



The RFC requests that the County provide annual progress updates for each action to allow for the Commission and King County to review and reprioritize the work being done.

Because the need is great and available resources are limited, it is recommended that King County consider allocating a greater proportion of the nearly \$7 million per year that the County receives from forestland to support the actions outlined in this report.

2.0 Forests in King County

Forests cover 60% (811,000 acres) of King County's 2,130 square miles (1.36 million acres) of land area (Table 1). The forested land includes a large spectrum of tract size and ownership. The landscape transitions from urban areas with modest forest cover in the west, to small tracts of privately-owned forests and industrial timberland at the start of the Cascade Mountains, to extensive tracts of public, multi-use forestland and wilderness area in the east. The transition from urban forests to rural forests helps mitigate impacts of development on forest cover in King County. Forests across this spectrum provide multiple benefits, including storing carbon, growing timber, providing habitat for salmon and other wildlife, improving water quality, regulating water quantity, providing human health benefits and recreation opportunities, and supporting cultural heritage and historical values.³

Due to a combination of climate, soils, and the native species that are found here, forests of the Pacific Northwest are some of the most productive in the world.⁴ These carbon-dense forests provide renewable, high-value timber, which creates jobs and generates revenue while supplying carbon-beneficial building materials for local markets. Large-scale commercial forestry in the eastern half of King County is a significant contributor to the rural economy, providing employment both in the forests and in forest-based businesses that process and sell forest products. In 2018, timber sales generated approximately \$29.3 million from the harvest of roughly 70 million board feet.⁵ Although significant, that harvest level is substantially below the recent harvest peak between the mid-1960s and early 1980s when 400 to 500 million board feet were harvested in King County annually.

Despite these declines in timber harvest, King County government still receives sizable revenue from the management of forestland. The County collects \$6 to \$7 million annually from proceeds on Washington Department of Natural Resources ("DNR")-managed trust land, excise taxes on private timber harvests, and payments in lieu of taxes from federal land. One recent study indicated that the timber industry generates approximately \$9 of gross business income from every board foot harvested, after accounting for the full cycle value from harvest to final product.⁶ Thus, according to that study, the King County timber industry generates about \$630 million in gross business income each year and should be considered a vital element of the County's economy.

³ <https://kingcounty.gov/services/environment/water-and-land/forestry/forest-policy/30-year-forest-plan.aspx>

⁴ Franklin, J. F., & C. T. Dyrness. 1973. *Natural Vegetation of Oregon and Washington*. Gen. Tech. Rep. PNW-GTR-008. U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station: Portland, Oregon. 427 pp.

⁵ <https://dor.wa.gov/taxes-rates/other-taxes/county-distribution-statistics>

⁶ <https://www.commerce.wa.gov/growing-the-economy/key-sectors/forest-products/>



The ecological value of these forests is immeasurable. Forests sequester and store carbon, which helps to combat the buildup of greenhouse gases in the atmosphere that leads to climate change. Forests slow, store, and filter rainwater with their soils and vegetation, improving water quality by removing pollutants and regulating water quantity by allowing water to infiltrate into underground aquifers. King County forests are also home to diverse wildlife communities, including many threatened and endangered species. Contiguous tracts of forest provide additional benefits by creating habitat corridors for wildlife and minimizing edge effects that impact forest health and wildlife population viability.

In addition to economic and ecological benefits, rural forests contribute to the mental and physical health of the County's 2.3 million residents. Forests improve mental health by reducing depression and anxiety, improve physical health by improving air quality and mitigating urban heat islands, and provide myriad opportunities for outdoor recreation. King County's forests host bikers, hikers, birders, horseback riders, and anglers as they exercise, socialize, and explore the outdoors. These recreational activities are an economic engine that supports vibrant tourism and recreation industries, while also providing safe, socially-distant activities during the current Covid-19 public health crisis. Although not specifically focused on forested landscapes, in 2015 nearly \$5.4 billion was spent on various forms of outdoor recreation in King County.⁷

Legacy of Forest and Natural Area Conservation

King County can point to almost three decades of successful policies and programs related to forest retention and conservation. At the highest level, these programs succeed because of the forest policies in the King County Comprehensive Plan ("KCCP"). The KCCP is a long-range guiding policy document for all land use and development regulations in unincorporated King County. The initial 1994 KCCP⁸ and the 1996 "Farm and Forest Report"⁹ both established the County's commitment to forest protection and management.

