2024 Tree Canopy Monitoring Report

Snohomish County Council

Tree Canopy Monitoring Presentation Outline

- Executive Summary
- Report Background and Regulations
- Comp Plan Update
- 2024 Report Findings
- Tree Type Diversity
- Mapping Assessments
- Recommendations

2014 Tree Canopy Ordinance background

October 8th, 2014, Snohomish County Council adopted Amended Ordinance No. 14-073, modifying development standards for urban residential landscaping to **regulate tree canopy requirements rather than individual trees**

New requirement for PDS to create a yearly report that summarizes the outcomes on an annual basis to assess their effectiveness

Summary of Tree Canopy Regulations:

All new residential development in unincorporated UGAs

Certain development activities are exempt

Applies to all properties regardless of existing tree canopy

Includes retention incentives

Requirements based on development types and units/lots

Tree Canopy Coverage Requirements

Amount of tree canopy coverage required for new residential development

Type of Development	Required 20-Year Tree Canopy Coverage (gross site area)
Subdivisions for Single Family Residential (10+ lots)	30%
Short Subdivisions for Single Family Residential (4 to 9 lots)	25%
Short Subdivisions for Single Family Residential (< 4 lots)	20%
Single Family Detached Units, Cottage Housing, Townhouse, Multi-family (10+ units)	20%
Single Family Detached Units, Cottage Housing, Townhouse, Multi-family (< 10 units)	15%
Urban Center (residential and mixed use projects only)	15%

Tree Canopy Calculations

Tree Survey Example

Tree Number	Tree Species	Taxonomic Family	Species Type (Evergreen/ Deciduous)	Native Species (Yes/No)	Retained (Yes/No)	SCC 30.25.016(5)(a)	SCC 30.25.016(5)(b)	SCC 30.25.016(5)(c)	SCC 30.25.016(5)(d)	SCC 30.25.016(5)(e)	Existing Average Canopy Radius*(r)	Average Canopy Calculation (CA=pr2)
1	Cedar	Cupressaceae	Evergreen	Yes	No						14	615.44
2	Redwood	Pinaceae	Evergreen	Yes	No						36	4069.44
3	Maple	Sapindaceae	Deciduous	Yes	No						8	200.96
4	Maple	Sapindaceae	Deciduous	Yes	No						8	200.96
5	Maple	Sapindaceae	Deciduous	Yes	No						8	200.96
6	Hemlock	Pinaceae	Evergreen	Yes	No						24	1808.64
7	Cedar	Cupressaceae	Evergreen	Yes	No						26	2122.64
8	Cedar	Cupressaceae	Evergreen	Yes	No						20	1256.00
9	Cedar	Cupressaceae	Evergreen	Yes	No						12	452.16
10	Fir	Pinaceae	Evergreen	Yes	No						16	803.84
11	Fir	Pinaceae	Evergreen	Yes	No						10	314.00
12	Fir	Pinaceae	Evergreen	Yes	No						14	615.44
13	Fir	Pinaceae	Evergreen	Yes	No						10	314.00
14	Apple	Rosaceae	Deciduous	Yes	No						10	314.00
15	Fir	Pinaceae	Evergreen	Yes	No						12	452.16
16	Fir	Pinaceae	Evergreen	Yes	No						12	452.16
17	Fir	Pinaceae	Evergreen	Yes	No						16	803.84
18	Pine	Pinaceae	Evergreen	Yes	No						10	314.00
19	Fir	Pinaceae	Evergreen	Yes	No						28	2461.76
20	Fir	Pinaceae	Evergreen	Yes	No						12	452.16
21	Apple	Rosaceae	Deciduous	Yes	No						12	452.16
22	Hemlock	Pinaceae	Evergreen	Yes	No						10	314.00
23	Hemlock	Pinaceae	Evergreen	Yes	No						8	200.96
24	Laurel	Rosaceae	Evergreen	Yes	No						8	200.96
25	Hemlock	Pinaceae	Evergreen	Yes	No						8	200.96
26	Hemlock	Pinaceae	Evergreen	Yes	No						8	200.96

Aerial Survey Example

How is tree canopy measured?

