fourths of our forests (74% or 601,928 acres) are dominated by evergreen tree species, while 6% (51,200 acres) are deciduous trees and 20% (157,935 acres) are mixed forests, composed of both evergreen and deciduous trees (Figure 2). However, forest composition differs between rural and urban areas, with primarily mixed species forests in urban forests (Figure 2).

The Urban Growth Area in King County is dominated by developed land and the distribution of forest cover is uneven between and within cities (Figure 3). While exact tree canopy percentages vary based on the data source, percent canopy cover in cities of King County ranges from 16% to more than 50%, while urban unincorporated areas (UUAs) range from more than 45% closer to rural areas to 21% in White Center and 28% in Skyway (Table 1).

Figure 3.

Urban forest cover in King County varies between and within urban areas.

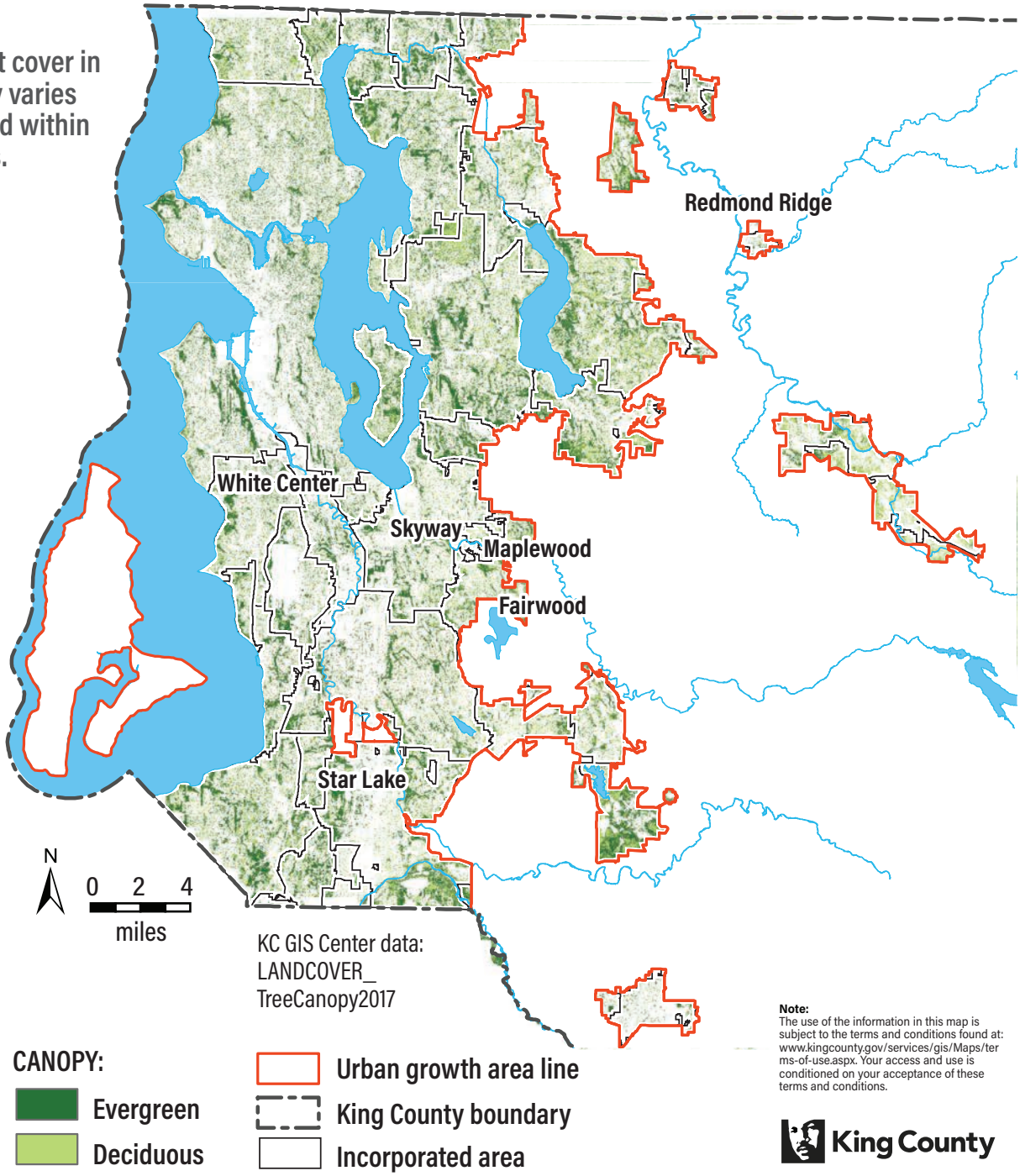

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Table 1.

Tree canopy in King County cities and urban unincorporated areas.

SYMBOLS

Location:

Name	King County city
Name	King County UUA

Data sources:

111	Derived from published sources for Redmond, Sammamish, Seattle, and Snoqualmie (Aken et al. 2019, Dyson and Patterson 2018, O'Neil-Dunne 2016, Hanou and Walker 2012).
111	Calculated from King County's 2017 tree canopy GIS layer
111	Data from King Conservation District Tree Canopy Assessments
111	Calculated from National Oceanic and Atmospheric Administration, Coastal Change Analysis Program (C-CAP) 2016 Regional Land Cover

Note: *2017 data are incomplete for Lake Forest Park and Shoreline and may underestimate tree cover.*

City/*UUA*	Tree canopy (acres)	Percent cover	Year
Beaux Arts Village	35	67%	2017
Black Diamond	2,442	57%	2016
Issaquah	3,954	51%	2017
Mercer Island	1,921	48%	2017
Newcastle	1,328	47%	2017
Normandy Park	740	46%	2017
Maplewood	772	46%	2017
Bothell	3,926	45%	2016
Woodinville	1,622	45%	2017
Redmond Ridge	1102	45%	2017
Sammamish	6,970	44%	2018
Snoqualmie	1,769	44%	2015
Kenmore	1,587	41%	2017
Lake Forest Park	953	41%	2017
Fairwood	1624	41%	2017
Hunts Point	77	39%	2017
North Bend	1096	39%	2017
Kirkland	4,361	38%	2018
Redmond	4,062	38%	2017
Star Lake	863	38%	2017
Bellevue	7,877	37%	2017
Federal Way	5,413	37%	2017
Medina	334	37%	2017
Yarrow Point	80	35%	2017
Duvall	523	33%	2017
Skykomish	69	33%	2016
Auburn	5,709	32%	2017
Maple Valley	1,169	31%	2017
Burien	1,941	30%	2017
Covington	1,130	30%	2017
Milton	511	30%	2017
Clyde Hill	198	29%	2017
Des Moines	1,190	29%	2017
Renton	4,382	29%	2017
Kent	6,125	28%	2017
Seattle	15,167	28%	2016
Shoreline	2,112	28%	2017
Skyway	511	28%	2017
Carnation	172	27%	2017
Tukwila	1,390	24%	2017
SeaTac`	1,425	22%	2017
Algona	176	21%	2017
White Center	477	21%	2017
Enumclaw	533	16%	2017
Pacific	183	16%	2017

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Although 40% canopy cover used to be a widely cited target, recognition that different contexts create different opportunities and constraints on maintaining and creating tree canopy has led to a shift away from a single target. Instead, a focus on specific goals associated with tree canopy, such as reduction in urban heat island temperatures or reduction in stormwater runoff – and the extent, type, and location of trees needed to meet those goals – is viewed as a better way to achieve desired outcomes (Leahy 2017).

Changes in Forest Cover

The population of King County increased by 50% between 1990 and 2020 and is expected to continue to grow rapidly (King County 2020). The extent and distribution of development associated with this growth has a substantial impact on how much and what type of forest cover is retained. Forest cover has held steady in rural parts of King County over the past 24 years, while it has declined in cities from 23% to 18% (a loss of more than 10,000 acres) and from 37% to 29% in urban unincorporated areas (a loss of approximately 2,000 acres) (Table 2). These trends provide a view of forest cover over recent decades and a baseline for assessing future changes.

Forest Ownership and Forestland Designation

Forestland in King County is owned by public, Tribal, and private landowners (Table 3; Figure 4). Public lands make up the majority of forested areas, with 34% percent of forest cover in federal ownership, 13% managed by the state, 3% by the County, and 14% by city governments. City ownership includes the City of Seattle's 90,638-acre Cedar River Watershed which is managed as a municipal water source. Tribes own 4% of forestland, including 43,500 acres in the Tomanamus Forest that is owned by the Muckleshoot Federal Corporation and managed for timber and cultural uses (the full extent is 96,307 acres across King, Pierce, and Lewis counties). Private landowners, including both large industrial forestry companies and non-industrial private owners, make up the remaining 32% percent of forestland (Figure 5). Private forestland acreage is dominated by the largest owners, with more than 150,000 acres owned by 14 landowners (who own more than 1,000 acres each), but there are many smaller forest landowners in the county, including 16,839 landowners with less than 5 acres and 4,078 landowners with between 5 and 1,000 acres.

Just over 825,000 acres across multiple ownerships in King County are part of the Forest Production District (FPD). The FPD is a King County Comprehensive Plan designation for lands of long-term commercial significance for forestry. It is a political designation rather than a description of existing land cover and it includes land that is not forested, such as rivers and roads, as well as some land that has been converted to other uses (Figure 2). Its origin is in the Growth Management Act (GMA), under which the State requires counties to designate natural resource lands and adopt development regulations to assure their conservation. The GMA defined lands to be designated for forestry as "Forestlands that are not already characterized by urban growth and that have long-term significance for the commercial production of timber" (RCW 36.70A.170). The King County Comprehensive Plan includes policies that encourage the retention of large contiguous blocks of forestland, limit the removal of land from the FPD, recognize the benefits of managed forestry, limit land uses that are incompatible with active forest management, seek to reduce conflicts with nearby non-forestry uses, and call for incentive programs to maintain forestry as a viable industry and encourage forest stewardship.

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Table 2.

Forest cover and developed area as a percent of land cover(and acres), calculated using land cover data from NOAA C-CAP FTP tool, 1992 to 2016. Percentages exclude water area.

LAND COVER	Rural Land		Cities		Unincorporated Urban Areas	
	1992	2016	1992	2016	1992	2016
Forested	**70% (748,437)**	**71% (753,806)**	**23% (61,631)**	**18% (49,441)**	**37% (9,533)**	**29% (7,408)**
Deciduous Forest	3% (33,229)	3% (36,183)	6% (14,903)	5% (13,372)	7% (1,855)	6% (1,620)
Evergreen Forest	55% (586,766)	55% (584,921)	7% (19,536)	5% (14,549)	12% (2,961)	8% (2,122)
Mixed Forest	12% (128,442)	12% (132,702)	10% (27,192)	8% (21,520)	18% (4,717)	14% (3,666)
Developed	**3% (32,400)**	**4% (37,503)**	**61% (164,390)**	**67% (179,544)**	**42% (10,672)**	**49% (12,455)**

Table 3.

Area of forest cover (acres) by ownership (2016).

	Total	Federal	State	County	City	Other Public*	Tribal+	Private
Deciduous Forest	51,200	3,504	3,809	4,480	5,573	342	1,304	32,188
Evergreen Forest	601,928	259,152	83,240	6,207	88,122	642	26,083	138,482
Mixed Forest	157,935	9,389	20,269	13,669	17,299	971	4,510	91,828
Total Forest Cover	811,063	272,045	107,318	24,356	110,994	1,995	31,897	262,498
Percent of Total Forest Cover		33.5%	13.2%	3.0%	13.7%	0.2%	3.9%	32.4%

*Including Port of Seattle, Vashon park district, schools

+Including land owned by Tribal governments as well as by the Muckleshoot Federal Corporation

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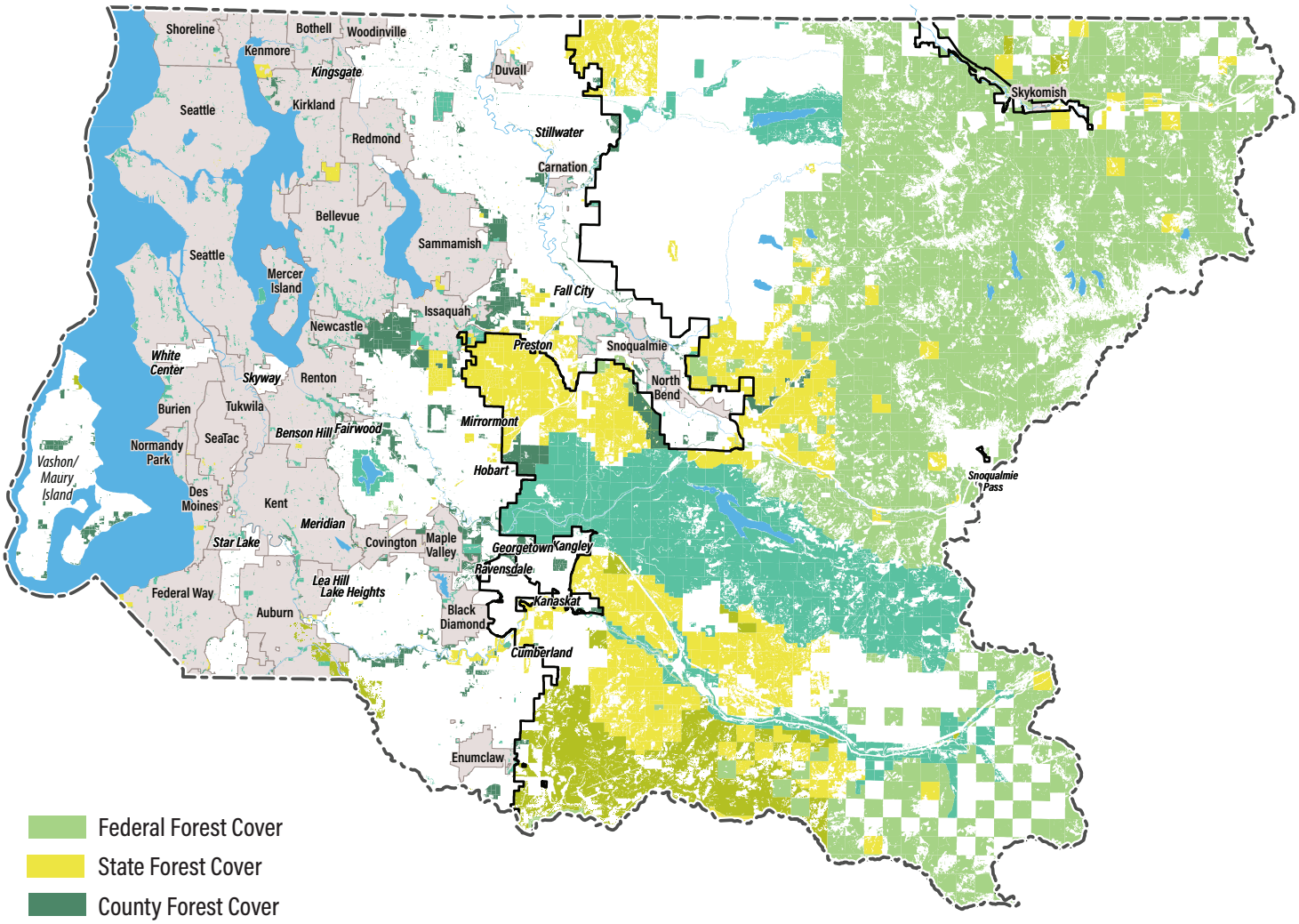
Figure 4. Public and Tribal forests, which together account for more than 65% of county forests.



Data sources: Land/Forest cover data: NOAA C-Cap 2016,
Ownership data: King County GIS Center and other King County Plibrary datasets.

Note: The use of the information in this map is subject to the terms and conditions found at: www.kingcounty.gov/services/gis/Maps/terms-of-use.aspx. Your access and use is conditioned on your acceptance of these terms and conditions.