The KCCP is updated on annual, 4-year, and 8-year cycles, depending on the proposed amendments' importance. The most recent update took place in 2020.¹⁰ Chapter 5 of the Comprehensive Plan ("Environment") includes a suite of high-level policies that guide King County's environmental development regulations as well as incentives, education, and stewardship programs in unincorporated King County. Many of these touch directly on forestland or directly impact forest cover. One of the central tenants of the KCCP is that new growth in the County is focused within designated urban areas, with the aim of protecting resource land and reducing development pressure on the rural area and natural resource land.

⁷ Briceno, T., & G. Schundler. 2015. *Economic Analysis of Outdoor Recreation in Washington State*. Earth Economics: Tacoma, Washington. 116 pp.

⁸ <https://kingcounty.gov/~media/depts/executive/performance-strategy-budget/regional-planning/Comprehensive-Plan/1994 - Adopted Plan.ashx?la=en>

⁹ <https://www.kingcounty.gov/services/environment/water-and-land/forestry/forest-policy/farm-and-forest-report-1996.aspx>

¹⁰ <https://www.kingcounty.gov/depts/executive/performance-strategy-budget/regional-planning/king-county-comprehensive-plan/2020-Executive-Recommended-Plan.aspx>



Extensive areas of forest cover are conserved in King County, including, but not limited to, 272,000 acres in Mt. Baker-Snoqualmie National Forest, 100,000 acres owned and managed by the City of Seattle for municipal drinking water, 99,000 acres owned and managed by DNR, 32,000 acres owned and managed by Tribes, 24,000 acres owned and managed by King County Department of Natural Resources and Parks (“DNRP”), and 7,000 acres owned and managed by Washington State Parks. In addition, 138,000 acres of private forestland is enrolled in current use taxation (“CUT”) programs, much of which is encumbered by conservation easements, adding an additional layer of protection. In total, over 670,000 acres of the County’s 811,000 acres of forest cover have at least a minimum level of protection and are managed for long-term forest cover.

Most forest management activities on non-federal public and private land are regulated through the Forest Practices Act (“FPA”)¹¹, which is codified in Title 222 of the Washington Administrative Code. FPA is designed to protect public resources in Washington while maintaining a viable forest products industry.

Although King County has a proud history of forestland conservation, more needs to be done to protect remaining forests in the County. Many of the County’s recent planning efforts have highlighted the importance of forestland conservation and the recommendations in this report are fully aligned with the LCI¹², 30-Year Forest Plan, and Strategic Climate Action Plan (SCAP)¹³.

The 2017 King County LCI established bold objectives for the protection of remaining high-quality forestland, farmland, river corridors, and other open space priorities. Approximately 26,500 acres of the 65,000 acres identified in the LCI as priorities for preservation over 30 years were identified because of their forest values.

Building on earlier County efforts, in 2020, King County and partners developed a 30-Year Forest Plan to optimize maintenance and enhancement of forests Countywide. The purpose of the 30-Year Forest Plan is to develop a shared vision of priorities and goals associated with tree canopy, forest cover, and forest health that can be achieved by 2050. Actions outlined in this report contribute directly to the goals and objectives outlined in the 30-Year Forest Plan.