- New canopy is measured estimating what the square footage size will be for a 20-year old mature tree
- Existing canopy is measured using either an aerial survey or on-site tree survey

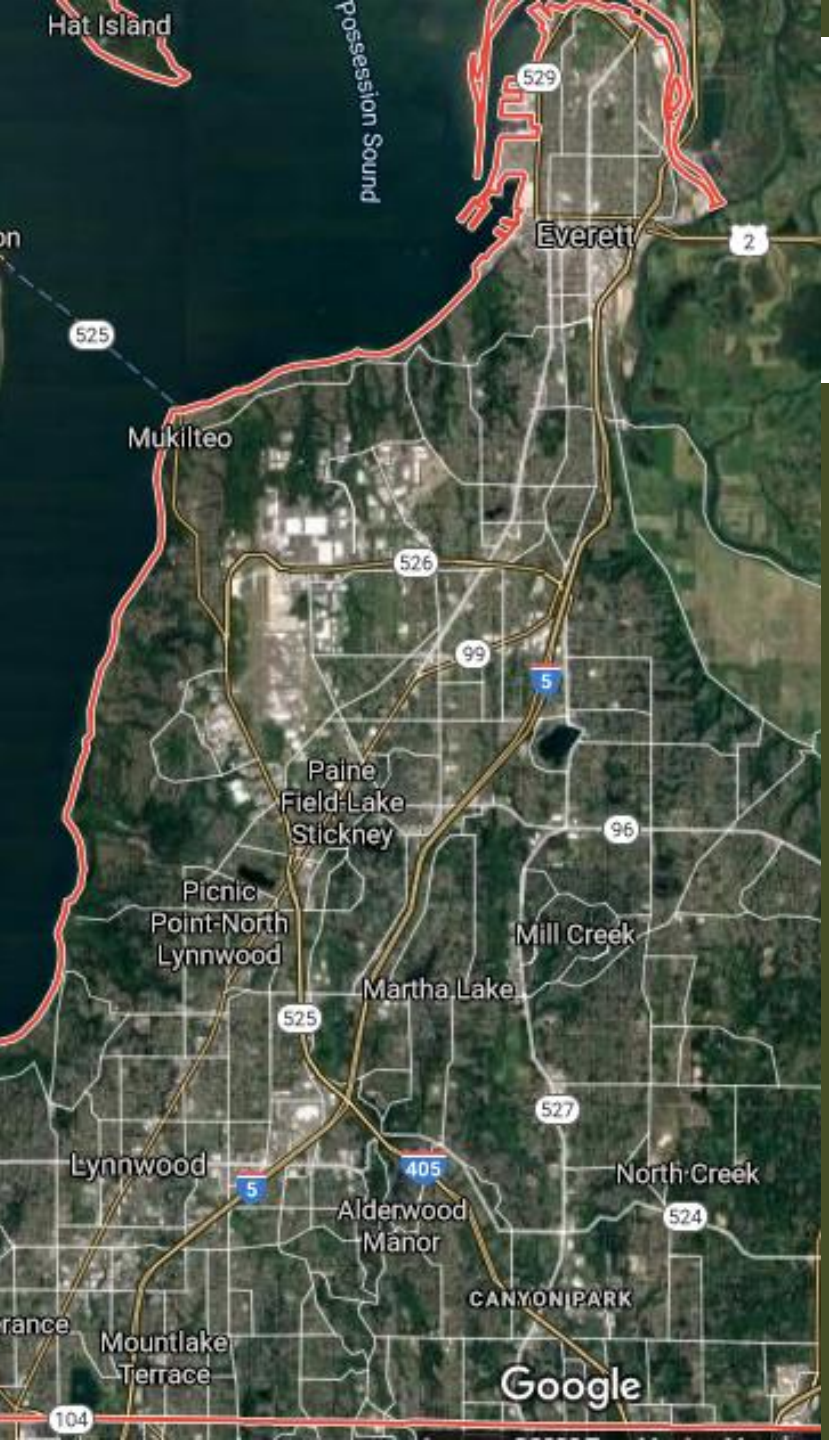
Tree Canopy Incentives SCC 30.26.16

Individual Significant Trees

125% of actual canopy area

Clusters of 5 +

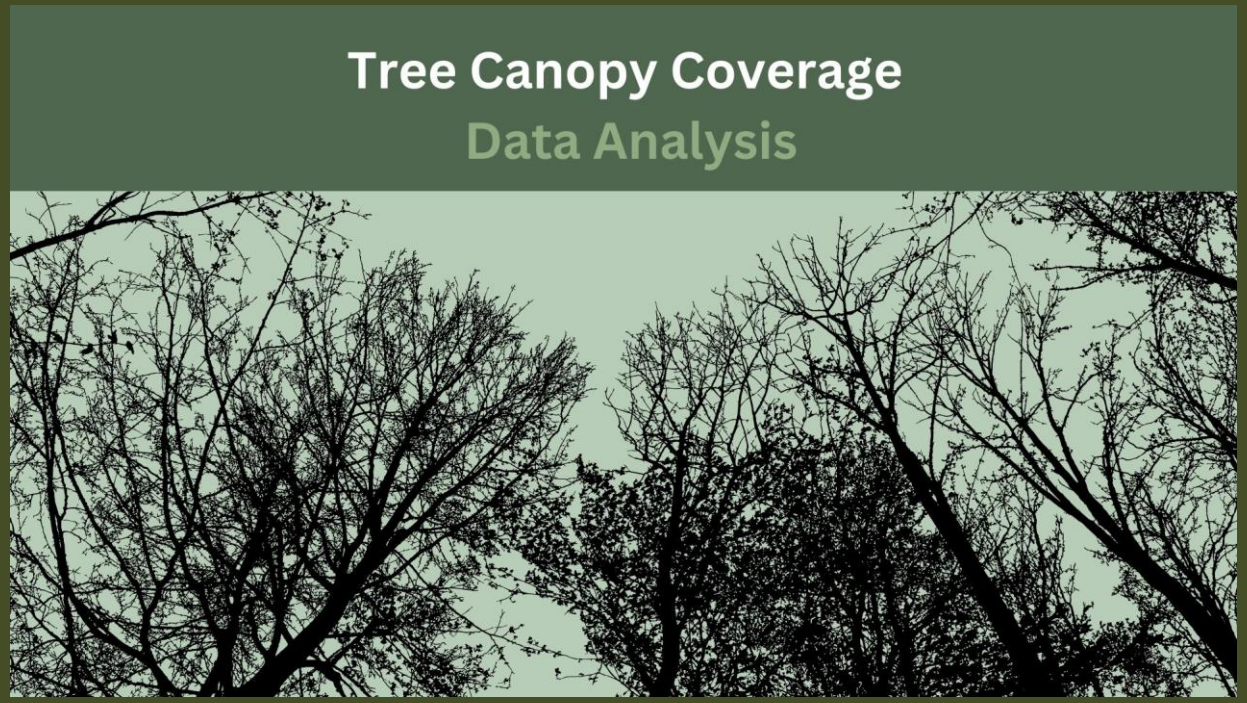
150% of actual canopy area

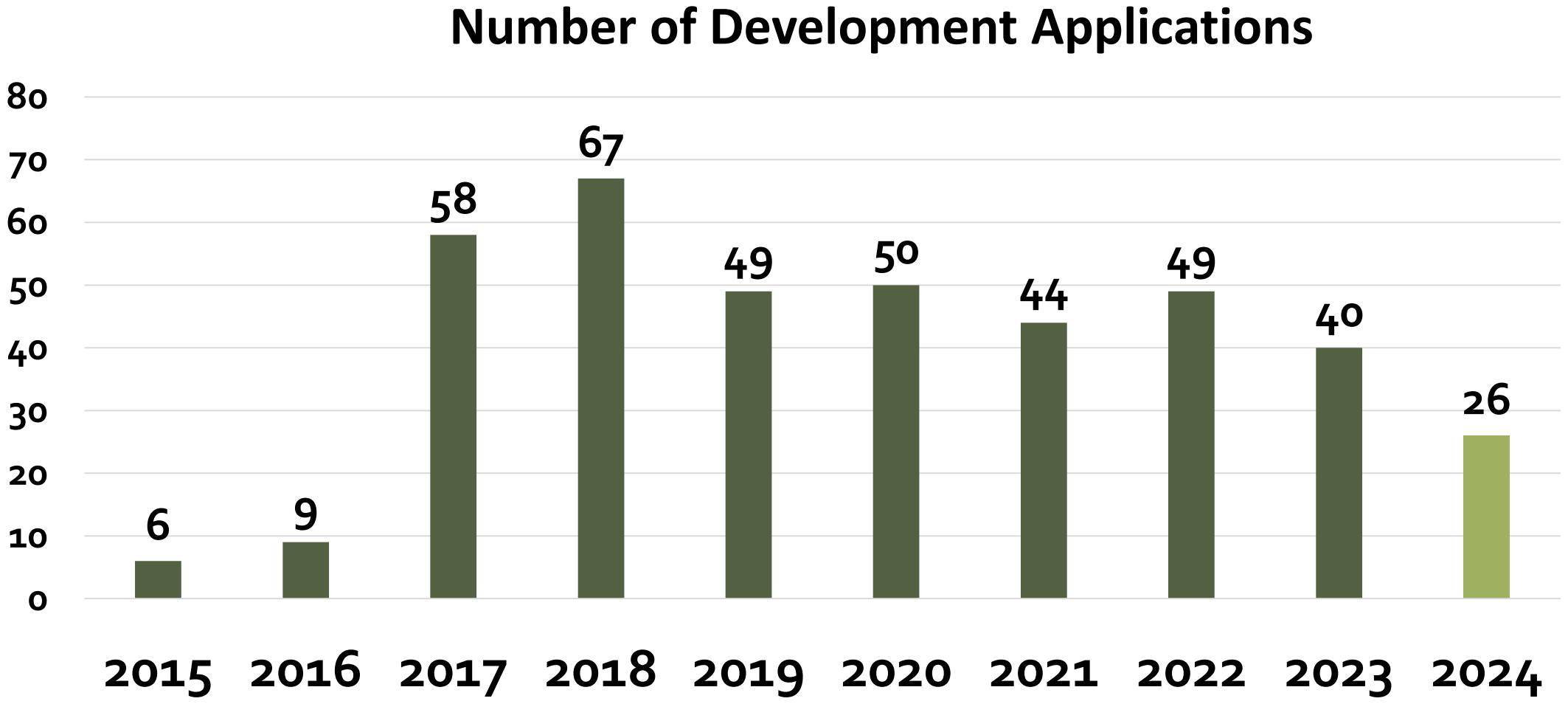


Establishing A Tree Canopy Baseline