File locations:
DCE file: 10057L LPRE
GIS file: \\kc.kingcounty.lcl\dnrp\WLRD\RRSS\AFI\Forestry\Forst_GIS\mapdocs\Ownership_ public 18x12 Dec2020.mxd KLINKA

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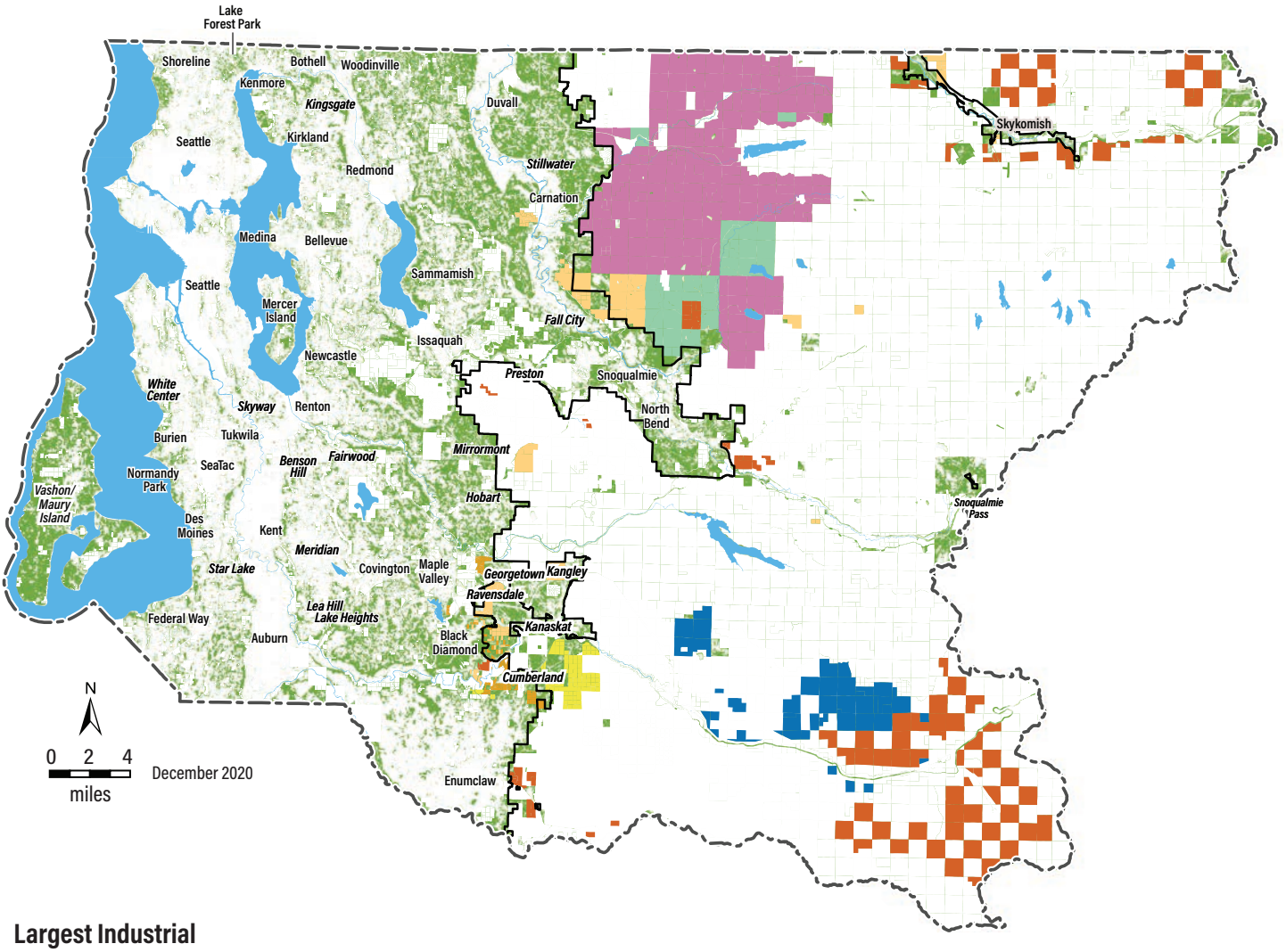
Figure 5. Private forests, which account for approximately one-third of county forests.



Largest Industrial Forestry Owners

- BTG Pactual
- Campbell Global LLC
- EMF Enterprises LLC
- Palmer Coking Coal Co
- Snoqualmie Timber LLC
- Weyerhaeuser
- Other industrial forestry owners
- Forest cover on non-industrial private property
- Name — Incorporated Area Name
- *Name* — Unincorporated Urban Area Name
- King County
- Forest Production District

King County

Note:
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Land/Forest cover data: NOAA C-Cap 2016
Ownership data: King County GIS Center

KCIT DCE file: 10057L
GIS file: \\kc.kingcounty.lcl\dnrp\WLRD\RRSS\AFI\Forestry\Forst_GIS\mapdocs\ Ownership_private 18x12 Dec2020.mxd

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Priority 1: Climate

Contribute to climate change mitigation by increasing carbon sequestration and storage in forests in King County and increase resilience and preparedness for climate change effects on forests.

Goals

1-1 Increase the amount of carbon stored in forests in King County to the greatest extent practicable while protecting biodiversity and improving forest health.

1-2 Increase the resilience of existing forests and newly planted trees to the effects of climate change.

1-3 Improve the preparedness of communities near forests for potential increase in forest fire risk caused by climate change.

1-4 Equity and cultural resources: Maintain western red cedar, which may be susceptible to drought stress associated with climate change, and other species of cultural significance that provide cultural resources and values to area Tribes.

What We Heard

We heard from both survey respondents and workshop and interview participants about the importance of prioritizing climate change in this plan. Some focused on the role of forests in mitigating climate change, such as a survey respondent who said, "I believe that promoting carbon sequestration and providing climate benefits is one of the most important things King County can do to ameliorate the human impacts on climate." Others focused on more specific strategies, noting that, "carbon storage that comes from avoided conversion to development, or reforestation of degraded habitats like abandoned agricultural land or low-density residential [areas] is a really big and important target for carbon storage." In addition to the important role forests can play in storing carbon, respondents highlighted the need

PARTNER SPOTLIGHT

Adaptive Restoration at Stossel Creek

Northwest Natural Resource Group, Mountains to Sound Greenway Trust, Seattle City Light, and Seattle Public Utilities are collaborating on a project to restore 51 acres while collecting information on climate-adaptation by planting with seedlings sourced from climates that are similar to the projected future climate at the site. This project will provide insight to the collaborators and other restoration practitioners about which species and seed sources respond best and this information can be used to guide planting in the future. This project also provides a model for King County's Pilot Project (chapter 10). Visit for more information.

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to improve forest resilience to the effects of climate change. Some emphasized the need to focus on "healthy forests resilient to a changing climate (forests stay functioning during a rapid change)" while others focused on both forests and nearby communities, stating that it is important to "increase the climate and wildfire resilience of the most at-risk communities and forested areas..." Respondents also pointed to the connections between climate and other priorities, with one stating that, "responding to climate change should be one of the primary objectives of the Forest Plan...this links to a lot of the other issues - improving salmon habitat, air quality, shading urban areas, etc."

Background

Forests in the Pacific Northwest play an important role in sequestering and storing carbon due to their ability to accumulate large quantities of biomass in long-lived tree species that can sustain growth in both diameter and height over long time periods. These tree species characteristics combine with abundant moisture and mild winter temperatures to allow for high levels of carbon sequestration and storage (Diaz et al. 2018, Waring and Franklin 1979). However, due to past management, the forests in King County likely still have potential for greater carbon storage. As noted by Fain et al. (2018, 2), "The West Cascades and Coast Range are among the most naturally carbon rich ecoregions in the world due to the moist temperate forests they contain. Yet, research indicates in-forest carbon storage levels are currently well below ecological potential in these regions." Further analysis specific to King County can help to determine which forests have the most unmet potential in this region and which strategies would be most effective at increasing forest carbon storage. Existing strategies include "avoided conversion" projects that prevent conversion of forests to non-forest uses, such as residential development, and "improved forest management" (IFM) projects that include strategies such as extending tree rotations and variable retention harvesting, among others (Fain et al. 2018, Diaz et al. 2018).

At the same time that forests in the Pacific Northwest can play a role in climate change mitigation, they are vulnerable to changing climate and actions to improve their resilience are critical. Climate change is expected to affect forests in several ways, including bigger winter flood events, less snow pack, and drier, warmer summers, increasing the likelihood of drought and creating some potential for increased wildfires and invasive species competition (Malone 2020). Resilience refers to the ability of the forest to absorb and recover from disturbance, so that it retains "essentially the same function, structure, identity and processes" (Walker et al. 2004). Similarly, forest managers can work to adapt forests to future conditions. Adaptation is the process of adjustment to actual or expected climate and its effects.

A number of strategies can be used to improve the resilience of King County forests to increased drought, including managing forest density and species composition and maintaining and planting climate-adapted species. Where drought stress occurs, thinning can create space for tree establishment and help to reduce competition for water by spreading available moisture among fewer trees (Malone 2020). In addition, forests that are dominated by a single species, such as Douglas-fir or red alder, are more vulnerable to climate change and thinning can also help to shift forest composition and structure to more climate-resilient conditions. These actions support higher carbon levels over the long term, even though carbon storage may be reduced in the short term by these treatments. Managing these forests to increase tree species diversity can improve their resilience while also increasing biodiversity (Malone 2020, Churchill et al. 2018). Planting drought-tolerant species and using climate-adapted seed sources can also play an important role. Climate change may already be causing repeated stress and affecting habitat suitability for some tree species, including western red cedar, one of the most culturally significant tree species in King County (Oregon Department of Forestry 2019). In order to maintain this species on the landscape, it is necessary to focus management resources on areas where it is best able to continue to thrive and to experiment with planting seedlings sourced from areas with drier summers and warmer temperatures that may be better adapted to future climate conditions.

Strategies to increase resilience to fire are less clear in forests of the western Cascades. Historically, fires

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in this region were very low frequency (>200 year fire return interval), high severity (often consuming canopy), and large scale (up to 500,000 acres affected by a single fire), with a much smaller part of the region characterized by moderately-frequent fires occurring every 50-200 years (Halofsky et al. 2018). Large west side fires have historically burned when an ignition coincides with warm, dry late summer conditions and strong east wind events, particularly when there has been long-term drought. Large fires are weather- and climate-driven rather than fuels-driven events, as fuels are almost always sufficient to carry fires in west side forests because of their high productivity (the same characteristic that allows globally significant carbon storage in these forests). Therefore, the types of fuel reduction treatments used in dry forests in eastern Washington are not effective at reducing fire risk, and attempting to reduce fuel loads by cutting trees and other vegetation at a large scale would result in conditions with low ecological, economic, and other values (Malone 2020). In west side forests, suppressing fires does not alter the forests ecologically. Therefore, when fires do start, early detection and extinguishing fires is the best strategy to avoid widespread forest loss.

However, fuel reduction strategies can be useful in some areas, including near homes and other infrastructure, and can be effective in these areas when wind speeds are relatively low (Malone 2020; Halofsky et al. 2018, Churchill et al. 2018). Risk of fire impacts is higher in the Wildland-Urban Interface (WUI), where increased development and human-caused ignitions can result in more small fires, which could increase in size and frequency with warmer and drier conditions in the future. In addition, the use of fire by Native Americans may have played a role in shaping fire regimes in some parts of the western Cascades and a better understanding of how and where fire was used could help inform management strategies.

Any fuel management practices need to be paired with broader emergency response strategies that improve the ability to evacuate communities in the case of a large, weather-driven fire that would not be slowed by such treatments. In King County, strategies to prepare for a possible increase in wildfire can include working with communities and other landowners adjacent to forests on preparedness, working across King County departments and other jurisdictions to prepare in the case of a large fire, and planning ahead for post-fire management.

Strategies

These strategies were developed through the outreach process and are intended as guidance for DNRP as well as the many partners who contributed to this plan. DNRP has identified specific actions to pursue under these strategies, and also aims to support partners as they continue to build and adapt their individual programs, projects, and actions that form part of the broader strategies.

PARTNER SPOTLIGHT

NNRG-Climate Adaptation Strategies for Pacific Northwest Forests

In order to assist foresters and land managers in planning for our future forests, Northwest Natural Resource Group (NNRG) developed the Climate Adaptation Strategies for Pacific Northwest resource page. The resource page compiles climate projections and research on the effects of climate change on forests and outlines recommendations and strategies for maintaining forest productivity and ecosystem services in the face of climate change. Helpful tools include a video series, white paper, forest management plan template, case studies, and lists of additional resources.

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1-1 Strategies to Increase Forest Carbon

Strategies: approaches developed through outreach, to which many partners, including King County, will contribute	**DNRP-Led Actions:** specific actions within a strategy that will be led by DNRP	**Related Priorities**	**Related Plans**	**Additional Resources Needed**
Quantify carbon stored in forests throughout King County and identify the potential for additional carbon storage.	▪ Work with partners or consultants to conduct an analysis of potential for additional carbon storage in county forests.		CWHH	Funding needed
Expand carbon-storing management practices in forests, which depending on the forest owner can include extending rotation lengths, preventing conversion of forests for development, and other practices.	▪ Expand the King County Forest Carbon Program to include additional "improved forest management" and avoided conversion properties and projects and add tree planting projects. ▪ Maintain and expand incentives to private landowners, including expanding the King County Forest Carbon Program to private forest landowners or developing other carbon-focused landowner incentive programs. ▪ Ensure that forest stewardship plans developed for King County Parks-managed and private forestland include actions that can enhance long-term carbon potential.	FH UC HH SH WQQ ST	SCAP LCI CWHH	
Plant more trees on degraded habitats and provide follow-up stewardship.	▪ Develop tree planting guidelines so that the right trees and other native vegetation are planted in the right places across county planting projects, anticipating future expected changes in climate and invasive species threats. ▪ Identify areas suitable for tree planting (reforestation or forest enhancement) and implement planting projects on County-managed land, including coordination with other County departments. ▪ Expand planting in King County Parks and through the Volunteer Program, following tree planting guidance ▪ Work with the Department of Local Services (DLS) to address barriers and enable streamlined clearing and grading permits for restoration projects.	FH UC HH SH WQQ ST	SCAP CWHH	Funding needed for long-term planting, maintenance, and monitoring

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1-2 Strategies to Increase Climate Resilience of Current and Future Forests

Strategies	DNRP-Led Actions	Related Priorities	Related Plans	Additional Resources Needed
Prioritize and manage forests to improve species diversity, manage species composition, and/or manage density to improve resilience.	▪ Conduct a vulnerability assessment of King County Parks forests to identify and map areas of higher and lower sensitivity and exposure to climate change; include identification of climate-vulnerable forests in proximity to under-served communities. ▪ Identify and prioritize King County Parks forests that need management actions to increase their resilience and conduct forest thinning and re-planting projects, including consideration of future climate in species planted and density of planting.	FH UC SH ST	SCAP	
Plant trees sourced from a wider range of seed zones, including experimenting with climate-adapted seed sources.	▪ Work with partners to evaluate appropriateness and options for seed sourcing, including developing guidelines for which seed sources are most appropriate for which environments and working collaboratively to develop seed sourcing options. ▪ Work with partners to design, implement, and monitor a trial with climate-adapted seed sources.	FH UC	SCAP	
Facilitate sharing of information among partners on climate-adapted management practices through creation of an on-line hub of research and resources.	▪ Develop a state of the science paper on assisted migration in the Pacific Northwest with specific recommendations for tree planting that can be used to inform forest planting decisions by King County, small private forest landowners, and others. ▪ Participate in and support the development of the Forest Adaptation Network, a forum for professionals in the Pacific Northwest addressing climate change issues in forest, including adaptive forest planting and obtaining appropriate species.	FH UC	SCAP	

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1-3 Strategies to Improve Preparedness of Communities

Strategies	DNRP-Led Actions	Related Priorities	Related Plans	Additional Resources Needed
Improve preparedness for potential increase in wildfire, including identification of forested areas and communities most at risk.	▪ Work with the Office of Emergency Management to develop a Wildfire Strategy for King County, including identification of areas at risk; how to expand education and wildfire resilience strategies; forest resilience strategies; coordination with other public forest landowners; and response to a large fire event.	FH HH ST	SCAP	

1-4 Strategies Focused on Equity and Cultural Resources

Strategies	DNRP-Led Actions	Related Priorities	Related Plans	Additional Resources Needed
Experiment with climate-adapted seed sources for culturally important species.	▪ Engage with regional Tribes to determine key tree species to include in trials.	FH SH	ESJ	
Identify vulnerable and suitable areas in the county for key species, including culturally important species, such as western red cedar.	▪ Work with partners to initiate research and mapping.	FH	ESJ	Funding needed

Lead Department/Division:

Blue DNRP/WLRD
Green DNRP/Parks
Orange Other King County Department

Related Priorities:

FH Forest Health
UC Urban Canopy
HH Human Health
SH Salmon Habitat
WQQ Water Quality & Quantity
ST Sustainable Timber

Related Plans:

SCAP Strategic Climate Action Plan
CWHH Clean Water Healthy Habitat
LCI Land Conservation Initiative
ESJ Equity and Social Justice Strategic Plan

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Priority 2: Forest Health

Improve and restore forest health, including increasing resilience to disease, invasive species, drought, and climate change; sustaining biodiversity, improving wildlife habitat, and restoring connectivity; and maintaining or improving ecological functions.

Goals

2-1 Increase the area of healthy and resilient forestland.

2-2 Increase connectivity of protected forestland to improve wildlife habitat.

2-3 Equity and cultural resources: Create a broader public understanding of pre-settlement forest stewardship by the Coast Salish peoples and the resulting forest conditions as a baseline for healthy, complex, and biodiverse forests; improve forest conditions that support the ability of Tribes to exercise treaty rights and cultural practices; improve forest health in forests close to under-served communities.