Additionally, the 2020 SCAP identified a number of strategies that both public and private forestland owners can implement to protect forestland and to enhance the potential of forests to sequester carbon and to be resilient in the face of a changing climate.¹⁴

¹¹ https://www.dnr.wa.gov/publications/fp_fpi_introduction.pdf

¹² <https://kingcounty.gov/services/environment/water-and-land/land-conservation.aspx>

¹³ <https://kingcounty.gov/services/environment/climate/actions-strategies/strategic-climate-action-plan.aspx>

¹⁴ <https://www.kingcounty.gov/services/environment/climate/actions-strategies/strategic-climate-action-plan.aspx>



Forest Cover

Prior to Euro-American settlement, the Puget Sound Lowlands¹⁵ were dominated by continuous forests of western hemlock, western redcedar, and Douglas-fir.¹⁶ Since the arrival of European settlers, the area has oscillated between periods of deforestation and reforestation. Despite periods of net forest gain, the overall trend has been toward reduced forest cover compared to the pre-European settlement era. A study of changes in forest cover over the past 100 years shows that the area was marked by severe declines in forest cover between 1857 and 1948, as the early logging industry boomed with little thought to long-term sustainability.¹⁷ Gradually, this style of extraction gave way to a more conservationist school of thought, followed by a period of net forest gain that lasted to the mid-1980s. Since then, the permanent conversion of forestland to developed land, specifically in cities and urban unincorporated areas, has led to a pattern of gradual net forest loss that has continued to current times. It is estimated that over 50% of historic conifer forests in the Puget Sound Lowland ecoregion have been converted to urban or agricultural use since the mid 1800s.

Over the past 20 years, King County has changed dramatically. King County gained nearly 200,000 residents between 2000 and 2010 (11.4% increase) and added another 270,000 between 2010 and 2020 (13.7% increase).¹⁸ Constant pressure from population growth has created challenges for retaining our valuable forest landscape. Fortunately, as a result of careful growth management planning, most development in recent decades has occurred within Urban Growth Areas instead of the rural forest and agricultural areas.

Much of King County's forestland was conserved through the previously mentioned public acquisition of land and conservation easements by federal, state, and County partners, as well as direct engagement with forestland owners throughout the County. As a result, 98.9% of the area forested in 1992 was retained in forests through 2016, and approximately 60% of the County remains forested (Table 1). Although total forest cover remained relatively stable in that time, there has been a continued downward trajectory. Total forest cover decreased from 61% to 60% between 1992 and 2016, which represents a loss of nearly 9,000 acres. All that loss was due to forest conversion within cities and urban unincorporated areas as there was a net increase in forested acreage in rural portions of the County (Table 1).

¹⁵ The Puget Lowland region is a wide low-lying area between the Cascade Range to the east and the Olympic Mountains to the west. The region extends from the San Juan Islands in the north to past the southern end of the Puget Sound. <https://www.dnr.wa.gov/programs-and-services/geology/explore-popular-geology/geologic-provinces-washington/puget-lowland>

¹⁶ Washington Department of Fish and Wildlife. 2005. Ecoregions: Washington's Ecoregional Conservation Strategy. *In Washington's Comprehensive Wildlife Conservation Strategy*, Volume I, Chapter 6. Pp. 257–555. https://wdfw.wa.gov/sites/default/files/publications/00727/chapter_vi.pdf

¹⁷ King County. 2013. Implications of Land-Cover Change History for Monitoring Present and Future Ecological Condition in Nine Basins on the Urban Fringe of Seattle, Washington, Appendix D. Prepared by Michalak, J., Lucchetti, G., Latterell, J., & Timm, R. Seattle, Washington. https://your.kingcounty.gov/dnrp/library/water-and-land/critical-areas/Appendices-CAO-Report_Final.pdf

¹⁸ <https://kingcounty.gov/independent/forecasting/King%20County%20Economic%20Indicators/KC%20Population.aspx>