- High-level GIS analysis of Best Available Land Cover Data provided by US Geologic Service from 2007
- 2023 analysis determined the unincorporated UGAs contained an estimated **38%** coverage

2024 Tree Canopy Monitoring Report Findings





Total Permit Applications Subject to Tree Canopy Regulations

NUMBER AND TYPE OF PERMIT APPLICATIONS

Application Type	CY 2019 Report	2020 Report	2021 Report	2022 Report	2023 Report	2024 Report	CY 2015 - 2024 Totals
Subdivision (10+ lots)	9	10	9	7	4	1	79
Short Subdivision (4 – 9 lots)	9	7	3	9	10	6	71
Short Subdivision (< 4 lots)	3	11	5	5	1	2	39
Single Family Detached Units (10+ units)	10	4	5	6	2	3	51
Single Family Detached Units (<10 units)	6	12	8	5	3	3	51
Cottage Housing (10+ units)	0	0	0	0	0	0	1
Cottage Housing (< 10 units)	0	0	0	0	0	0	0
Townhouse (10+ units)	3	3	8	11	13	8	61
Townhouse (<10 units)	2	3	2	3	1	2	16
Multiple Family (10+ units)	4	0	1	0	0	0	10
Multiple Family (<10 units)	0	0	1	0	3	0	4
Urban Center (residential and mixed use only)	3	0	2	3	3	1	16
Total	49	50	44	49	40	26	398