What We Heard

Workshop and interview participants and survey respondents discussed a range of forest health issues that were seen as priority areas for this plan. Some focused on issues of disease, pests, drought, invasive species, and preventing wildfires. Two foresters who responded noted the importance of "sustainable stand densities" and "shifts to more resilient species composition (e.g., greater drought tolerance)" and emphasized the importance of decreasing invasive species cover, noting the need to "aggressively fight non-native forest health issues." At the same time, one noted the need to "allow low amounts of native insects and pathogens to provide ecologically valuable forest diversity."

Other participants and respondents focused on the importance of forest health in creating and maintaining habitat for a range of native plant and animal species. Some took a broader view, focusing

PARTNER SPOTLIGHT

Forest landowners in King County have access to a variety of resources through Washington State University Extension (WSU-Extension), King Conservation District (KCD), and the King County Forestry Program. Publications, on-line resources, workshops, technical advice, and cost-share options are made available to help small forest landowners define and achieve goals for their property. These include individual training events, Forest Landowner Field Days, and Coached Planning courses to help to develop forest stewardship plans with guidance from forestry professionals, all of which provide education on sustainable forest stewardship practices and connect landowners with foresters and other experts for site-specific technical advice. Other programs, such as KCD's Landowner Incentive Program, provide cost-share that can cover up to 75% of costs for approved forest health management projects on small forested properties.

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on goals related to forests with complex structure and their connections to streams and other ecosystems, while others provided input focused on specific species or groups of species. One noted the need for "increased levels of coarse woody debris/snags throughout the forest for use by cavity nesters, insects and other critters" as well as "diverse stand structure that benefits birds of prey and smaller mammals/prey populations." Tribal input called for recovering elk habitat as well as expanding "the reintroduction of beavers where suitable habitat exists, and where water storage is strategic."

Respondents also noted the dependence of forest health on many other factors. For example, some cited recreation as a positive influence and noted that recreationists often advocate for and are involved in forest stewardship activities. Others expressed concern about recreation capacity and cited the need to "determine truly sustainable levels of recreation that allow for maintaining healthy forests" that support fish and wildlife and allow for Tribal treaty rights to be met. In addition, both climate change and population growth were noted by Tribal members as important overarching factors affecting forest health and the role of forests in providing habitat.

Background

Forest health encompasses a wide range of issues, including disease, drought, and invasive species, among others. While many different definitions exist, forest health is defined in DNR's Forest Action Plan (2020a, 11) as "The condition of a forest ecosystem reflecting its ability to sustain characteristic structure, function, and processes; resilience to fire, insects and other disturbance mechanisms; adaptability to changing climate and increased drought stress; and capacity to provide ecosystem services to meet landowner objectives and human needs." This definition, like many others, includes the term "resilience," which refers to the ability of the forest to absorb and recover from disturbance, so that it retains "essentially the same function, structure, identity and processes" (Walker et al. 2004, cited in Churchill et al. 2018, 1).

In many western Washington forests, the effects of past harvests and current management have resulted in forest cover dominated by younger forests (10-120 years old), while older-stage forests are limited in area and highly fragmented (Churchill et al. 2018). In King County, many forests were clearcut and abandoned or replanted to a single tree species and the resulting forest does not resemble well-functioning forest ecosystems that provide a range of services, creating a need for forest health treatments. These degraded forests have increased vulnerability to forest health problems, making them good candidates for treatments to restore a broader range of tree species, sizes, and ages and more complex canopy structure. Forest health treatments include forest thinning, which can be used to accelerate the development of these and other old-growth characteristics (Puettman et al. 2016).

In addition to improving forest structure and composition, management actions can reduce impacts from insects and disease and can improve the ability of forests to withstand drought, which can improve resilience to other forest health concerns (Churchill et al. 2018). Summer droughts stress trees, making them more vulnerable to competition with other trees, insect and disease outbreaks, and lower growth rates. Forest managers can anticipate drought and work to establish tree species that are well adapted to a site's moisture capacity and manage forest density to limit inter-tree competition for water. Forests with diverse tree species also limit the spread of insects and disease, which are usually specific to one or two species, while healthy trees growing in uncrowded conditions are better able to fight off insect and disease attacks when they do occur. At the same time, maintaining forest densities that allow relatively low ratios of tree height to diameter also will reduce the risk of widespread wind damage, a common disturbance in western Washington forests.

At the landscape scale, the size and shape of forested areas impact the health of the forests and the functions of a forest ecosystem. Larger, contiguous patches of forest cool the local climate, mitigating the effects of urban heat islands. Corridors of high-quality habitat that connect otherwise disconnected large parks allow wildlife to move among the full range of habitats that King County has to offer.

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Strategies

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2-1 Strategies to Increase Healthy and Resilient Forestland

Strategies: approaches developed through outreach, to which many partners, including King County, will contribute	**DNRP-Led Actions:** specific actions within a strategy that will be led by DNRP	**Related Priorities**	**Related Plans**	**Additional Resources Needed**
Identify areas most in need of forest health treatments.	▪ Conduct an assessment of all County-managed forests and prioritize those most in need of forest health treatments.	C ST	SCAP CWHH	
Expand acreage under forest health treatments and improve monitoring and evaluation of forest health problems.	▪ Conduct forest health treatments on high-priority County-managed forests. ▪ Work collaboratively between King County Parks, King County Forestry, and King County Noxious Weeds program to scope the threat of invasive species and increase the acreage of invasive species removal in high-priority forests, including on LCI-priority lands through the Healthy Lands Project (HeLP).	C UC SH WQQ	SCAP LCI CWHH	Funding needed
Engage private forest landowners to foster management to enhance diversity of forest structure and native species and reduce invasive species, including through education and cost-share support.	▪ Expand participation in King County Forestry education programs for private forest landowners, such as Forest Stewardship Coached Planning. ▪ Seek sustained funding for the Washington State University Extension Forest Stewardship Program to maintain and increase stewardship education for private landowners. ▪ Work with King Conservation District and other partners to increase the availability of cost-share resources to increase the likelihood that forest stewardship plans will be implemented.	C UC HH SH WQQ ST	SCAP CWHH	Funding needed

(*Continued*)

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2-1 Strategies to Increase Healthy and Resilient Forestland, continued

Strategies	DNRP-Led Actions	Related Priorities	Related Plans	Additional Resources Needed
Plant more trees on degraded habitats and provide follow-up stewardship.	▪ Develop tree planting guidelines so that the right trees and other native vegetation are planted in the right places across county planting projects, anticipating future expected changes in climate and invasive species threats. ▪ Identify areas suitable for tree planting (reforestation or forest enhancement) on County-managed land and increase planting, including coordination with other County departments. ▪ Expand planting in King County Parks and through the Volunteer Program, following tree planting guidance. ▪ Work with the DLS to address barriers and enable streamlined clearing and grading permits for restoration projects.	C UH HH SH WQQ ST	SCAP CWHH	Funding needed for long-term planting and maintenance
Improve information exchange among partners in King County on forest health research and resources.	▪ Develop a forum or coordinate with partners to include information such as best management practices, successful projects, funding, guides to navigating King County code in an existing forum.	C UC	CWHH	Funding needed

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2-2 Strategies to Increase Connectivity of Forestland

Strategies	DNRP-Led Actions	Related Priorities	Related Plans	Additional Resources Needed
Evaluate and prioritize habitat connectivity needs.	▪ Conduct a county-wide assessment to evaluate and prioritize habitat connectivity needs, building on existing analyses and efforts.	UC SH ST	SCAP CWHH	Funding needed
Increase protection of forestland to prevent land conversion and create connected habitat corridors.	▪ Protect high-priority forestland through fee acquisition, conservation easements, and enrollment in the Public Benefit Rating System (PBRS).	C HH SH WQQ ST	LCI SCAP CWHH	Funding needed
Prevent loss of private forestland through forest stewardship education and expansion of landowner incentives, including tax incentives and payment for ecosystem services.	▪ Expand the use of existing tax incentive programs such as Current Use Taxation (CUT) for forest owners and develop new incentives, including expanding the Forest Carbon Program to provide options for private landowners to participate.	C HH SH WQQ ST	SCAP LCI CWHH	Funding needed

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2-3 Strategies Focused on Equity and Cultural Resources

Strategies	DNRP-Led Actions	Related Priorities	Related Plans	Additional Resources Needed
Work with Tribes to create a broader public understanding of pre-settlement forest stewardship by the Coast Salish peoples and forest conditions.	▪ Work with Tribes to develop a more complete understanding of Coast Salish forest stewardship practices in order to inform future stewardship plans and public outreach and education materials.	C UC SH	ESJ	Funding needed
Work with Tribes to determine forest health needs to better enable cultural uses.	▪ Work with Tribes to develop guidance regarding desired future forest conditions and management practices and to identify key forest-dependent wildlife species of importance to Tribes and management goals related to their habitat. ▪ Work with Tribes to assess sustainable levels of recreation that allow for maintaining healthy forests.	C UC SH	ESJ SCAP CWHH	Funding needed

Lead Department/Division:

Blue DNRP/WLRD
Green DNRP/Parks
Orange Other King County Department

Related Priorities:

C Climate
UC Urban Canopy
HH Human Health
SH Salmon Habitat
WQQ Water Quality & Quantity
ST Sustainable Timber

Related Plans:

SCAP Strategic Climate Action Plan
CWHH Clean Water Healthy Habitat
LCI Land Conservation Initiative
ESJ Equity and Social Justice Strategic Plan

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Priority 3: Urban Canopy

Increase tree canopy in urban areas, with a focus on areas with the lowest canopy cover, and maintain and improve the health of existing urban forests.

Goals

1-1 Maintain and increase existing tree canopy in urban areas, prioritizing areas with low canopy cover.

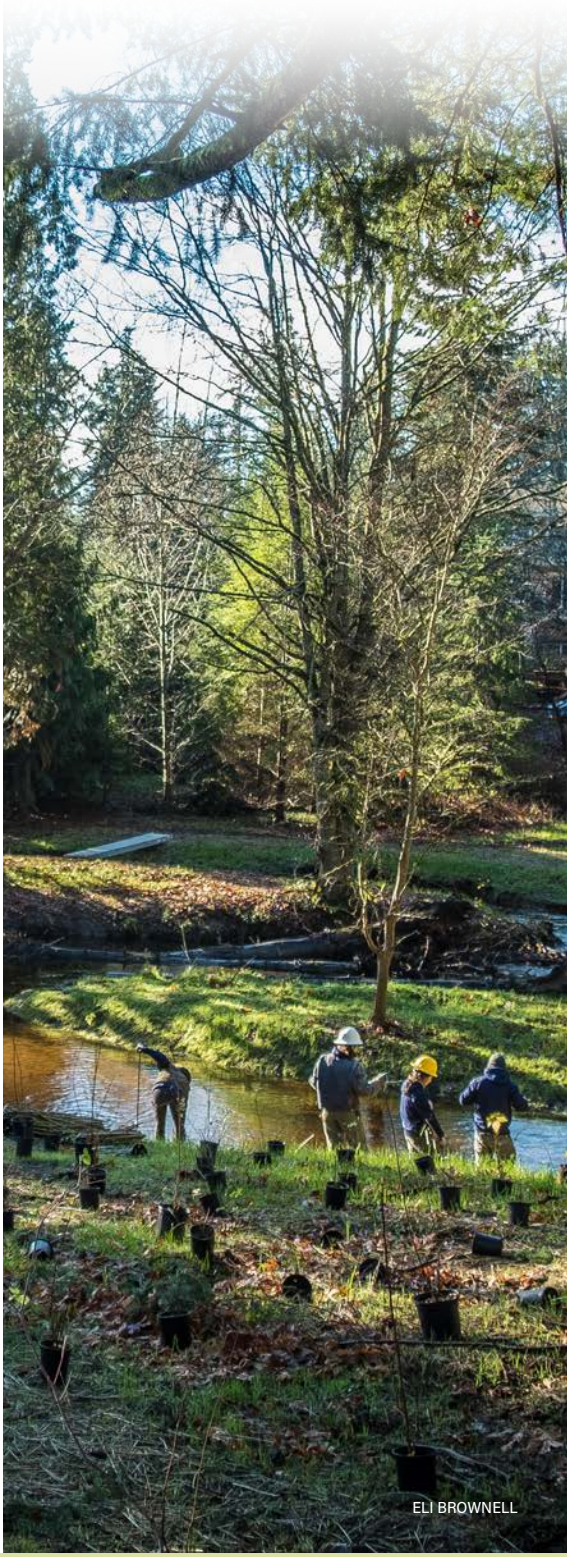
1-2 Maintain urban trees and improve urban forest health.

1-3 Equity and cultural resources: Increase tree canopy above current baseline in urban unincorporated areas with low canopy cover and support urban forest projects as a foundation for youth training to develop tomorrow's forestry leaders.

What We Heard

As we gathered input on priorities for this plan, the importance of increasing and maintaining urban tree canopy stood out as a recurring theme. Respondents emphasized the importance of adding trees in areas with low canopy cover, preserving existing trees and healthy urban forests, and maintaining urban trees, improving tree survival, and promoting overstory and understory biodiversity. We received input highlighting the overall importance of urban forests to balance urban development "...with green spaces to allow everyone outdoor experience." We also heard the more specific need to increase canopy cover in urban areas, reflected in a survey response that noted, "It's in our best interest...to increase our urban tree cover as well as our local forest health and size." Similarly, a workshop participant emphasized the priority that "canopy cover is maintained, not reduced, and increased where there are disparities," while many noted the need to ensure that any efforts to increase canopy reflect the needs and wishes of local communities.

We also heard that a focus on canopy cover and tree planting alone would be insufficient and maintenance and urban forest health also need to be prioritized. A respondent stated, "[maintaining mature trees] is a major concern in urban areas where there is a significant time period before young trees reach maturity when their ecological benefits are realized." Another community member made a related point about the condition and composition of the forest by stating, "I am a proponent of



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Green Cities

Green Cities Partnerships bring cities, nonprofits, and community members together to restore urban green spaces and empower residents to be agents of change in their communities. These community-based stewardship programs engage volunteers to lead forest restoration in their local parks, training volunteer Forest Stewards to host forest restoration events for local volunteers. The Green Cities model keeps volunteers engaged by offering educational and community-building opportunities that foster meaningful connections to local parks. Starting in 2004 when Forterra and the City of Seattle took on the challenge to restore 2,500 acres of forested urban parkland in 20 years, the program has now expanded to include 14 cities and one county in the Puget Sound region. Each year, Green Cities host 1,000 volunteer events, totaling over 115,000 volunteer hours dedicated to restoring urban forest health.

the full process of restoration, building really diverse and functioning habitats that provide ecosystem functions. Sometimes that is planting trees, sometimes it is thinning trees, sometimes it is planting understory shrubs and ground cover…"

In addition, we heard a suggestion that an important role that King County can play in the context of urban forestry is to act "as a regional convener [that] would help coordinate actions and cross pollinate on BMPs [best management practices] and lessons learned." Further, one of the city partners who contributed input suggested that there would be value in developing ways to bring together a coalition of city and County staff working on urban canopy goals to better address them in a more coordinated manner.

Background

The U.S. Forest Service has defined urban tree canopy as the leafy, green, overhead cover from trees that community groups, residents, and local governments maintain in the urban landscape (USFS 2019). This includes anything from large forests in urban greenways or parks to individual trees found in roadside planting strips or school yards. It includes both public and private lands in cities, their suburbs, and towns. Urban canopy provides ecosystem services, such as habitat, stormwater management, climate change mitigation, and improving human health (e.g. improving air quality, cooling heat islands, and providing mental and physical health benefits) (Barron et al. 2016). Urban forests create spaces for nature exposure, recreation, and outdoor education, which contribute to better quality of life and improved overall well-being (Mills et al. 2018, Nowak et al. 2010).

At the same time, urban forests' proximity to development and dense human populations make them particularly vulnerable to disturbances and climate change effects (Steenberg et al. 2017). Urban forests are susceptible to insect pests, diseases, and invasive weeds that can damage existing plants and prevent regeneration (Nowak et al. 2010). Urban trees generally require a higher level of management than rural forests and present unique maintenance challenges to avoid creating hazards for residents and nearby properties, poor sightlines on streets or in parks, or areas where

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Dirt Corps

Dirt Corps provides paid training opportunities in environmental careers for people facing barriers within existing pathways. The training program combines classroom instruction and field opportunities and provides participants with skills that will be valuable for jobs in urban forestry, green stormwater infrastructure, and ecological restoration. In addition, Dirt Corps partners with youth organizations focused on environmental justice to distribute trees in areas with low canopy cover, while engaging in conversations about urban forest health. Like Dirt Corps, programs such as Seattle Parks and Recreation's Youth Green Corps and the Duwamish Valley Youth Corps are examples of successful approaches to community engagement and hands-on training that can create a pathway toward green jobs that support local communities.

residents do not feel welcomed or safe. Urban forestry requires thoughtful planning and species selection to ensure trees are planted in appropriate locations and that continued maintenance is possible in order to create and maintain healthy urban forests. While planting native trees in urban landscapes is preferred for supporting wildlife and native pollinators, it is important to consider that other species may be favored for their fruit or foliage, or may be better-suited to the environment of a city planting strip or urban park.