Land Cover	Rural Land		Cities		Urban Unincorporated		Total	
	1992	2016	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)	61% (819,601)	60% (810,655)
Deciduous	3% (33,229)	3% (36,183)	6% (14,903)	5% (13,372)	7% (1,855)	6% (1,620)	4% (49,987)	4% (51,175)
Conifer	55% (586,766)	55% (584,921)	7% (19,536)	5% (14,549)	12% (2,961)	8% (2,122)	45% (609,263)	44% (601,592)
Mixed	12% (128,442)	12% (132,702)	10% (27,192)	8% (21,520)	18% (4,717)	14% (3,666)	12% (160,351)	12% (157,888)

Table 1. Forest cover as a percent of land cover (and acres) for rural areas, cities, and urban-unincorporated areas of King County. Calculated using NOAA C-CAP FTP data, 1992 and 2016. Percentages exclude water area.

The concept of “no net loss” of forests was incorporated into the 2020 update of the KCCP.¹⁹ As part of the Comprehensive Plan review, King County Council directed DNRP to assess forest cover loss due to development and the concomitant loss of forest carbon and carbon sequestration potential (Ordinance 19146). Council’s desire to maintain forest cover is clear in the statement, “...and the loss of carbon sequestration capacity resulting from such forest conversions should be fully mitigated.” The results of DNRP’s study are due in 2022.

Ownership

It is important to differentiate between “forest cover” and “forestland” as used in this report. Forest cover specifically refers to land cover that can be detected and classified as “forest” using remote sensing. This would include the full range of forest composition and structure from primarily conifer to primarily hardwood and forests of any age, except for recently clearcut land. Forestland, on the other hand, also captures land cover not classified as “forest,” which includes recent clearcuts, rural roads, rivers, and low density rural development that fall within an otherwise forested landscape. In 2016, approximately 811,000 acres in King County were classified as being dominated by “forest cover,” within a total forestland of approximately 889,000 acres (Tables 1 and 2).

¹⁹ <https://www.kingcounty.gov/~media/depts/executive/performance-strategy-budget/regional-planning/2020-Comprehensive-Plan-Update/2016-KCCP-KingCountyComprehensivePlan-updated072420-by-19146.ashx?la=en>



As of 2016, approximately 517,000 acres (64%) of the forest cover in King County were in public ownership and about 294,000 acres (36%) were in private or tribal ownership (Table 2, Figure 1). When considering total forestland, which includes recently harvested and regenerating forests, 566,000 acres (64%) of forestland were in public ownership and 320,000 acres (36%) were in private or Tribal ownership (Table 2, Figure 2). While most publicly owned forestland is in relatively large blocks, private and Tribal forestland ranges from small family forests of a few acres to Tribal and industrial forestlands of tens of thousands of acres. The recommendations included in this report are primarily focused on actions the County can take, in collaboration with partners, to support management on non-industrial private and County-owned forestland.