Number of Applications by Method

Tree Canopy Estimation Method	CY 2018 Report (1/18 – 12/18)	CY 2019 Report (1/19 – 12/19)	2020 Report (1/20-12/20)	2021 Report (1/21-12/21)	2022 Report (1/22-12/22)	2023 Report (1/23-12/23)	2024 Report (1/24 – 12/24)
Tree Survey	19	4	7	4	8	1	**1**
Aerial Estimation	11	15	19	11	15	15	**8**
New Canopy Only	37	30	24	29	26	24	**17**
Total	67	49	50	44	49	40	**26**
% of Permits that Retained Canopy Coverage	45%	39%	52%	34%	43%	45%	**35%**

Retained Tree Canopy Data

Tree Canopy Estimation Method	2018 Report	2019 Report	2020 Report	2021 Report	2022 Report	2023 Report	2024 Report
Tree Survey (sq.ft.)	84,051	35,420	22,418	6,199	32,131	40,889	640
Aerial Estimation (sq. ft.)	253,004	475,231	1,041,803	370,662	523,339	349,776	249,457
Total Retained Canopy (sq.ft.)	337,055	510,651	1,064,221	376,861	555,470	390,665	250,097
% of total canopy coverage retained	19.9%	28.1%	51.8%	32.8%	43.4%	45%	60%

Overall Tree Canopy Data

Reporting Requirement	2022 Report	2023 Report	2024 Report	Cumulative 2015-2024
Number of Applications	49	40	26	398
Tree Canopy Required (sq.ft.)	1,107,055	689,974	545,551	12,411,766
Total Canopy New and Retained (sq. ft.)	1,278,474	888,521	668,482	14,556,074
Total New Trees Planted	2,766	1,816	1,592	27,235

Tree Type Diversity

- 4th Year of tracking Tree Type Diversity (first in 2021)
- Landscape Designer is required for all tree canopy permits
- Applicants can use the ‘Tree Canopy Database’ which includes:
  - Species
  - Growth type
  - Drought tolerance
  - Estimated 20-year canopy square footage
- Applicants can also use their own calculations on trees not included on database

Most Planted Tree Species

Tree Species – Common Name	Tree Species – Scientific Name	Native Species	2024 Trees Planted	% of Trees planted in 2024
Excelsa Western Red Cedar	Thuja plicata 'Excelsa'	No	**134**	**8%**
Douglas Fir	Pseudotsuga menziesii	No	**123**	**8%**
Paperback Maple	Acer Griseum	No	**103**	**6%**
Vine Maple	Acer circinatum	Yes	**100**	**6%**
Western Red Cedar	Thuja plicata	No	**95**	**6%**
Red Maple	Acer Rubrum	Yes	**85**	**5%**
Columnar Pyramidal Arborvitae	Thuja occidentalis 'Fastigiata'	Yes	**82**	**5%**
Freeman's Maple	Acer x freemani 'Jeffersred'	No	**79**	**5%**
Total:			**801**	**50%**

Summary of 2024 Data

0 Applicant Used Canopy Bonuses	0 Significant Trees Retained	1,592 New Trees Planted
3 Permits Met Requirements with Retained Canopy Only	9 Permits Met Requirements with Retained and New Trees	17 Permits Met Requirements with New Canopy Only

URBAN TREE CANOPY SUBELEMENT OF NATURAL ENVIRONMENT

Natural Environment Element 12

Goal 9. Polices 9.A.1 - 9.A.6

FUTURE RECOMMENDATIONS

- To pursue additional mapping by requiring further GIS analysis of the most recent USGS Best Available Land Cover Data for canopy coverage.
- Develop the Urban Forest Management Program & pursue designation as an Evergreen Community.
- The implementation of the new urban tree canopy subelement in Goal 9 of the Natural Environment element policies 9.A.1 - 9.A.6.
- Updating the growing list of Native Tree Species to increase tree diversity.
- Encouraging that tree canopy calculation sheets are completed in its entirety.

Where to Find More Information

Past reports and links to Ordinance and Snohomish County Code here:

www.snohomishcountywa.gov/2737/Tree-Canopy-in-Landscaping

Questions?