In King County, between 1992 and 2016, forest cover in cities declined from 23% to 18% (a loss of more than 10,000 acres) and from 37% to 29% in urban unincorporated areas (a loss of approximately 2,000 acres) as the area of developed land increased (Chapter 2). Reversing the loss of urban canopy cover requires preservation and maintenance of existing trees, as well as planting new trees in parks and other public lands, along streets, and on private properties. While some amount of planting may be desired in all urban areas, a targeted approach that addresses the needs of different communities and geographies is required to effectively address the loss of forest cover throughout the county's urban areas.

Furthermore, urban canopy cover is not evenly distributed between or within urban areas (Chapter 2). As in other parts of Washington, areas with lower canopy cover and less access to forested parks are more often occupied by low-income residents and people of color (Constible et al. 2019, Tran et al. 2013). Focusing efforts to increase and improve urban forests in areas with low canopy cover is one way to begin to address inequities created by uneven access to the benefits provided by urban trees. However, a paradox with addressing inequities in urban canopy cover is that more trees and parks can make neighborhoods more desirable for new residents (Wolch et al. 2014). This can lead to increases in housing costs and gentrification that displaces the very residents the greening efforts were meant to benefit. Increasing urban canopy cover while preventing displacement requires meaningful collaboration and co-development of strategies between community members and urban planners (Haase et al. 2017). Targeted planting and urban forest maintenance, paired with input from local communities to better understand needs and cultural uses for urban forests, can provide a starting point for tree planting efforts and for designating new urban parks that can improve overall well-being.

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Strategies

These strategies were developed through the outreach process and are intended as guidance for DNRP as well as the many partners who contributed to this plan. DNRP has identified specific actions to pursue under these strategies, and also aims to support partners as they continue to build and adapt their individual programs, projects, and actions that form part of the broader strategies.

3-1 Strategies to Maintain and Increase Tree Canopy in Urban Areas

Strategies: approaches developed through outreach, to which many partners, including King County, will contribute	**DNRP-Led Actions:** specific actions within a strategy that will be led by DNRP	**Related Priorities**	**Related Plans**	**Additional Resources Needed**
Improve knowledge of existing urban tree canopy, including conducting additional and repeat urban tree canopy assessments.	▪ Conduct tree canopy assessments and improve understanding of the extent and ownership of forests in urban unincorporated areas with low canopy cover. ▪ Contribute to acquisition of LiDAR or other data every five years to support effectively and consistently monitoring tree canopy across the county.	FH	CWHH	Funding needed for LiDAR/other data
Expand where trees are planted. ▪ Develop and expand incentives and funding programs to provide trees to private landowners in cities and urban unincorporated areas, including support for ongoing maintenance for low-income residents. ▪ Engage volunteers in tree planting, maintenance, and restoration of urban forests.	▪ Increase tree planting and stewardship on urban land managed by King County Parks. ▪ Work with other King County departments to find opportunities for tree planting in urban unincorporated Areas. ▪ Develop a Forest Carbon tree planting project and an Impact Certification project that quantifies equity benefits using City Forest Credit protocols and evaluate them as model for future projects.	C FH HH SH WQQ ST	SCAP CWHH ESJ	

(Continued)

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3-1 Strategies to Maintain and Increase Tree Canopy in Urban Areas, continued

Strategies	DNRP-Led Actions	Related Priorities	Related Plans	Additional Resources Needed
Increase availability of information and best practices on conserving and maintaining urban forests in King County. ▪ Create a portal of information for private landowners in urban areas. ▪ Develop information resources and funding mechanisms to address maintenance issues.	▪ Develop a forum, such as an urban forestry advisory group, for information exchange among cities in King County (potentially including tree ordinances, tree lists, incentive program examples, best management practices, engagement strategies for private property, guidance for sensitive habitats, climate plans, and other information).	FH		Funding/staff needed
Expand education on the importance of healthy urban forests and opportunities for volunteer engagement to empower residents to advocate for and steward urban trees. ▪ Work with local communities and youth to develop materials geared towards youth and community education programs, including information geared towards lower-income residents.	▪ Through King County Parks' Volunteer Program, engage residents surrounding parks by building creative programming and partnerships to support community education about the health of local parks; increase efforts to gather input from community members about restoration design. ▪ Incorporate tree and shrub distribution for local park volunteers and neighbors into at least two volunteer events per year.	FH HH SH WQQ	SCAP CWHH	Funding/ staff needed to expand programs

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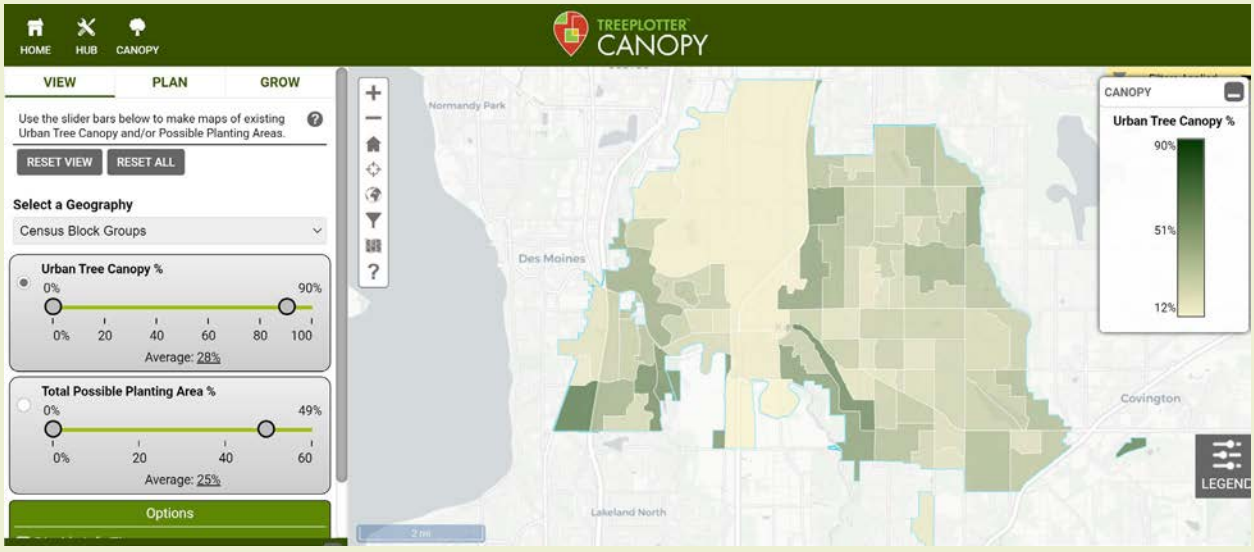
PARTNER SPOTLIGHT

KCD Tree Canopy Assessment

King Conservation District's web-based Canopy Planner tool assists south King County communities in planning urban forest improvement projects. The software uses GIS and remote sensing data to create interactive maps of current tree canopy and other land cover classes. Users can then incorporate city-specified criteria, including tree canopy, plantable space, and stormwater priorities, to visualize future urban forests. Users create maps of future canopy cover with different planting scenarios and can save reports for use in strategic planning, community development, and urban forest management for south King County communities.



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3-2 Strategies to Maintain Urban Trees and Improve Urban Forest Health

Strategies	DNRP-Led Actions	Related Priorities	Related Plans	Additional Resources Needed
Plant for and maintain the health of the full forest ecosystem, including shrubs, understory, and groundcover plants, in addition to trees.	▪ Through King County Parks' Volunteer Program, provide increased staff development and training on best management and community-based restoration practices to increase plant diversity in parks. ▪ To support King County Parks' volunteer events, develop culturally relevant materials to deepen public education on the value and ecosystem benefits of urban forests; continue education on planting techniques to build community knowledge base. ▪ Develop guidelines for planting the "right tree in the right place" and work within and across departments to disseminate them.	C FH HH SH WQQ	SCAP	Funding needed to develop new materials with communities
Improve the health and survival of new seedlings and established forest through monitoring, capacity building, and funding for tree maintenance and forest health. ▪ Develop and implement monitoring programs for forest health and seedling survival.	▪ Build capacity and funding for restoration and forest health treatments in established forests in urban unincorporated areas. ▪ Work within and across King County departments to establish funding and responsible parties for new seedling care, including watering, pruning, mulching, and disease management. ▪ Develop urban projects in the Forest Carbon Program using the tree planting protocol and designate a portion of carbon credit revenue for tree maintenance.	C FH SH	SCAP CWHH	Funding needed

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3-3 Strategies Focused on Equity and Cultural Resources

Strategies	DNRP-Led Actions	Related Priorities	Related Plans	Additional Resources Needed
Increase tree canopy above current baseline in urban unincorporated areas with low canopy cover in ways that address community needs and create welcoming, safe spaces.	▪ Work within DNRP and with the DLS to engage with urban unincorporated areas with low tree canopy cover (including White Center and Skyway) to understand desired types of tree canopy and associated strategies to prevent gentrification. ▪ Develop one or more new tree planting projects in White Center/North Highline and/or Skyway. ▪ Work with DLS to evaluate possibilities to plant and maintain street trees and potential changes in tree replacement policies in urban unincorporated areas.	HH WQQ	SCAP CWHH ESJ	Funding needed for engagement, planting, staff
Support and expand youth job training and educational programs.	▪ Work with King County Parks' Teen Internship Program to engage teen interns on forest health, among other environmental and human health challenges.	HH SH ST	SCAP ESJ	Funding needed to expand program

Lead Department/Division:
Blue DNRP/WLRD
Green DNRP/Parks
Orange Other King County Department

Related Priorities:
C Climate
FH Forest Health
HH Human Health
SH Salmon Habitat
WQQ Water Quality & Quantity
ST Sustainable Timber

Related Plans:
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CWHH Clean Water Healthy Habitat
LCI Land Conservation Initiative
ESJ Equity and Social Justice Strategic Plan

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Priority 4: Human Health

Prioritize tree canopy improvements and increased access to forested spaces to improve human health outcomes and advance health equity.

Goals

4-1 Increase tree canopy with improvements focused in geographies and communities with residential areas subject to high levels of summer heat and/or pollution or other human health disparities.

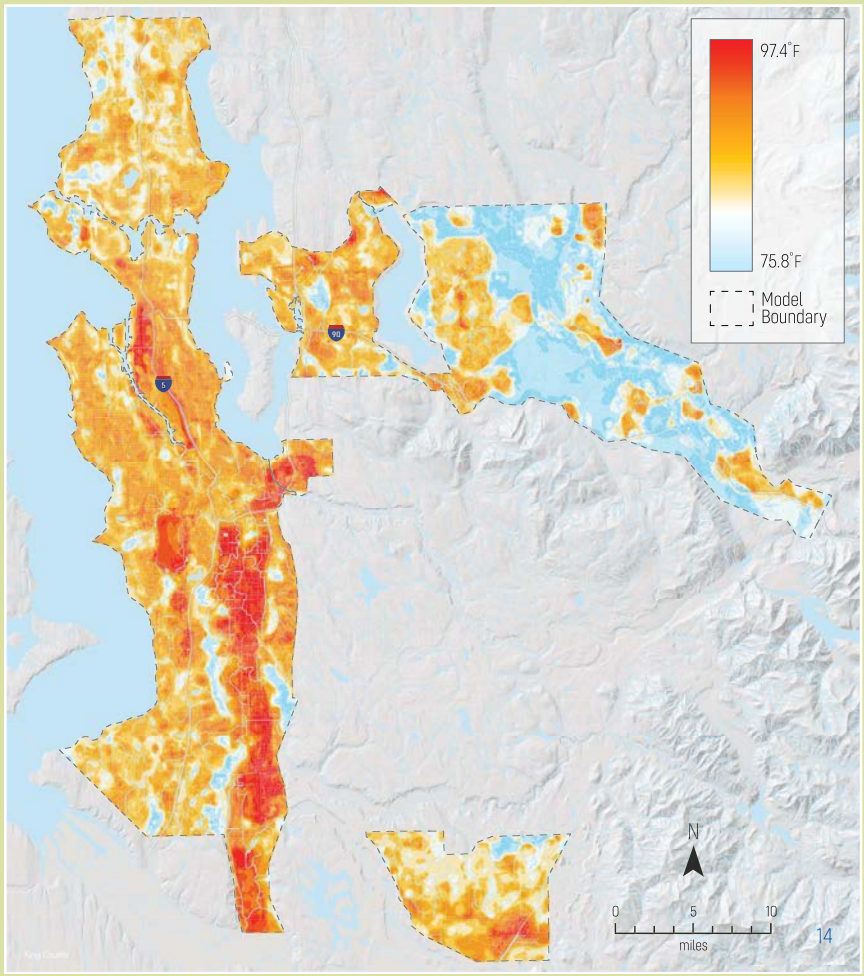
4-2 Improve access to forested spaces, prioritizing communities where the needs are greatest, and support outdoor recreation opportunities that can provide physical and mental health benefits.

4-3 Equity and cultural resources: Increase use, engagement, and sense of belonging in forested parks where access to or use of parks and green spaces is below the regional average.

What We Heard

During our initial outreach effort, partners and community members highlighted human health as a priority when considering King County's future forests and urban trees. We received input about broader health benefits, as shown in a survey respondent's comment that "living in a highly urbanized area, health and well-being are a concern." We also heard about the importance of specific health benefits associated with tree canopy, as another survey respondent stated, "I spend a lot of time outdoors, so air quality, temperature, and other health benefits are important to me." Another said, "providing shade and lowering temperatures in urban areas is important to me because I live in an intensely, and growing, urban area." A workshop participant underscored the need for "all communities [to] have

Figure 6. Evening temperature predictions (7-8 pm), based on a heat mapping study conducted on July 27, 2020. Temperatures are strongly influenced by the type of land cover, including the amount of tree cover.



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access to greenspace and improved air and water quality." This input, paired with King County's own public health and equity and social justice goals, underscores the importance of human health when creating a vision for King County's future forests.

Background

Trees and green spaces provide many benefits for human health, improving air quality, cooling urban heat islands, and improving mental health (including reduced depression and anxiety), among others (Frumkin et al. 2017). The health benefits of urban trees range from reducing harm (such as exposure to heat or air pollution), restoring well-being (such as through improved mental health), and improving health outcomes (such as birth outcomes) (Wolf et al. 2020). Although tree planting also has potential to increase pollen allergies, and allergy seasons in the U.S. are getting longer with climate change, species with low allergy ratings can be selected for planting projects so that the many health benefits of trees are not offset (Richmond 2019, Zhang et al. 2015).

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While 60% of King County is forested, disparities in the distribution of trees are pronounced, especially in urban areas; the health benefits of trees are therefore not equally distributed (Chapter 2). Uneven distribution of trees within and across cities leads to some neighborhoods with much lower tree cover than others. Communities living in areas with low canopy cover experience higher average summer temperatures (Constible et al. 2019, Ziter et al. 2019), worse air quality, and are more likely to face health risks related to asthma, heart disease, and mental illness (Constible et al. 2019, Frumkin et al. 2017, Tran et al. 2013). Without access to safe, nearby greenspaces, residents are less likely to interact with nature, limiting access to the mental and physical health benefits it can provide (2017).

Urban areas predominately occupied by low-income residents and people of color tend to have the highest percentage of paved surfaces (Constible et al. 2019, Tran et al. 2013). Areas with more pavement and relatively low canopy cover have reduced access to the health benefits that trees and access to nature provide (Ziter et al. 2019, Ulmer et al. 2016). Additionally, heat islands, or areas with substantially higher air temperatures than other areas in the region, are also associated with lower tree canopy. In a study of cities across the U.S., heat islands were linked to historical housing policies, with higher temperatures in areas where redlining occurred, perpetuating disproportionate exposure to heat effects (Hoffman et al. 2020). The current global health crisis caused by COVID-19 further exemplifies health disparities within cities, including higher mortality risk in areas with poor air quality and less ability to safely socialize and exercise in communities that do not have welcoming outdoor spaces nearby.

Creating, expanding, and improving urban green spaces, including through tree planting, has been identified as one way to lower temperatures in

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The Trust for Public Land (TPL) "Green Schoolyard" program

PHOTO: ©2013 JENNA STAMM FOR TRUST FOR PUBLIC LAND

In the United States, nearly 100 million people do not live within a 10-minute walk of a public park or green space. Of those, 19.6 million people, including 5.2 million children, do live near a public school. The Trust for Public Lands' Green Schoolyards Initiative works to transform the 100,000 public schoolyards in the U.S. into publicly accessible community hubs that are designed by communities, for communities. TPL facilitates participatory design processes with local communities to ensure that school yards meet the needs of neighbors as well as students, incorporating trees and gardens, art, and useful features tailored to specific community interests. By adding trees and green features to these previously paved school yards, this initiative can decrease ambient temperatures in schoolyards, divert and absorb stormwater, and provide overall tree-related health benefits for students and the community at large.

urban areas, and may be particularly important for moderating nighttime temperatures (Aram et al. 2019, Ziter et al. 2019, Bowler et al. 2010). Increasing tree cover in heavily paved urban areas cools temperatures through shading and transpiration, or by using the sun's energy to evaporate water rather than heat air, both of which decrease temperatures at ground level (Aram et al. 2019, McDonald et al. 2016). In addition, targeted, strategic tree planting in areas with poor air quality has been shown to significantly decrease air pollution. The Nature Conservancy found that, "trees provide meaningful but locally concentrated reductions in PM [particulate matter] and temperature" and street trees can play a valuable role (McDonald et al. 2016, 3).