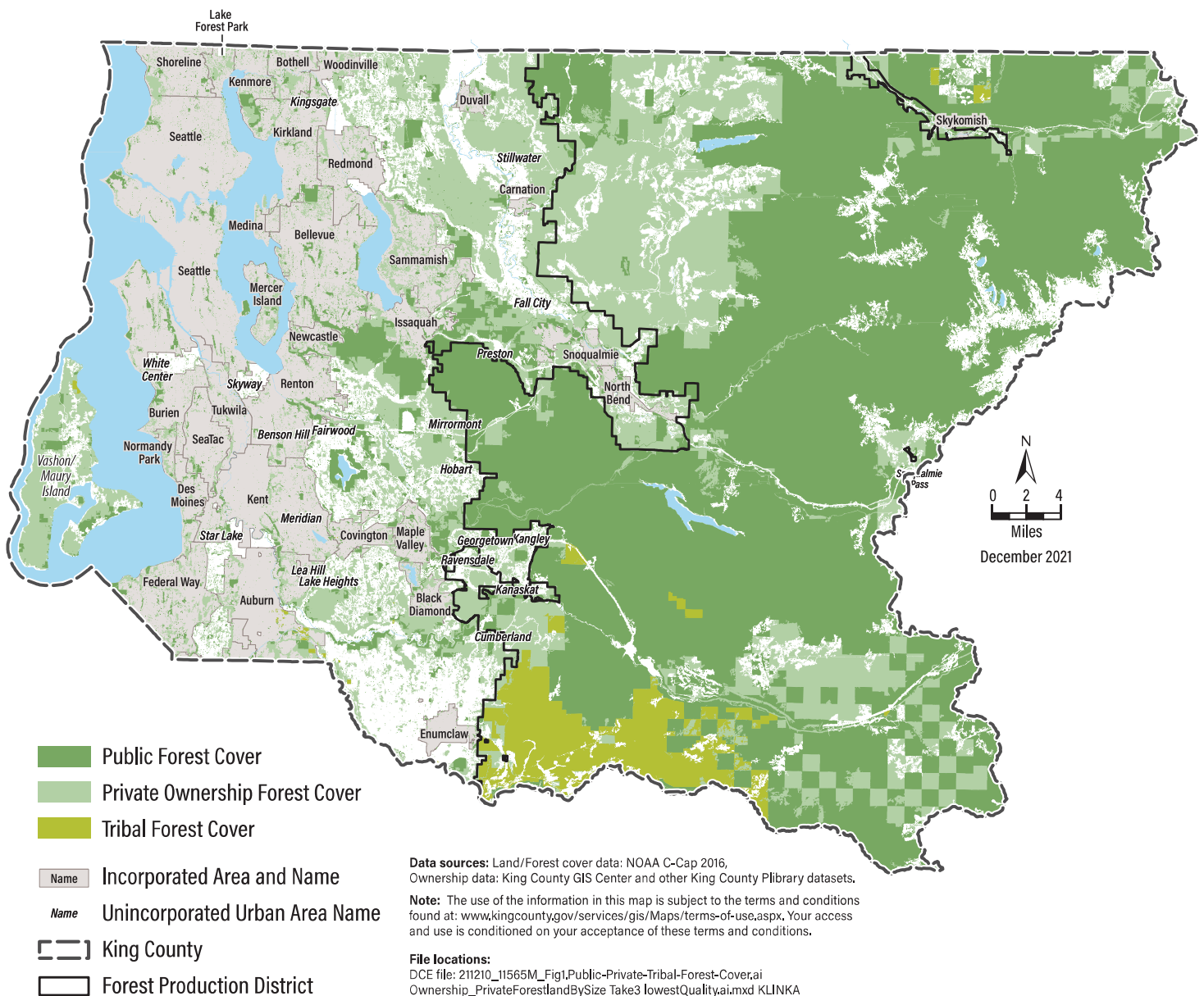
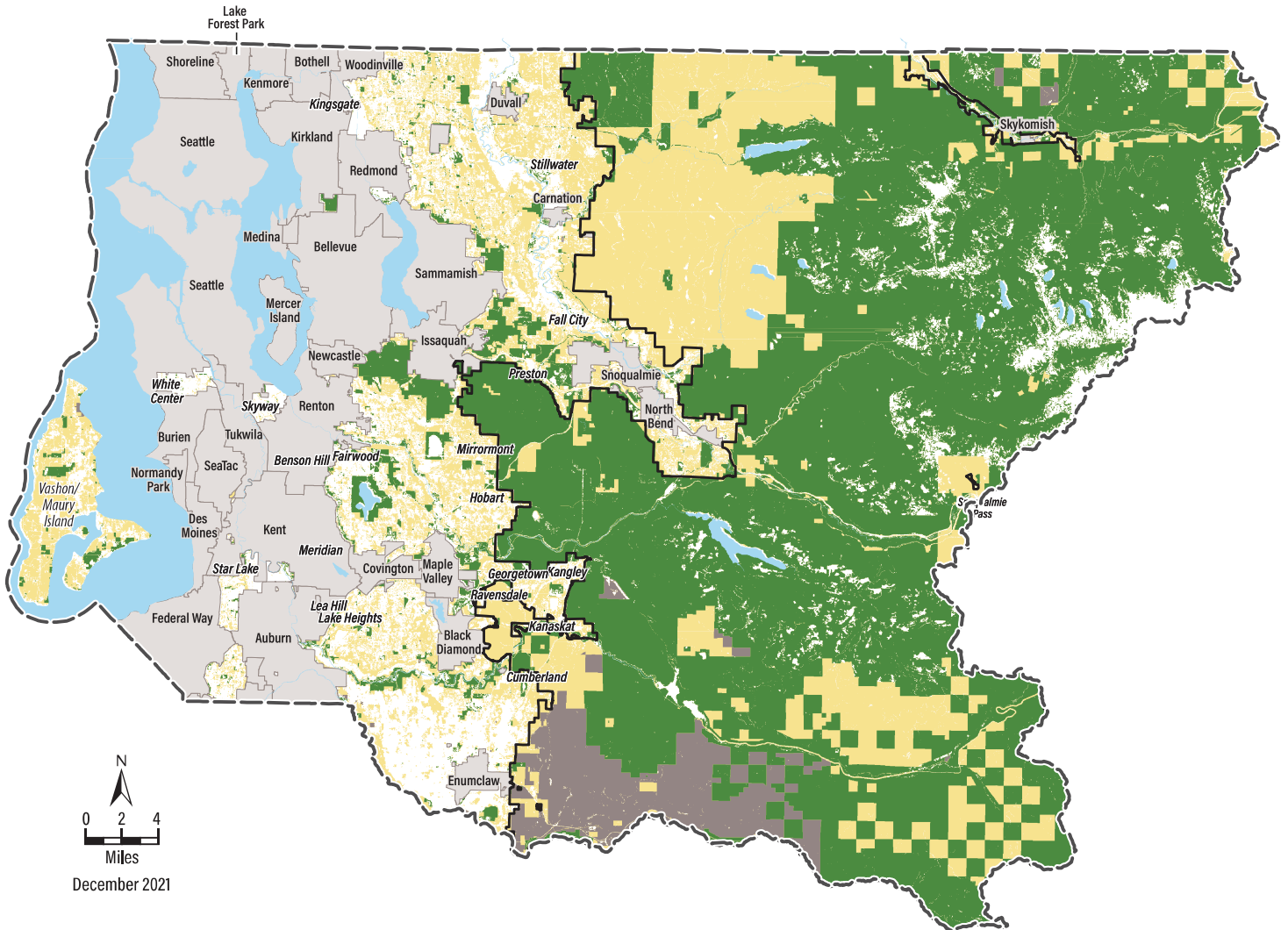


Figure 1. Public, Private, and Tribal Forest Cover in King County (Forest Cover 2016, Ownership 2018).



December 2021

- Public Forestland
- Tribal Forestland
- Private Forestland

- Name** Incorporated Area and Name
- Name* Unincorporated Urban Area Name
- King County
- Forest Production District

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: 211210_11565M_Fig2.Public-Private-Tribal-Forestland.ai
 Ownership_PublicPrivateTribe Forestland Take2.mxd KLINKA

Figure 2. Public, private, and Tribal forestland in King County. Forestland includes recently harvested and regenerating forests, in addition to mature forest cover.



Category	Number of Owners	Forest Cover Acres (2016)*	% Total Forest Cover Acres	Total Forestland Acres***
Public Forestland		517,000	64%	566,000
Federal (USFS)		272,000	34%	301,000
State (DNR, Parks)		107,000	13%	127,000
City and County		135,000	17%	138,000
Private Forestland	20,931	262,000	32%	275,000
Large Tract (> 1,000 acres of forest)	13	126,000**	16%	163,000
Medium Tract (5–1,000 acres of forest)	4,131	68,000**	8%	75,000
Small Tract (< 5 acres of forest)	16,777	40,000**	5%	40,000
Tribal Forestland	3	32,000	4%	45,000
Total		811,000	100%	889,000

Table 2. King County forest cover and forestland ownership (2016 land cover data, 2020 ownership data).