Adding more trees to urban and suburban areas with lower canopy cover also creates more greenspaces that can be used for recreation, outdoor learning, and other forms of nature exposure. These nature experiences can occur within cities, in parks, urban forests, and at sites of green stormwater infrastructure (GSI), which all can provide health and wellness benefits (Wolf 2016). By focusing tree planting in areas with low canopy cover, some of the human health and environmental justice issues associated with too few trees and limited access to nature can begin to be addressed. However, it is important to note that these forested areas must be culturally accepted, maintained, and perceived as safe for the positive outcomes to be realized. By working with experts and communities to determine the most appropriate locations and types of planting needed in each area, King County and partners can advance health equity while supporting local benefits of greenspace and urban trees.

Strategies

These strategies were developed through the outreach process and are intended as guidance for DNRP as well as the many partners who contributed to this plan. DNRP has identified specific actions to pursue under these strategies, and also aims to support partners as they continue to build and adapt their individual programs, projects, and actions that form part of the broader strategies.

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4-1 Strategies to Increase Tree Canopy to Address Disparities in Air Quality, Summer Heat, and Other Health-Related Factors

Strategies: approaches developed through outreach, to which many partners, including King County, will contribute	**DNRP-Led Actions:** specific actions within a strategy that will be led by DNRP	**Related Priorities**	**Related Plans**	**Additional Resources Needed**
Identify priority areas to address air quality and summer heat and expand community-specific outreach and participation to understand local needs and goals as they relate to tree canopy and issues of human health in urban areas.	▪ Using recent heat mapping data, develop an implementation strategy, including evaluating overlap with LCI Opportunity Areas, and prioritize early actions to address disparities; seek funding and partnerships to begin implementing high-priority projects. ▪ Identify areas suitable for tree planting and implement planting projects on County-managed land in unincorporated urban areas, including coordination with other County departments.	FH UC	SCAP ESJ CWHH LCI	Funding needed to implement project
Expand tree-planting and tree-retention incentives in areas where these actions can advance human health benefits, including incentives for private landowners.	▪ Develop a City Forest Credits Impact Certification project that quantifies human health benefits associated with tree planting and evaluate it as model for future projects.	C UC SH WQQ	SCAP ESJ	

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4-2 Strategies to Increase Access to Forested Areas and Support Outdoor Recreation

Strategies	DNRP-Led Actions	Related Priorities	Related Plans	Additional Resources Needed
Reduce transportation and other barriers to accessing forested areas.	▪ Continue to expand and enhance programs like King County Parks and Metro's Trailhead Direct project and seek continued and long-term sources of funding for public transportation to trails and urban green spaces. Inform and adapt these programs based on current understanding of sustainable levels of recreation developed in Strategy 2-3. ▪ Partner with cities and community-based organizations to identify barriers to forestland access and build local capacity to address them.	FH	CWHH	Funding needed for work with cities and communities
Add public forested open space where little exists, including amenities that support public use, and evaluate best practices for avoiding "green gentrification," including co-investing in greenspace and housing.	▪ Continue to pursue forested open space acquisition in LCI Opportunity Areas; where appropriate, utilize the Healthy Lands Project to support enhanced vegetation management.	C UC SH WQQ	LCI SCAP CWHH ESJ	Funding needed

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4-3 Strategies Focused on Equity and Cultural Resources

Strategies	DNRP-Led Actions	Related Priorities	Related Plans	Additional Resources Needed
Support community-based programs that provide outdoor experiences, opportunities for youth and seniors, accessibility, and culturally appropriate programming and amenities at forested parks. ▪ Improve park interpretive signage and art to include Native American history and use and acknowledge original site names when naming parks and trails. ▪ Partner with cities and community-based organizations in the use of social marketing campaigns to promote health and increase sense of belonging with community forests.	▪ Expand culturally appropriate programming in forested open spaces in LCI Opportunity Areas or other urban areas with similar health and income metrics.	UC SH WQQ	LCI CWHH ESJ	Funding needed
Increase opportunities and support existing programs that provide training in green jobs and professional development for groups that have been underrepresented in forestry to create a more diverse forestry workforce.	▪ Work with King County Parks' Teen Internship Program to engage teen interns on forest health, among other environmental and human health challenges.	UC SH ST	SCAP ESJ	Funding needed to expand program

Lead Department/Division:

Blue DNRP/WLRD
Green DNRP/Parks
Orange Other King County Department

Related Priorities:

C Climate
FH Forest Health
UC Urban Canopy
SH Salmon Habitat
WQQ Water Quality & Quantity
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Related Plans:

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Priority 5: Salmon Habitat

Increase and improve forest cover and condition in areas where it can enhance salmon habitat.

Goals

5-1 Protect, increase, and improve the extent and health of riparian forests.

5-2 Protect, increase, and improve the extent and health of forests in the headwaters of salmon streams to improve ecological function and protect water quality and quantity.

5-3 Equity and cultural resources: Align salmon habitat restoration with Tribal priorities and use culturally important plant species in salmon habitat restoration.

RAY HELLER

What We Heard

Salmon habitat recovery is considered a priority by local, state and federal government, nonprofits, and private organizations in King County. Throughout our outreach, we heard about the importance of salmon habitat when planning for future forests in the region. A respondent to the on-line survey stated, "so much of the original wildlife and salmon habitat has been lost that we must do what we can to preserve what remains and return as much as we can back to its original condition." Other survey respondents emphasized that "our salmon are important because they reflect the health of our streams. It is important that we have forest to protect water" and that "we need to take actions now to ensure salmon populations continue to thrive in our area." A program manager with Mt. Baker-Snoqualmie National Forest expressed the goal that through forest planning we can "achieve functional aquatic ecosystems that support an array of physical, biological and chemical processes." These comments represent a small subset of the feedback highlighting salmon habitat as a priority consideration in planning for future forest cover and health.

Background

Salmon populations in the Puget Sound region have sustained Indigenous communities and played a key role in natural ecosystems for millennia. Puget Sound is home to eight species of anadromous salmonids including pink, chum, Chinook, coho, and sockeye salmon,

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steelhead trout, cutthroat trout, and bull trout (State of Our Watersheds 2016). Anadromous salmon are born in freshwater rivers and streams, but migrate to the ocean to mature, and return to fresh water to spawn at the end of their life cycle, bringing nutrients and energy from the ocean back into stream systems. This contributes to nutrient cycling in the terrestrial landscape, which supports diverse communities of plants and wildlife and contributes to overall ecosystem function (National Marine Fisheries Service (NMFS) 2007).

Habitat degradation and loss, along with overfishing, have led to sharp declines in salmonid populations since the late 1800s (NMFS 2007, State of Our Watersheds 2016). Degradation of riparian forests and loss of forest cover or change in the type of forest cover throughout King County watersheds has altered in-stream conditions and has contributed to these declines (State of Our Watersheds 2016). For example, riparian vegetation on the Green River has dramatically decreased over the past 150 years, causing degradation of salmon habitat and a need "to restore a broad swatch of tall trees and other native riparian vegetation on all land use types, urban and rural, along the entire length of the Green River and its tributaries" (WRIA 9 2016, 5). In addition, while the overall forest cover in rural areas of King County was largely stable between 1992 and 2016 (Chapter 2), localized upland timber harvest and diminished habitat quality in replanted areas contributed to degradation of habitat (State of Our Watersheds 2016). At the same time, in urban and suburban areas of the county, conversion of forests for development has contributed to a loss of habitat and increase in impervious surfaces, with implications for water quality in streams (Chapter 2).

Healthy riparian and upland forests protect salmon habitat in many ways. Each stage of an anadromous fish's life cycle has unique habitat requirements. Spawning fish need cool, oxygenated water to lay their eggs; juveniles need protected water with adequate food resources; and adult and juvenile salmon need healthy estuary and marine habitat to mature and feed (NMFS 2007, Murphy 1995). Trees along riparian corridors shade water, keeping temperatures lower, while also providing habitat for invertebrates that serve as a food source for juvenile salmon. Large wood deposited by fallen riparian trees creates pockets of slow, sheltered habitat for juvenile salmon to feed and hide from predators, and log jams also create pools in rivers and streams (WRIA 9 2016). Forested buffers along waterways reduce erosion and stabilize riverbanks, decreasing sediment loads in the water. Dynamic forests that experience natural successional cycling and host diverse communities of riparian flora and fauna create the complex habitat that salmonids need to thrive (Naiman et al. 2005).

Upland forests regulate stormwater flows by slowing stormwater runoff and snowmelt, allowing water to infiltrate into the ground and decreasing flashy pulses of water that cause erosion (Snohomish Basin Protection Plan (SBPP) 2015). Healthy, complex forests with varied ages and species of plants, healthy soils, and diverse wildlife communities are more resilient to disturbance, and provide continuous water quality and quantity benefits over time. Forest management methods that promote complexity, diversity, and other old forest characteristics can minimize negative impacts on water quality and quantity, while improving resilience to climate change.

Salmon habitat restoration has been pursued in King County for over 20 years, with a focus on the recovery of salmonid populations listed as threatened under the Endangered Species Act and honoring Tribal treaty rights to harvest salmon. Each of the four major watersheds in King County (WRIAs 7-10) have developed their own salmon recovery plans and each plan includes expansion of forest cover and forest restoration in high-priority areas for salmon habitat. These plans constitute chapters of the regional recovery plan for Puget Sound and highlight the need for forest recovery efforts that restore ecosystem processes and create the complex, healthy habitat necessary to support a variety of salmonid species (NMFS 2007). While the 30-Year Forest Plan focuses on strategies and actions associated with forest cover and condition that are integral to salmon recovery, it is important to underscore that removal of artificial barriers to fish passage, wetland restoration, and management of salmon harvests will also be necessary in order to have lasting impacts on salmon populations (WRIA 8 2017, SBPP 2015, WRIA 9 2005).

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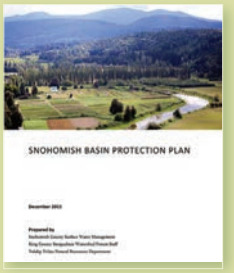
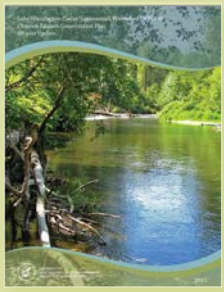
King County Salmon Plans

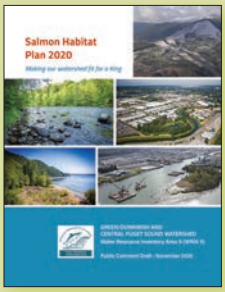
WRIA 7: The Snohomish Basin Protection Plan (SBPP), completed in late 2015, builds on the 2005 that laid out a 50-year path towards species recovery. The SBPP highlights the importance of protecting basin hydrology to protect salmon habitat and ecosystem functions, preserve water quality, and mitigate the impacts of drought and floods. The plan recommends strategies to develop better information about areas of hydrologic importance and protect those areas, including by preventing forest conversion on properties owned by small forest landowners, retaining trees, and protecting critical areas.



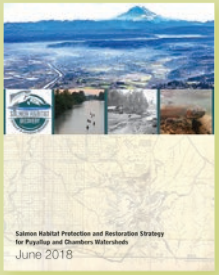
WRIA 8: The Lake Washington/Cedar/Sammamish Watershed Chinook Salmon Conservation Plan (WRIA 8 Plan) sets a science-based vision for salmon recovery, including habitat restoration goals, monitoring and adaptive management priorities for assessing impacts on salmon, and strategies to alleviate factors affecting salmon survival. The plan focuses on Chinook salmon, listed as threatened under the Endangered Species Act, recognizing that many species and ecosystem services will benefit from efforts to bring this key species back to sustainable, harvestable population levels. Strategies outlined in the plan include protecting and restoring riparian vegetation and protecting and restoring forest cover and headwater areas in the WRIA 8 watershed.



WRIA 9: The Green/Duwamish and Central Puget Sound Watershed (WRIA 9) 2005 Salmon Habitat Plan, "Making Our Watershed Fit for a King," will be updated in 2021. The Update provides a science-based framework for identifying, prioritizing and implementing salmon recovery actions over the next 10-15 years. Priority actions include restoring floodplain habitats, revegetating riparian areas, improving water quality and supply, and providing fish passage at Howard Hanson Dam.



WRIA 10: The Salmon Habitat Protection and Restoration Strategy for Puyallup and Chambers Watersheds, developed in 2018, focuses on salmon habitat restoration and describes strategies such as reconnecting river channels to their floodplains, removing physical barriers to fish passage, and restoration and maintenance of hydrologic regimes through conserving and protecting forest lands and creating a Community Forest Program. The Strategy outlines 50-year habitat goals, 10-year implementation goals, and strategies for improving the performance of salmonid populations in the WRIA 10 and 12 watersheds.



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Strategies

These strategies were developed through the outreach process and are intended as guidance for DNRP as well as the many partners who contributed to this plan. DNRP has identified specific actions to pursue under these strategies, and also aims to support partners as they continue to build and adapt their individual programs, projects, and actions that form part of the broader strategies.

5-1 Strategies to Improve the Extent and Health of Riparian Forests

Strategies: approaches developed through outreach, to which many partners, including King County, will contribute	**DNRP-Led Actions:** specific actions within a strategy that will be led by DNRP	**Related Priorities**	**Related Plans**	**Additional Resources Needed**
Increase protection of existing riparian forest to prevent loss of forest cover. ▪ Improve understanding of where riparian buffer protection is most needed. ▪ Protect high priority riparian forest through acquisition and conservation easements in riparian areas.	▪ Improve accuracy of stream locations and appropriate levels of protection through updated water typing on King County streams, particularly near urban areas. ▪ Review the LCI target list in conjunction with salmon recovery plans to identify and prioritize key riparian forests for protection (and for restoration, including invasive species removal). ▪ Acquire properties or conservation easements on LCI-targeted forested parcels in riparian areas.	C FH HH WQQ ST	SCAP LCI CWHH	Funding needed for protection
Expand restoration in riparian buffers with low or degraded forest canopy, focusing on priority areas identified in the salmon recovery plans. ▪ Increase tree planting on public lands in key areas for salmon habitat. ▪ Increase invasive weed control on high priority public and private lands. ▪ Develop programs to incentivize private landowners to plant trees in riparian areas and expand the use of riparian best management practices. ▪ Engage youth and expand youth job training in riparian planting and restoration.	▪ Leverage the King County 3 Million Trees Initiative to "Plant, Protect, and Prepare" to support riparian restoration goals and priorities identified in salmon plans. ▪ Accelerate removal of invasive weeds in high priority riparian areas (identified above) through the HeLP. ▪ Identify riparian areas for Volunteer Restoration Program projects that enhance salmon habitat. ▪ Explore the use of Forest Carbon credits to incentivize private landowners to plant riparian buffers. ▪ Develop and share guidance for riparian buffer widths based on waterway type, building on the work of the Fish Farm Flood Initiative. ▪ Work with King County Parks' Teen Internship Program and partners to develop and expand youth training opportunities.	C FH UC HH WQQ ST	SCAP LCI ESJ CWHH	Funding needed for long-term restoration and training

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5-2 Strategies to Improve the Extent and Health of Upland Forests

Strategies	DNRP-Led Actions	Related Priorities	Related Plans	Additional Resources Needed
Increase protection of existing upland forest.	▪ Review the LCI target list in conjunction with salmon recovery plans to identify and prioritize key upland forests for protection. ▪ Acquire properties or conservation easements on LCI-targeted upland forested parcels. ▪ Target high-priority upland forests for enrollment in King County Current Use Taxation, in coordination with the LCI.	C FH HH WQQ ST	LCI CWHH	Funding needed for protection
Promote management of upland forests for improved ecosystem function and habitat benefits. ▪ Determine priority areas to manage forests for improved salmon habitat. ▪ Expand protection in priority areas, including through increased public ownership. ▪ Engage private forest landowners to adopt practices that benefit salmon, including expanding incentives and cost-share programs.	▪ Partner with forest landowners and land managers to better understand the benefits of upper watershed forests for salmon recovery and habitat restoration and develop approaches to maximize those benefits. ▪ Develop a long-term stewardship plan for King County Parks-managed forests that includes identifying areas where forest management actions could improve salmon habitat. ▪ Support private forest landowners to develop comprehensive forest stewardship plans that include consideration of salmon habitat.	C FH UC WQQ ST	SCAP	
Streamline permitting and code to accelerate tree planting and riparian restoration efforts.	▪ Work with King County DLS to improve the permitting process, including improving on-line resources.	C FH	CWHH	Funding needed

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5-3 Strategies Focused on Equity and Cultural Resources

Strategies	DNRP-Led Actions	Related Priorities	Related Plans	Additional Resources Needed
Work with Tribes to align county restoration priorities with Tribal interests, where possible.	▪ Continue to work with Tribal representatives on habitat restoration planning to address Tribal concerns and interests and incorporate Tribal recommendations.	C FH	ESJ	
Work with Tribes to identify culturally relevant plants for restoration efforts that support ecological and cultural goals.	▪ Continue to seek input from Tribal archeologists, historians, botanists, biologists, and ecologists when developing planting lists for mitigation, restoration, and revegetation projects.	C FH	ESJ	Funding needed

Lead Department/Division:

Blue	DNRP/WLRD
Green	DNRP/Parks
Orange	Other King County Department

Related Priorities:

C	Climate
FH	Forest Health
UC	Urban Canopy
HH	Human Health
WQQ	Water Quality & Quantity
ST	Sustainable Timber

Related Plans:

SCAP	Strategic Climate Action Plan
CWHH	Clean Water Healthy Habitat
LCI	Land Conservation Initiative
ESJ	Equity and Social Justice Strategic Plan

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Priority 6: Water Quality and Quantity

Maintain and expand forest canopy where it provides the most benefit for improving water quality and quantity, reducing stormwater runoff, and reducing flooding.

Goals

6-1 Maintain and expand forest cover in areas identified as having poor water quality or high pollutant loads to streams and rivers, where forest cover improvement can provide benefits.

6-2 Maintain and expand forest cover to improve water quantity conditions in areas identified as having high potential to mitigate flooding or where protecting groundwater is a priority.

6-3 Equity and cultural resources: Integrate equity considerations into prioritization of stormwater projects involving forest cover.

What We Heard

Water quality and quantity were emphasized as priorities for future forest planning by community members, non-profit staff, and government partners. Respondents highlighted the need for decreased pollutant loads and improved water quality. For example, one stakeholder suggested the need to "prioritize tree planting in areas where riparian/water quality benefits can be realized" and another hoped future forests would lead to "reduced stormwater volumes and pollutant loads in local streams" and "reduced stream flashy flows" as well as improved water quality indicators. We heard that "tree cover and vegetation are critical to capturing and preserving groundwater and avoiding excess runoff" in the winter and about the importance of forests for floodplain recharge and water retention, underscoring the importance of future forests in regulating water quantity. Responses made clear that improving both water quality and quantity could

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have broader impacts on the region. This includes effects of water quality on ecosystems, particularly those that provide salmon habitat, as well as protecting water resources for people.

Background

The Pacific Northwest is well known for its evergreen forests, and for the climate that creates an ideal habitat for large, long-lived tree species. These trees in turn impact the way precipitation flows through the landscape. Trees intercept water with their leaves and branches, allowing it to evaporate back into the air before ever reaching the forest floor, release water back into the air through transpiration, and create soil conditions that allow water to infiltrate into the ground (Seattle Public Utilities (SPU) 2008). Forested landscapes also have the ability to filter sediment and pollutants from water before they reach streams or larger water bodies.

King County was once more extensively covered by forests, which absorb and filter rainwater before it flows into streams, rivers, and eventually Puget Sound (DNRP 2016). As decreases in forest cover and increases in land development create more impervious surfaces, it contributes to larger pollutant loads that impact water quality (Asselmeier et al. 2019). Currently, only roughly 16% of rainfall is absorbed into the landscape, resulting in 146 billion gallons of water flowing directly into waterways as stormwater runoff each year, the majority of that untreated (DNRP 2016a; Burkey 2018). Replacing trees and forests with impervious surfaces can lead to a variety of ecological and human heath challenges related to poor water quality. In urban areas, stormwater moving across the landscape collects pollutants, including oil and heavy metals from roads and parking lots, fertilizers and pesticides from lawns and other areas, and animal waste from parks and yards (DNRP 2016a). In rural areas, recently cut forests and agricultural fields with a significant proportion of bare soil and limited riparian buffers allow for loose soil, agricultural chemicals, and waste from livestock to be washed away with stormwater. In addition to stormwater impacts, the loss of riparian forest cover has led to increased summertime water temperatures in many of our streams and rivers. The removal of tall shoreline trees has allowed too much sunlight to reach the water, leading to water temperatures that are unhealthy and sometimes lethal for salmon. Maintaining and expanding forest cover in areas with high pollutant loads and adding forested buffers between sources of pollutants and waterways can play a critical role in intercepting sediment and pollutants and mitigating high summer water temperatures. These strategies may be particularly valuable in the many parts of unincorporated King County that were developed prior to stormwater control requirements.

In addition to improving water quality, forested landscapes moderate water quantity by slowing stormwater runoff, allowing water to infiltrate into groundwater reservoirs and regulating surges of stormwater from slopes and stream banks. According to a modeling study in King, Snohomish, and Pierce counties, even where tree canopy covers one-third or less of an urban area, a 20% increase in tree canopy can reduce runoff between 2-9% (Asselmeier et al. 2019). The type of tree canopy influences the outcomes of increasing tree canopy. Although data are limited for the Pacific Northwest, conifers intercept and transpire approximately 30% of precipitation compared to 15% for deciduous trees (Asselmeier et al. 2019). In addition to decreasing stormwater runoff, research shows that forested landscapes correlate with lower peak flows and less frequent low-moderate flood events, while water stored in underground aquifers contributes to stream flow in seasons with low rainfall and contributes to drinking water consumed by many residents of King County (Bathurst et al. 2020). By contributing to regulating the quantity of water moving through a landscape, forests can play a role in reducing costly damage from floods and erosion and help moderate flows that can overload urban stormwater infrastructure.

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Cedar River Watershed

The Cedar River Municipal Watershed is managed by Seattle Public Utilities to provide drinking water for 1.4 million customers in the greater Seattle area. The watershed's 90,636 acres are managed for water quality and quantity under the direction of a 50-Year Habitat Conservation Plan that focuses on fish populations, wildlife, river flows, and restoration. The plan incorporates the latest scientific knowledge to protect the water supply and hydroelectric operations, while also protecting and restoring habitat for the 82 fish and wildlife species of concern. Watershed restoration activities aim to increase biodiversity and facilitate development of old growth forest conditions, providing greater forest complexity and improved habitat diversity, in addition to improving streamside vegetation and reducing the impact of road crossings. While public access is restricted in the watershed, visitors can learn more about historic and current day management at the Cedar River Watershed Education Center or through on-line resources that include virtual field trips and educational videos.

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Strategies

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6-1 Strategies to Maintain and Expand Forest Cover for Water Quality

Strategies: approaches developed through outreach, to which many partners, including King County, will contribute	**DNRP-Led Actions:** specific actions within a strategy that will be led by DNRP	**Related Priorities**	**Related Plans**	**Additional Resources Needed**
Identify priority areas and actions and prioritize planting locations with high opportunity to shade rivers and mitigate high summer water temperatures.	▪ Improve accuracy of stream locations and appropriate levels of protection through updated water typing on King County streams, particularly near urban areas. ▪ Apply King County Water Quality Benefits Evaluation to prioritize projects. ▪ Use the Stormwater Retrofit Prioritization framework to inform where to consider expanding forest cover and urban trees. ▪ Develop and share guidance for riparian buffer widths based on waterway type, building on the work of the Fish Farm Flood Initiative.	SH	CWHH	Funding needed
Develop new Green Stormwater Infrastructure (GSI) projects that include trees, while retaining as much tree canopy as possible on sites being retrofitted for GSI.	▪ Prioritize planting trees as a way to meet National Pollutant Discharge Elimination System Municipal Stormwater Permit regulations under the structural stormwater controls requirement.	C FH UC	CWHH	

(Continued)

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6-1 Strategies to Maintain and Expand Forest Cover for Water Quality, continued

Strategies	DNRP-Led Actions	Related Priorities	Related Plans	Additional Resources Needed
Plant and protect riparian buffers.	▪ Review the LCI target list in conjunction with salmon recovery plans to identify and prioritize key riparian forests for protection (and for restoration, including invasive species removal). ▪ Acquire properties or conservation easements on LCI-targeted forested parcels in riparian areas. ▪ Leverage the King County 3 Million Trees strategy to "Plant, Protect, and Prepare" to support riparian restoration goals and priorities identified in salmon plans. ▪ Accelerate removal of invasive weeds in high priority riparian areas (identified above) through the King County Healthy Lands Project.	C FH UC SH	LCI SCAP CWHH	Funding needed for protection
Develop programs to incentivize private landowners to plant trees in riparian areas and expand the use of riparian best management practices.	▪ Explore the use of Forest Carbon credits to incentivize private landowners to plant riparian buffers.	C FH UC SH	SCAP CWHH	
Improve monitoring of tree planting projects and coordination with related efforts.	▪ Incorporate monitoring as a component and budget item in any planting or restoration work. ▪ Track riparian planting progress using the ArcGIS On-line Revegetation Tracker map. ▪ Explore opportunities to capture monitoring in existing efforts, such as the King County Green Building Team's Sustainable Infrastructure Score Card. ▪ Coordinate with the King County Beaver Task Force to optimize water quality benefits of tree planting along streams.	SH	CWHH SCAP	Funding needed for monitoring

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6-2 Strategies to Maintain and Expand Forest Cover for Water Quantity

Strategies	DNRP-Led Actions	Related Priorities	Related Plans	Additional Resources Needed
Identify priority areas with high hydrologic value, emphasizing connectivity and minimum size for forest hydrology impact.	▪ Conduct prioritization analysis to be shared among partners ▪ Use the Stormwater Retrofit Prioritization framework as a decision-making tool for expanding forest cover and urban trees.	FH SH	CWHH	
Increase protection in ecologically valuable and sensitive areas, including through incentive programs for preserving and converting to forestland cover and assess tree planting opportunities. ▪ Expand education, cost-share, other support for small forest landowners.	▪ Identify and acquire LCI-identified forestland in priority areas ▪ Expand King County Public Benefits Rating System, Current Use Taxation, and other forestry incentive programs. ▪ Coordinate outreach to forest landowners among King County Forestry, WSU Extension, King Conservation District, and DNR for continuity across jurisdictions.	C FH HH SH ST	LCI	Funding needed to expand programs and outreach

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6-3 Strategies Focused on Equity and Cultural Resources

Strategies	DNRP-Led Actions	Related Priorities	Related Plans	Additional Resources Needed
Conduct outreach and community awareness campaign to communicate the connection between forests and stormwater.	▪ Conduct community outreach by Stormwater Services to ensure GSI projects align with community needs ▪ Include outreach materials in on-line portals for partners, in coordination with Puget Sound Starts Here and Puget Sound Partnership. ▪ Developing a volunteer stewardship program to advance community stewardship of Stormwater Services lands such as Hamm Creek and Seola Pond in White Center. ▪ Provide support for current programs (e.g. Green Duwamish Revegetation, Duwamish Alive Coalition, Duwamish River Cleanup Coalition, DIRT Corps) to pilot work with Stormwater Services.	UC HH	ESJ CWHH	Funding needed
Increase tree planting in urban and industrialized waterways.	▪ Focus tree planting in LCI Opportunity Areas or other urban areas with similar health and income metrics to address health and community needs. ▪ Support tree planting on private property in urban unincorporated King County communities with low canopy and high levels of imperviousness through the GSI Incentive Program.	UC HH	LCI ESJ	Funding needed for planting and maintenance

Lead Department/Division:

Blue DNRP/WLRD
Green DNRP/Parks
Orange Other King County Department

Related Priorities:

C Climate
FH Forest Health
UC Urban Canopy
HH Human Health
SH Salmon Habitat
ST Sustainable Timber

Related Plans:

SCAP Strategic Climate Action Plan
CWHH Clean Water Healthy Habitat
LCI Land Conservation Initiative
ESJ Equity and Social Justice Strategic Plan

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Priority 7: Sustainable Timber

Support an ecologically sustainable and economically viable timber industry that promotes maintenance of ecological functions in working forests and local economic development.

Goals

7-1 Maintain healthy working forests and prevent forest fragmentation and the conversion of working forests to non-forested uses.

7-2 Increase the use of forestry practices that improve ecological functions (such as carbon sequestration, fish and wildlife habitat, and hydrologic cycling) in working forests.

7-3 Improve access to and condition of infrastructure and markets that support sustainable forestry practices.

7-4 Equity and cultural resources: Increase equity in the timber industry and diversity of forestry professionals, in particular those trained in ecological forest management practices and the cultural importance of forests.

What We Heard

In workshops, interviews, and through the on-line survey, we heard about the importance of maintaining working forests in King County and expanding the use of conservation forestry practices. Concerns about forestry infrastructure, markets, and the need to maintain and build a well-trained workforce were also frequently raised. One workshop participant stressed the importance of a viable timber industry and noted that sustainable harvesting "currently exists, but could be improved." Another respondent focused on industrial timber, stating that "steady work comes from large scale operations and sustains a local viable workforce." And one interviewee expressed the need to "support local contractors in forest harvest/restoration/stewardship work," while another discussed the need to create viable ways for new foresters to get into business as an older generation retires.

We heard about ways to improve and change markets to help sustain the timber industry, including ways to expand local use of timber, develop markets for "homegrown" timber, create demand for mass timber, and expand possibilities to increase the use of wood in tall buildings in cities. Some respondents focused on forest products beyond timber, including the statement that one goal of forest management should be to stimulate

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and diversify the economy, including harvesting not only trees, but also other forest products. Others emphasized the need to expand markets for timber produced in conjunction with ecological benefits. Community forests, or working forests owned by or managed for local communities, were seen as one potential avenue to meet some of these objectives since they are designed to provide a range of benefits to communities, including "economic benefits through active forest management, clean water, wildlife habitat, educational opportunities, and public access for recreation" (USFS, n.d.).

We also heard about the cost that improving transportation infrastructure can add to forest restoration projects, with one interviewee noting that, "When the transportation infrastructure (including roads and culverts) is improved it can have the effect of allowing for ecological forestry practices to be implemented in those locations." Conversely, others noted that deterioration of infrastructure can restrict access and limit forest management options.

Background

Working forests are defined by DNR as "sustainably managed for commodity products as well as ecological and social values" and require a "permanent and un-fragmented land base" (DNR 2017). In the context of forests managed by King County, working forests balance "sustainable timber production with conservation and restoration of resources, and public use." Forests managed for commercial timber production provide an important buffer between urban, suburban, and commercial development that is primarily restricted to western King County and forestland managed for ecological values in eastern King County (DNRP 2016b).

Supporting continued opportunities for sustainable timber production on private land is an important part of King County's long-range commitment to forest stewardship because it can:

1) Prevent conversion of forested areas to development by offering an economic alternative.

2) Provide economic opportunities for rural communities.

3) Provide renewable and carbon-beneficial timber alternatives to standard building materials for local construction projects (Sathre and O'Connor 2010, Bergman et al. 2014, Leskinen et al. 2018).

4) Generate revenue from public and private timber sales to support many King County programs.

The timber industry faces complex challenges to ensure that working forests are both economically viable and ecologically sustainable. In King County, the industry depends on private industrial forestland and DNR timber harvests, a network of small-scale loggers and truckers within and outside of King County, and large-scale mills located outside of King County. Smaller-scale forest owners, King County Parks, and small-scale independent mills also contribute to the county's forest industry. The industry provides financial benefits to forest landowners, with the stumpage value of timber harvested in King County in 2018 estimated at $29.3 million. In addition to the financial benefits to forest landowners and various sectors of the timber industry, King County receives approximately $20 million per year through several forest-related programs that support County government operations. These include the excise tax from timber harvested ($1.2 million in 2018), payments from timber harvested from DNR lands ($4.7 million in 2019), payments to compensate for significant reductions in timber harvest due to endangered species concerns from the federal Secure Rural Schools and Community Self-Determination Act ($14 million in 2020), and the federal payment in lieu of taxes program (PILT), which offsets local government loss of property tax from non-taxable federal land ($909,000 in 2020) (DNR 2020b, U.S. DOI 2020, WA DOR 2018, King County 2015).

One challenge relates to loss of forestland and lower timber production. Approximately 825,000 acres in King County are designated as having significance for long-term timber production as part of the Forest Production District (FPD), a designation intended to maintain the forestry land base and commercial forestry (Chapter 2). However, while the extent of the FPD is stable, land use within it can change, in particular when population growth makes the land more valuable for residential development. Privately-owned land within the FPD has gradually been sold

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by large timber companies to smaller landowners. This subdivided land is more likely to be used for residential purposes rather than timber production, further decreasing the amount of timber produced and leading to lost forest cover and increased forest fragmentation. In addition, in some cases, public acquisition of land in the FPD leads to it being taken out of timber production and much of the federally-owned forestland is no longer managed for commercial timber production (King County 2015).