* Forest cover calculated from the National Land Cover Database 2016 (NLCD 2016) data. This represents acreage of young to mature forest that supported readily detectable trees at the time of data collection.

**Acreage for size classes of private forestland was produced from 2017 King County forest cover data, a higher resolution data source than the NLCD 2016. This resulted in some discrepancies in acreage totals.

*** Total forestland acres include recently harvested, replanted, and regenerating forests, as well as young to mature forest cover. To estimate this expanded acreage of forestland, scrub/shrub and grassland within the FPD were re-classified as forestland. Outside of the FPD, a visual assessment of NLCD 2016 data located recent harvested and regenerating forests, which were reclassified as forestland.

Public Forestland (64% of Forests and Forestland in King County)

Forests cover about 517,000 acres of the 566,000 acres of forestland in King County that is in public ownership. Nearly 53% of that total is owned and managed by the United States Forest Service (“USFS”) as part of Mount Baker-Snoqualmie National Forest (Table 2). Nearly one-half of the USFS acreage in King County is designated wilderness (Alpine Lakes and Wild Sky wilderness areas). Other public forestland managers in King County include DNR, Washington State Parks and Recreation Commission, cities (watershed protection), and DNRP. Most of these lands are in the Forest Production District (“FPD”) in the eastern half of King County (Figure 3).

Land management goals differ significantly among public agencies. USFS is the single largest forestland owner in King County, with approximately 272,000 acres of forest cover included in the King County portion of Mt. Baker-Snoqualmie National Forest. Once a major timber producer, the Forest Service’s management priorities on the National Forest shifted away from commodity timber production toward custodial management of forested ecosystems, endangered species recovery, and recreation.



Most DNR land is managed for revenue production for trust beneficiaries, such as schools, as a primary objective, which sets them apart from other public land. However, DNR does manage some land for conservation and recreation, such as Mount Si and numerous Natural Resources Conservation Areas.

King County DNRP Parks and Recreation Division (“Parks”) is responsible for management of working forest, forested natural areas, and open space, most of which have significant recreational value. County forestlands are diverse in size, location, past management history, and use restrictions. DNRP is in the process of developing comprehensive forest stewardship plans for all significant forest holdings (typically those >200 acres), and will soon be updating the 2016 Open Space Plan.²⁰ Together, these resources will guide future forest management actions.

DNRP Parks Division is also responsible for monitoring 138,000 acres under forest conservation easements. The overarching goal of those easements is to retain a significant working forestland base and limit forest conversion and forest fragmentation from development. Most of the Transfer of Development Rights (TDR) Program forest easements are in the Parks system inventory, along with conservation easements acquired through other means.

Many of the cities in King County obtain high-quality drinking water from large, protected, forested watersheds in eastern King County, the two largest of which are the Cedar River and Tolt River watersheds that combined serve over 1.5 million people. At nearly 100,000 acres in size, The Cedar River Municipal Watershed, which is owned and managed by the City of Seattle, is the largest municipality-owned watershed in the County. Many other cities have protected local tracts of forestland as part of groundwater/wellhead protection efforts.

²⁰ <https://kingcounty.gov/services/parks-recreation/parks/about/open-space-plan.aspx>