Current timber harvests are a small fraction of those in the late 19th and early 20th centuries and have continued to decline from 400-500 million board feet (mmbf) annually between the mid-1960s and early 1980s to approximately 100 mmbf in 2014 and 70 mmbf in 2018. Significant timber was formerly harvested from federal lands in King County, but harvest volumes have declined substantially in recent decades and timber from those lands is now harvested primarily as part of forest restoration activities. The dramatic decrease in the amount of timber being harvested and processed in King County in recent decades has corresponded with the loss of access to markets, forest products infrastructure, and forestry and logging services. Lack of infrastructure, such as logging roads and mills, increases the costs of timber harvest and production. These factors all can reduce the viability of the forestry industry in King County.

Market prices for forest products also present a challenge, as they are an important determinant of the viability of the industry but depend on regional and global supply and demand. Opportunities to improve market conditions in King County include promoting timber markets for innovative uses of wood or logging

PARTNER SPOTLIGHT

Tomanamus Forest

In 2013, the Muckleshoot Federal Corporation restored over 86,500 acres of traditional territory to Tribal members by purchasing the Tomanamus Forest. They contract with Hancock Forest Management to carry out Tribal management plans, prioritizing long-term sustainable timber harvest, while also maintaining and enhancing wildlife habitat, providing medicinal and food plants, and preserving areas of cultural importance, and it is certified to the Sustainable Forestry Initiative (SFI) Forest Management Standard. The Tomanamus Forest helps to diversify the Tribes' economic base, provide revenue for Tribal government programs, ensures jobs for future generations, and allows for permanent access for hunting, fishing, and gathering. In addition to managing the forest for timber, the Tribe hosts extensive educational programming for Tribal youth, job training for future natural resource managers, and opportunities for Tribal members to gather and harvest for cultural uses (NW Treaty Tribes 2019).

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by-products for specialized or high-value uses, such as cross laminated timber (Brandner et al. 2016). At a smaller scale, organizations within King County could develop a local network of foresters, loggers, and small-scale mills who are willing to work on small-scale forestry projects and connect them with forest owners and lumber buyers willing to pay for locally-grown and processed wood. Third-party forest certification systems, which evaluate and certify forests and timber harvesting for their legal, ecological, and social impacts, may create a premium for certified timber and incentivize landowners to manage forests for both ecological benefits and timber (Haynes 2005). However, price premiums for certified wood products depend on certified mills, as well as buyers willing to pay more for the ancillary benefits that come with certification.

In terms of employment in the forestry sector, forestry jobs in King County include those associated with corporate headquarters and agencies, as well as field forestry and logging jobs. However, racial and ethnic diversity in the forestry sector remains low (Onokpise et al. 2002). With several universities within and nearby King County, and relatively diverse communities, King County is in a unique position to improve diversity in the field and could help provide a pipeline of skilled and diverse talent for the forestry industry.

Strategies

These strategies were developed through the outreach process and are intended as guidance for DNRP as well as the many partners who contributed to this plan. DNRP has identified specific actions to pursue under these strategies, and also aims to support partners as they continue to build and adapt their individual programs, projects, and actions that form part of the broader strategies.

7-1 Strategies to Prevent the Conversion of Working Forests to Non-Forested Uses

Strategies: approaches developed through outreach, to which many partners, including King County, will contribute	**DNRP-Led Actions:** specific actions within a strategy that will be led by DNRP	**Related Priorities**	**Related Plans**	**Additional Resources Needed**
Assess the scale of recent forest to non-forest conversion, the risk of future conversion, whether current safeguards are sufficient to limit incentives for conversion, and tailor prevention strategies.	▪ Analyze which ownerships are at risk of conversion. ▪ Work with owners of LCI-identified larger forest blocks to acquire working forest conservation easements that will support continued sustainable forestry while limiting conversion to non-forest uses.	C FH SH WQQ	LCI SCAP CWHH	Funding needed for easements
Increase participation in incentive programs by forest landowners.	▪ Expand participation of LCI-identified forestlands in King County Current Use Taxation programs. ▪ Provide forest stewardship planning assistance, including information on incentive programs to actively manage forests.	C FH HH SH WQQ	LCI SCAP CWHH	Funding needed to expand CUT

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7-2 Strategies to Increase the Use of Forestry Practices that Improve Ecological Function in Working Forests

Strategies	DNRP-Led Actions	Related Priorities	Related Plans	Additional Resources Needed
Provide leadership in climate-resilient sustainable forest stewardship including sustainable harvest of timber.	▪ Calculate and implement annual sustainable harvest targets on parcels classified as working forest in order to improve forest climate resilience and achieve King County's diverse objectives. ▪ Develop and implement a long-term forest stewardship plan that considers all King County Parks-managed forests and update it annually. ▪ Expand certification of King County Parks forestland, including third-party certification for all King County working forests.	C FH SH	SCAP	
Promote climate-resilient sustainable timber management on private forest ownership, including expanding the use of third-party certification.	▪ Expand technical education for small forest landowners on methods of harvest and forest stewardship that promote biodiversity and complexity of forest stands. ▪ Ensure all DNRP-approved forest stewardship plans include a section on climate resiliency ▪ Educate private forest landowners about third-party certification.	FH SH	SCAP	Funding needed
Explore establishment of community forest and demonstration forest models to test and illustrate management practices that meet diverse objectives.	▪ Establish a King County Parks demonstration forest.			Funding needed beyond initial feasibility

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7-3 Strategies for Improving Infrastructure and Markets

Strategies	DNRP-Led Actions	Related Priorities	Related Plans	Additional Resources Needed
Reduce barriers related to forest products infrastructure. ▪ Coordinate networking among small forest landowners to share resources and connect with local forestry service providers, including loggers, small mills, and others. ▪ Assess the need for additional mill capacity in King County and whether there is a demand for wood to be processed through a local, certified mill. ▪ Explore the value of expanding sustainability certification for small mills in King County.	▪ Work with King County DLS to provide support for small mills to develop business plans, overcome permitting barriers, and provide support to make their business viable. ▪ Explore certifying a small, local mill to produce FSC-certified lumber that can be used in King County projects, in alignment with the Sustainable Infrastructure Scorecard.	C	CWHH	Funding needed
Investigate new wood products markets, including third-party certified wood and specialized timber products (e.g. cross-laminated timber), and promote local wood, including public education about local wood and increase its availability.	▪ Expand the use of FSC-certified wood in King County Projects, in alignment with the Sustainable Infrastructure Scorecard.	C	CWHH	Funding needed
Assess existing infrastructure to identify critical maintenance needs.	▪ Work with commercial forest landowners to identify critical infrastructure and ways to improve these resources. ▪ Assess, maintain, and improve existing forest road infrastructure on King County Parks forestland.			
Improve cross-agency coordination in forest stewardship projects, such as project-level partnerships, cross-agency funding opportunities, and cost-sharing opportunities.	▪ Work with the Rural Forest Commission and private, public, and Tribal forest landowners to identify and resolve economic and regulatory barriers to effective forest management.			Funding needed

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7-4 Strategies Focused on Equity and Cultural Resources

Strategies	DNRP-Led Actions	Related Priorities	Related Plans	Additional Resources Needed
Support timber-related job training and career opportunities for under-represented communities and increase the work force trained in ecological forestry methods. ▪ Provide funding for training, interns, and summer youth crews.	▪ Expand partnerships with local universities and colleges.	UC HH	SCAP ESJ	Funding needed
Increase forest ownership by under-represented communities.	▪ Explore ways to replicate or adapt King County Agriculture programs that have increased access to land for farmers.		SCAP ESJ	Funding needed

Lead Department/Division:

Blue DNRP/WLRD
Green DNRP/Parks
Orange Other King County Department

Related Priorities:

C Climate
FH Forest Health
UC Urban Canopy
HH Human Health
SH Salmon Habitat
WQQ Water Quality & Quantity

Related Plans:

SCAP Strategic Climate Action Plan
CWHH Clean Water Healthy Habitat
LCI Land Conservation Initiative
ESJ Equity and Social Justice Strategic Plan

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King County DNRP Implementation Plan

The creation of the 30-Year Forest Plan was a process of collecting input from many organizations and individuals who work in, manage, and use King County's forests. As such, the plan can serve as a resource that synthesizes that range of views into priorities and goals and can help direct future work that aligns with a collective vision for the future of forests in King County.

Five-Year Implementation: 2021-2026

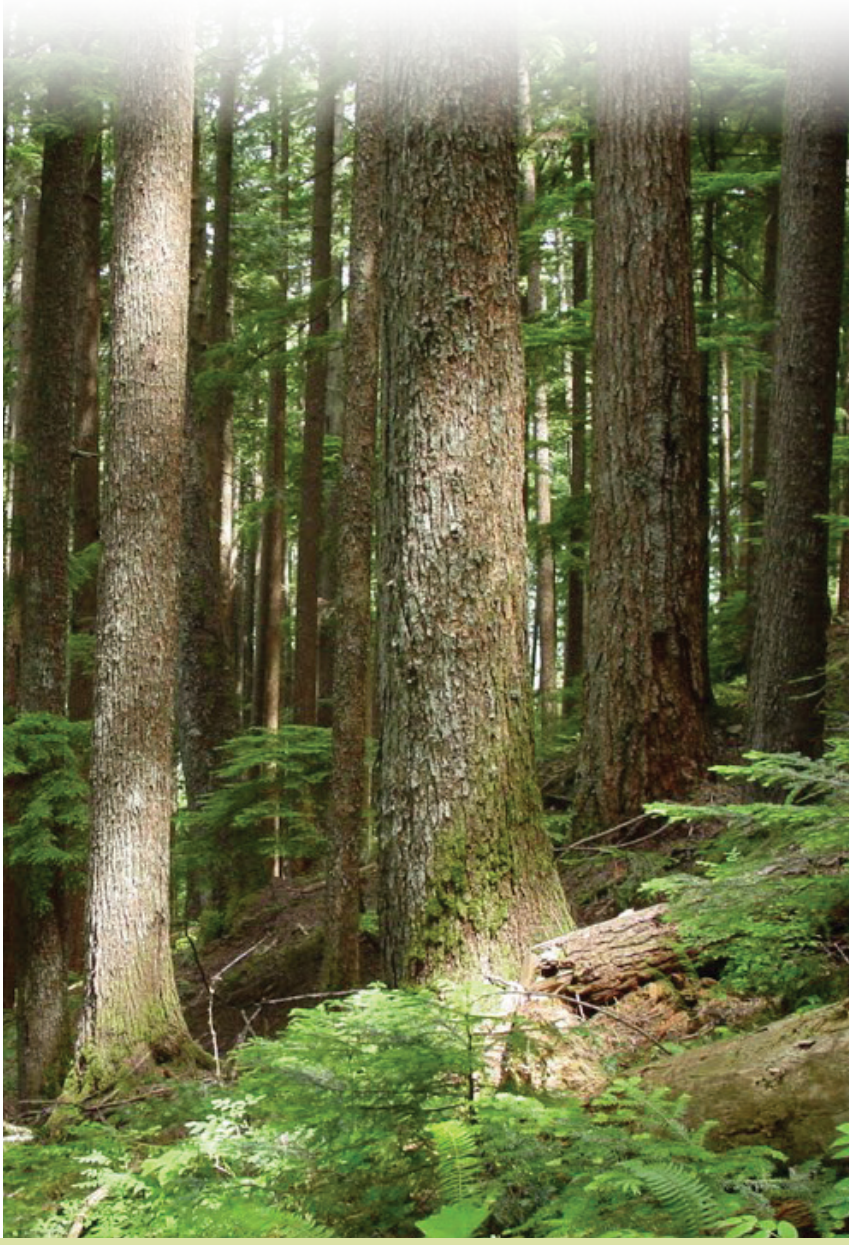
The Forest Plan identifies actions that will be led by King County DRNP. These actions will guide work within DNRP and our collaborations with other King County departments, partners, and communities. Implementation in the first five years will include:

1. A set of **pilot projects,** all of which will be initiated in the first year of the plan.

1. A set of **actions that directly align with the 2020 SCAP** and will be completed by the end of 2025. These connections are noted within the priority chapters.

1. A set of **DNRP-led actions** to be initiated in the next five years. Actions identified in the plan will be prioritized based on the following criteria: ability to provide multiple benefits (i.e. contribute to multiple priorities); contribution to other plans and initiatives, in particular, ESJ (as noted below); and availability of funding.

The Forest Plan will be revisited every five years to evaluate progress and identify priority actions for the next five-year period.



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Pilot Projects

DNRP will initiate planning for a set of pilot projects that contribute to goals in each priority area in the first year of the plan. Implementation of these projects will be completed by 2025. These projects will allow DNRP to begin work quickly, test new approaches, and make immediate progress towards each of the seven priorities. Several projects represent new ways of approaching our forestry work that, if successful, can provide models for future actions or can be scaled up for broader impact. These will be considered for replication in the next five-year period, while lessons learned from these projects will be integrated into future planning.

Climate Pilot Project

Design and implement a climate-adaptive planting trial involving planting trees with climate-adapted seed sources. We will work with partners to select a King County Parks forest site to set up an experiment modeled on the Stossel Creek Adaptive Restoration project, using the Seedlot Selection Tool to select seed sources for key species included in the project.

- **Goals supported:** Increase the resilience of existing forests and newly planted trees to the effects of climate change; Experiment with climate-adapted seed sources for culturally important tree species.
- **Strategy supported:** Plant trees sourced from a wider range of seed zones, including experimenting with climate-adapted seed sources.

Forest Health Pilot Project

Conduct an assessment of all King County Parks forests to prioritize those most in need of forest health treatments. Based on this assessment, forest health treatments will be conducted to put forests on a path toward late seral, mature forested conditions and to increase the resilience of working forests.

- **Goal supported:** Increase the area of healthy and resilient forestland.
- **Strategy supported:** Identify areas most in need of forest health treatments.

Urban Canopy and Human Health Pilot Project

Develop a pilot tree planting project using City Forest Credits' Impact Certification, which provides a quantified score for the project's impacts in the areas of human health, social equity, and environment. The impact scorecard provides an opportunity to support project leads in creating planting projects that improve equity, human health, and environmental outcomes. We will evaluate its potential to be replicated in other King County planting projects and to create a new funding source for high-impact urban planting projects.

- **Goals supported:** Maintain and increase existing tree canopy in urban areas, prioritizing areas with low canopy cover; Increase tree canopy with improvements focused in geographies and communities with residential areas subject to high levels of summer heat and/or pollution or other human health disparities.
- **Strategies supported:** Expand where trees are planted and expand incentives and funding programs; Expand tree-planting and tree-retention incentives in areas where these actions can advance human health benefits.

Salmon Habitat Pilot Project

Develop a pilot tree planting project with City Forest Credits (CFC) to provide incentives for landowners to plant riparian buffers. This pilot project will begin with identification of parcels that qualify for a CFC project and that have potential for riparian buffer plantings, and then will identify landowners who may be interested in participating. The pilot will allow us to evaluate the feasibility of establishing and replicating the project as a way to expand riparian planting on privately-owned land.

- **Goal supported:** Protect, increase, and improve the extent and health of riparian forests.
- **Strategy supported:** Expand restoration in riparian buffers with low or degraded forest canopy, focusing on priority areas identified in the salmon recovery plans.

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Water Quality & Quantity Pilot Project

Pilot a tree giveaway program to support tree planting on private property in urban unincorporated King County, as part of the Green Stormwater Infrastructure Incentive Program. Target communities with low canopy and high levels of impervious surface.

- **Goals supported:** Maintain and expand forest cover in areas identified as having poor water quality or high pollutant loads to streams and rivers, where forest cover improvement can provide benefits; Integrate equity considerations into prioritization of stormwater projects involving forest cover.
- **Strategy supported:** Increase tree planting in urban and industrialized waterways.

Sustainable Timber Pilot Project

Establish a demonstration forest on units within King County Parks forestland to serve as a platform for education and training focused on sustainable forest management.

- **Goal supported:** Increase the use of forestry practices that improve ecological functions (such as carbon sequestration, fish and wildlife habitat, and hydrologic cycling) in working forests.
- **Strategy supported:** Explore establishment of community forest and demonstration forest models to test and illustrate management practices that meet diverse objectives.

Alignment with Implementation of Related Plans and Initiatives

As noted in each priority chapter, the Forest Plan is closely aligned with other King County plans and initiatives, which will allow us to advance this work more quickly and effectively.

Implementation of **DNRP-led actions that are aligned with the 2020 Strategic Climate Action Plan** will contribute to a number of 2020 SCAP Performance Measures, including:

- Protecting 6,500 acres of forestland and natural areas by 2025, in alignment with the LCI, including approximately 1,000 acres annually through fee and easements and 300 acres through incentive programs.
- Improving public access to green space in LCI Opportunity Areas.
- Creating Forest Stewardship Plans on all King County Parks forested sites over 200 acres by 2025.
- Doubling the pace of forest and open space restoration to improve climate resiliency and improve carbon sequestration potential.
- Planting 500,000 native trees on King County-managed land by 2025.
- Increasing tree canopy above the baseline in unincorporated King County with lowest forest cover (White Center and Skyway).

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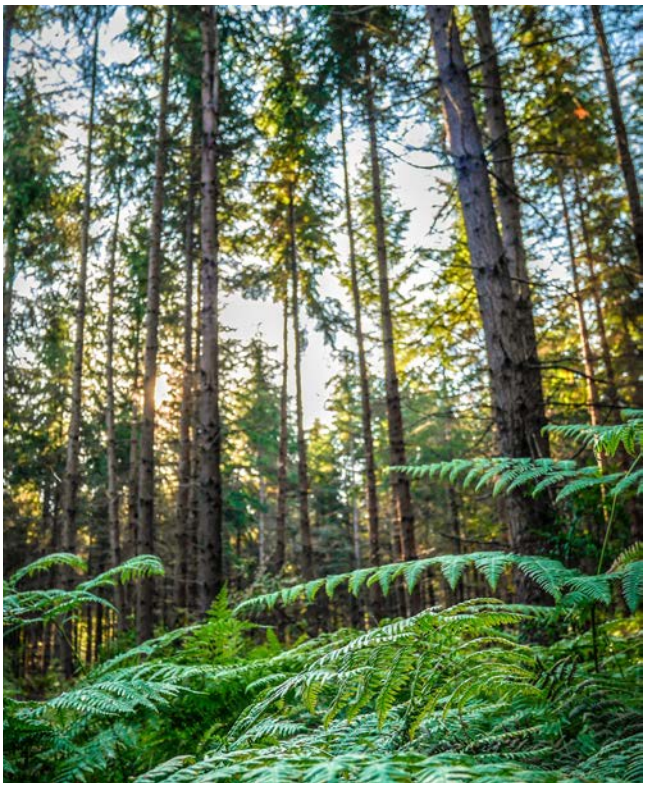

DNRP-led actions that align with the 2016-2022 ESJ Strategic Plan will also be prioritized for implementation by 2022. These include actions that contribute to:

- Working "with partners to prioritize the planting of trees in communities where residents lack tree canopies and face higher temperatures because of concentrated paved and built areas."
- Using "demographic data and knowledge gained through partnerships and community engagement to drive pro-equity planning for open spaces, habitat, trails, trees, green infrastructure, energy conservation and climate response."

The Forest Plan is also directly linked to **Clean Water Healthy Habitat** through the Healthy Forests and More Green Spaces goal, which seeks to achieve three outcomes: 1) forest cover and green spaces are protected, increasing, widespread, equitably distributed, healthy, and connected in ways that sustain habitat, stream functions, carbon storage, clean air, cool waters and air temperatures, and natural streamflow; 2) human health is supported and cultural values and practices are ensured; and 3) inequities in people's access to quality green space are eliminated by 2050. Implementation of Forest Plan actions will contribute to 30-year targets of: 1) no net loss in forest cover in any King County watershed across all ownerships and 2) quality green space within one-quarter mile of urban households and 2 miles of rural households. In addition, the Forest Plan will employ or benefit from a number of strategies outlined in Clean Water Healthy Habitat, including:

- Strategy 1: Engage community partners to align delivery of County environmental services with community priorities and development of data that highlight current environmental inequities resulting from racial discrimination.
- Strategy 2: Establish an equitable DNRP-wide community partnership vision, standards, and protocols.
- Strategy 5: Integrate natural asset management.
- Strategy 8: Add multi-benefit criteria to King County grants and incentive programs.
- Strategy 9: Update Green Building Sustainable Infrastructure Scorecard.
- Strategy 11: Pursue innovative funding mechanisms.
- Strategy 12: Develop regulatory alternatives for improved environmental outcomes.
- Strategy 13: Develop and implement an interdepartmental work plan and policy framework between DNRP and DLS.

30-Year Time Horizon

This Forest Plan serves as a vision for the next three decades, but will need to be revisited every five years, not only to evaluate progress but also to evaluate the ways in which the natural and human contexts for the plan have changed. The 30-Year Forest Plan includes ambitious goals and challenges us to implement a wide range of actions to reach those goals, so that the forests of King County continue to thrive and provide benefits for this generation, but also so that we leave our forests in even better condition for the generations that follow us.

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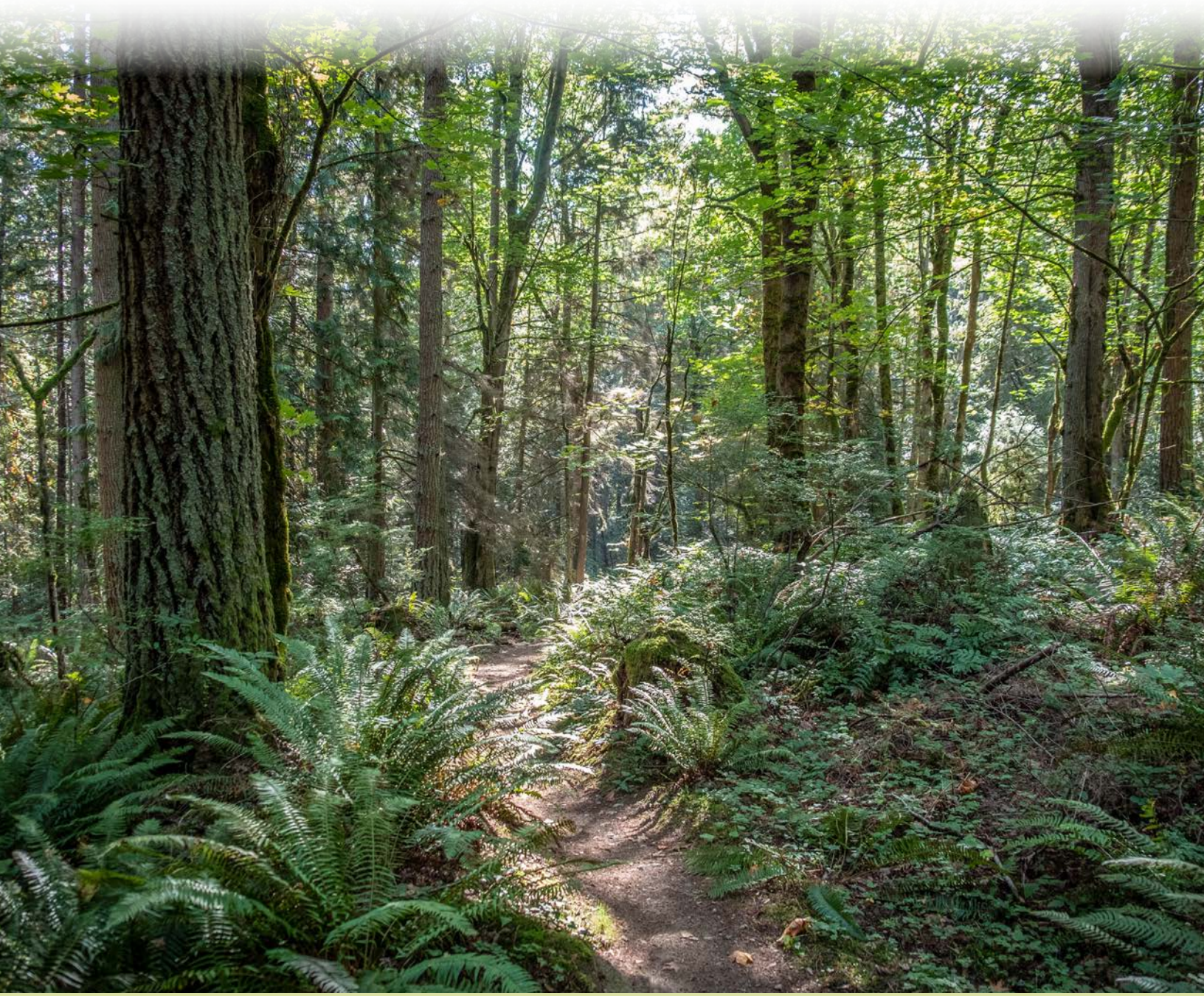
Partners

We thank all of the partners listed in Appendix 1 who provided input and shared their ideas.



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Appendices

This section contains:

► Appendix 1: 30-Year Forest Plan Outreach

► Appendix 2: King County City Forest Plans

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Appendix 1: 30-Year Forest Plan Outreach

The development of this plan depended on communicating with a wide range of staff, partners, and stakeholders and opportunities for them to provide input and perspective. Following is a compilation of the outreach conducted during the development of the Forest Plan.

Phase 1: Scoping

King County (KC) Staff Input (April-June 2019)

- Included DNRP, WLRD, and Parks leadership; teams in WLRD and Parks focused on forest health issues; DNRP Tribal Liaison.

Meetings with Key Partners (May-July 2019)

- Included Forterra, Mountains to Sound Greenway Trust, King Conservation District, and The Nature Conservancy.

Phase 2: Collecting Input

King County Staff Workshops and Meetings (June 2019-March and January 2020)

- KC Parks Open Space & WLRD Forestry teams; Parks operations team; Parks Volunteer Program; DNRP Equity and Social Justice leads; Public Health – Seattle & King County; King County Department of Local Services.
- DNRP Lunch & Learn Events (July and October 2019).

Partner and Community Workshops and Events (September 2019-March 2020)

- Department of Local Services Town Hall Meeting, White Center (information table) – Sept. 12, 2019
- Strategic Climate Action Plan Workshop with King County-Cities Climate Collaboration – Sept. 19, 2019
- 1 Million Trees Partner Event Workshop – Oct. 15, 2019
- Rural Forest Commission (presentation and discussion) – Nov. 21, 2019
- Green Cities Network Workshop – Dec. 4, 2019
- White Center Summit (information table) – Dec. 7, 2019
- Conservation Futures Tax Committee Meeting (presentation) – Jan. 8, 2020
- West Hill Community Association Quarterly Meeting (presentation) – Jan. 21, 2020
- North Highline Subarea Plan Community Open House – Jan. 30, 2020
- City of Seattle Urban Forestry Commission (presentation) – Mar. 4, 2020

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One-on-One Partner Meetings (September 2019-March 2020)

- Washington State Department of Natural Resource – Sept. 5, 2019
- White Center Community Development Association – Oct. 1, 2019
- The Wilderness Society – Jan. 16, 2020
- City of Seattle – Jan. 23, 2020
- Forterra – Jan. 23, 2020
- Mountains to Sound Greenway Trust and Northwest Natural Resources Group – Jan. 23, 2020
- U.S. Forest Service, Mt. Baker-Snoqualmie National Forest – Jan. 30, 2020
- Trust for Public Lands – Feb. 4, 2020
- The Nature Conservancy – Mar. 25, 2020
- Open Space Equity Cabinet – July 1, July 29, and September 17, 2020

Outreach to Tribes (November 2019-June 2020)

- The DNRP Tribal Liaison provided information on the plan in meetings with the following Tribes:
  - Snoqualmie Tribe representatives - December 2019
  - Suquamish Tribe representatives - December 2019
  - Tulalip Tribes representatives - January 2020
  - Duwamish Tribe representatives – March 2020
- Presented to the Rural Forest Commission (RFC), including RFC Tribal representative (Snoqualmie Tribe) (Nov. 21, 2019); follow-up conversations included input from the Snoqualmie and Muckleshoot Tribes.
- Corresponded by email with 1 Million Trees Tribal partners (Snoqualmie Tribe, Tulalip Tribes, Muckleshoot Tribe) – January-March 2020
- Met with Hancock Timber representatives (at the suggestion of Muckleshoot Indian Tribe) and toured Tomanamus Forest, with a focus on the Muckleshoot Tribe's management goals and practices – Mar. 4, 2020
- Received written input from the Tulalip Tribes in June 2020.

On-line Public Input (December 2019-March 2020)

We used the King County Engagement Hub to collect input from a broader range of stakeholders. We created a brief survey to request input on what should be prioritized in the plan and which actions we should take with respect to rural and urban forests in King County over the next 30 years. The survey opened in December 2019 and closed in March 2020. During that period, 526 participants completed the survey and provided a total of 1,464 comments, which translates to the equivalent of approximately 73 hours of comments if we had held public meetings to receive this input (1,464 comments x 3 minutes per comment = 73 hours).

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Outreach by Email (January-February 2020)

Schools and Universities

- WSU Extension; Green River College; UW School of Environmental and Forest Sciences faculty and graduate students and the UW Nature and Health list serve

Forestry/Timber Industry Professionals

- Campbell Global; Weyerhaeuser
- Vashon Land Trust; Vashon Forests
- AFM; International Forestry Consultants; Silvicultural contractors (Timberline Silvics, Applied Ecology, Erickson Logging, Resilient Forestry); Stewardship Forestry; and forestry consultants (via WSU consultant directory)
- Lumber mills receiving KC timber
- Former King County Rural Forest Commissioners

Municipal Groups, Community Groups, and Partners

- King County cities (via 1 Million Trees list serve); 1 Million Trees partners
- Port of Seattle
- YWCA, South Seattle
- WRIA 7, 8, 9 community groups
- Evergreen Bike Alliance; Washington Trails Association
- Coached Planning participants (forest landowners) – Feb. 11, 2020

Social Media and Newsletters (January-February 2020)

- KC Executive Twitter post; DNRP and KC Parks Facebook and Twitter posts
- KC Climate Action Newsletter; KC Unincorporated Area News; The Emerald Alliance newsletter; West Seattle Blog; and WA DNR Tree Link forestry newsletter

Public Comments and Surveys Consulted

- Skyway West Hill Subarea Plan 2016
- White Center Survey summary 2017
- White Center Survey summary 2019
- Skyway West Hill Subarea Plan revision 2019

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Phase 3: Summarizing Input

Input from all sources was summarized into themes. Priorities fell into seven themes, which were determined by mentions of the following:

- **Climate:** carbon, reduced emissions, forest resilience, climate adapted species, increasing species/spatial diversity, survivability, changing seed/seedling sources, wildfire
- **Forest health:** rural forests, forest stewardship, forest management, pests, habitat (not specifically riparian), wildlife, preservation, succession, connectivity, maintenance, restoration, land acquisition, tribal input into management, cultural uses (not specifically salmon)
- **Urban forest canopy:** urban trees, tree planting with development, street trees, urban greenspace acquisition, urban parks, walkable/safe greenspaces, access to nature, equity focused parks/planting, environmental justice, frontline communities
- **Human health:** health outcomes, health benefits, air quality, heat islands, mental health, recreation, trails
- **Salmon habitat:** salmon/fish, riparian, wetlands, shorelines, buffers, treaty use rights, cultural uses
- **Water quality and quantity:** flooding, water quality, GSI, stormwater
- **Sustainable timber:** timber, forestry, working forests, wood products, mills, thinning, community forest, forestry workforce jobs

Urban forest canopy, forest health, and climate were all cited as priorities by more than 50% of participants in workshops, while forest health was cited 60% of participants in meetings and sustainable timber and urban forest canopy were each prioritized by 25-30% of participants. In the on-line survey, salmon habitat and climate were prioritized by more than half of participants, while water quality and quantity and human health were prioritized by 46% and 39%, respectively. Because different groups ranked each of the priorities differently, the list of priorities is not intended to be in ranked order, and all seven of the priorities received support across the groups who provided input.

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Appendix 2: King County City Forest Plans

The following cities in King County have developed forest plans and other plans that influence or guide forest management activities:

- **Beaux Arts Village:** Town of Beaux Arts Village Forest Strategic Plan
- **Black Diamond:** Black Diamond Area Stewardship Plan
- **Bothell:** An Assessment of Urban Tree Canopy in the City of Bothell, Washington
- **Burien:** Green Burien Partnership Urban Forest Stewardship Plan
- **Covington:** City of Covington Urban Forestry Strategic Plan for Publicly- Managed Trees
- **Duvall:** City of Duvall Watershed Plan
- **Kirkland:** City of Kirkland Urban Forestry Strategic Management Plan
- **Lake Forest Park:** City of Lake Forest Park Community Forest Management Plan
- **Newcastle:** Urban Forest Management Plan- Hazelwood Park, City of Newcastle
- **Normandy Park:** Nature Trails Park Management Plan, Normandy Park, WA
- **North Bend:** City of North Bend Urban Forestry Plan
- **Redmond:** Redmond's Tree Canopy Strategic Plan
- **Renton:** Renton Urban and Community Forestry Development Plan
- **Sammamish:** City of Sammamish Urban Forest Management Plan
- **Seattle:** Seattle Urban Forest Management Plan
- **Shoreline:** Shoreline Parks, Recreation and Cultural Services Urban Forest Strategic Plan
- **Snoqualmie:** Snoqualmie Urban Forest Strategic Plan
- **Tukwila:** Department of Community Development Comprehensive Plan Urban Forestry Goals and Policies
- **Woodinville:** City of Woodinville 2020 Parks, Recreation & Open Space Plan

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King County

30-YEAR FOREST PLAN

King County
Department of
Natural Resources and Parks

Clean Water
Healthy Habitat

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