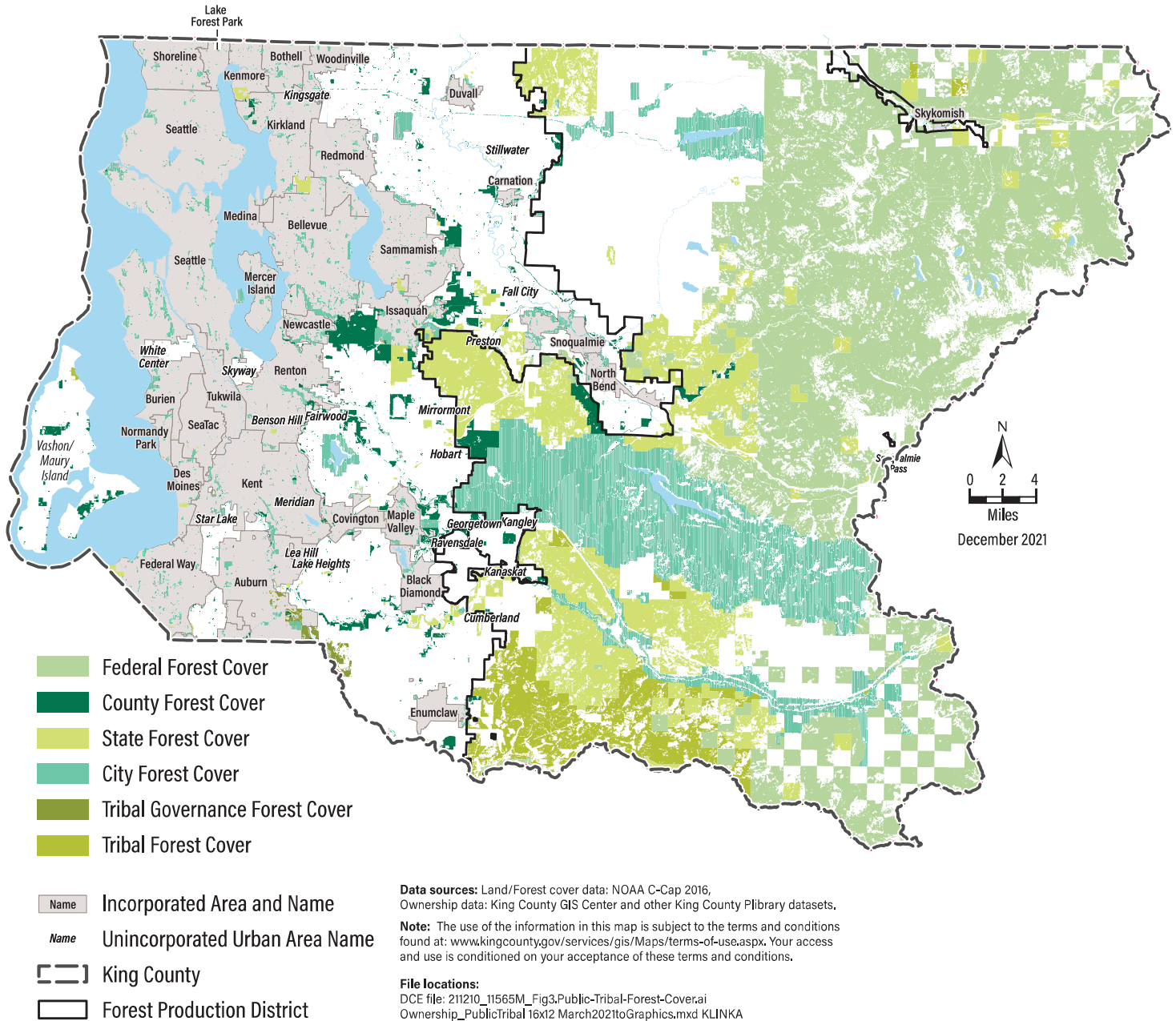


Figure 3. Map of Public and Tribal Forest Cover in King County (Forest Cover 2016, Ownership 2018).

Private Forests (32% of forests and forestland in King County)

Combined, the nearly 21,000 unique private forestland owners in King County manage 262,000 acres of forest cover and 275,000 acres of total forestland (Table 2). For the purpose of this report, private ownership is classified as “large” (>1,000 acres of forestland in a single ownership), medium (5–1,000 acres in a single ownership), and “small” (less than 5 acres of forestland in a single ownership). Management options and challenges vary greatly both within and among those ownership size classes and among ownership types.