

2023 Tree Canopy Monitoring Report

Snohomish County Planning
Commission



Snohomish County



Tree Canopy Monitoring Presentation Outline

- Executive Summary
- Report Background and Regulations
- 2023 Report Findings
- Tree Type Diversity
- Recommendations



Executive Summary

-Tree Canopy Monitoring Report details the canopy preserved and planted for new residential permits in urban unincorporated Snohomish County

- Yearly report required January 31st

888,521 sq. ft.

2023 Total 20-Year Canopy Area (New & Retained)

1,816

2023 New Trees Planted

689,974 sq. ft.

2023 Total 20-Year Canopy Area Required (New & Retained)

44%

2023 Retained Canopy

15,512,279 sq. ft.

Total 20-Year Canopy Area (New & Retained) from 2014-2023

56%

2023 Newly Planted Canopy

Tree Canopy Monitoring Regulation



- 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

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

Aerial Survey Example



Tree Number	Tree Species	Taxonomic Family	Species Type (Evergreen/Deciduous)	Native Species (Yes/No)	Retained (Yes/No)	SCC 30.25.016(S)(a)	SCC 30.25.016(S)(b)	SCC 30.25.016(S)(c)	SCC 30.25.016(S)(d)	SCC 30.25.016(S)(e)	Existing Average Canopy Radius*(r)	Average Canopy Calculation (CA=pr ²)
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

Retaining Existing Canopy & Incentives

SCC 30.25.016

Tree Survey

Measures average canopy radius for each retained tree

Aerial Estimation

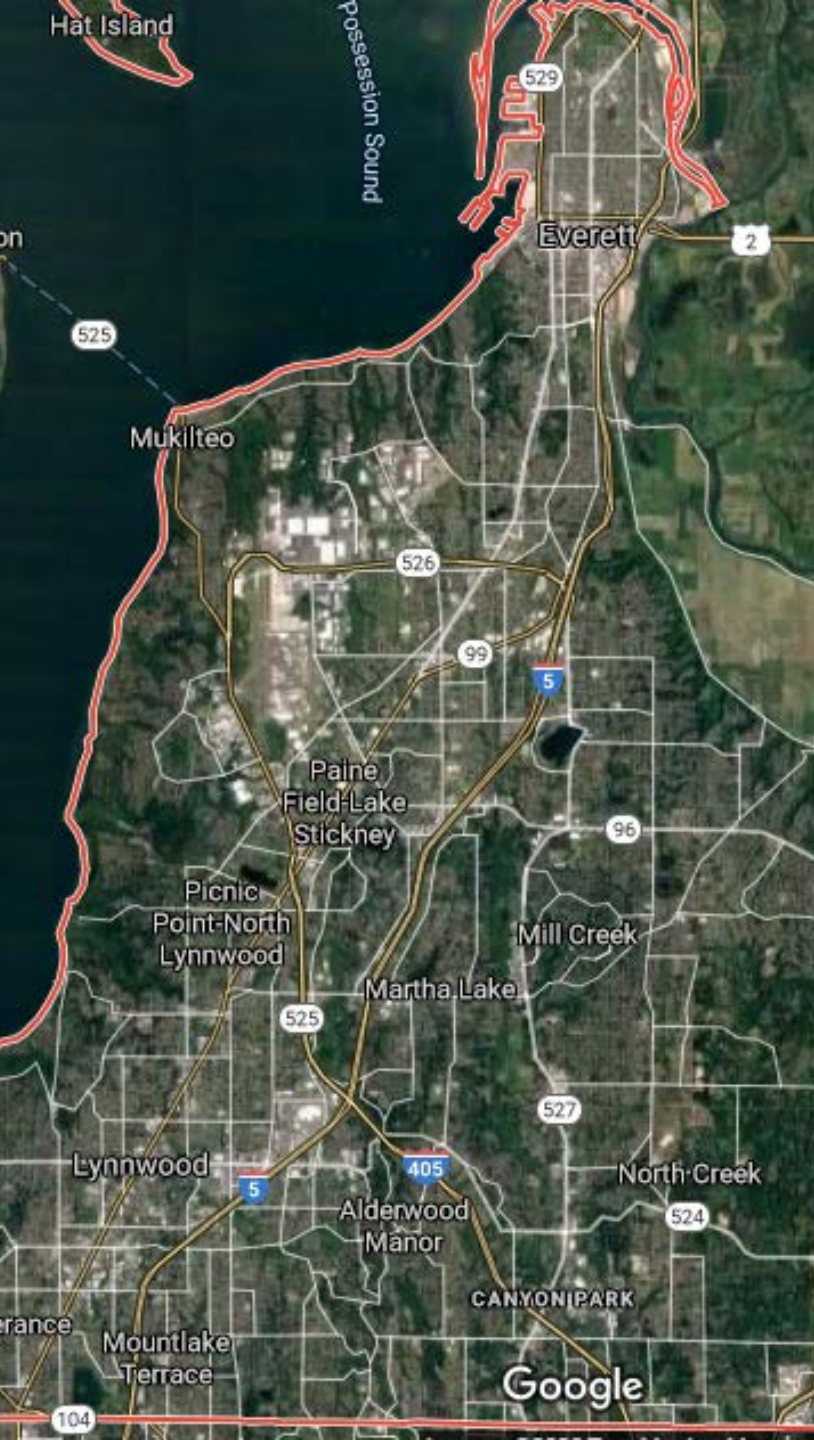
Aerial imagery that divides total canopy by gross site area to determine percentage

Individual Significant Trees

125% of actual canopy area

Clusters or 5+

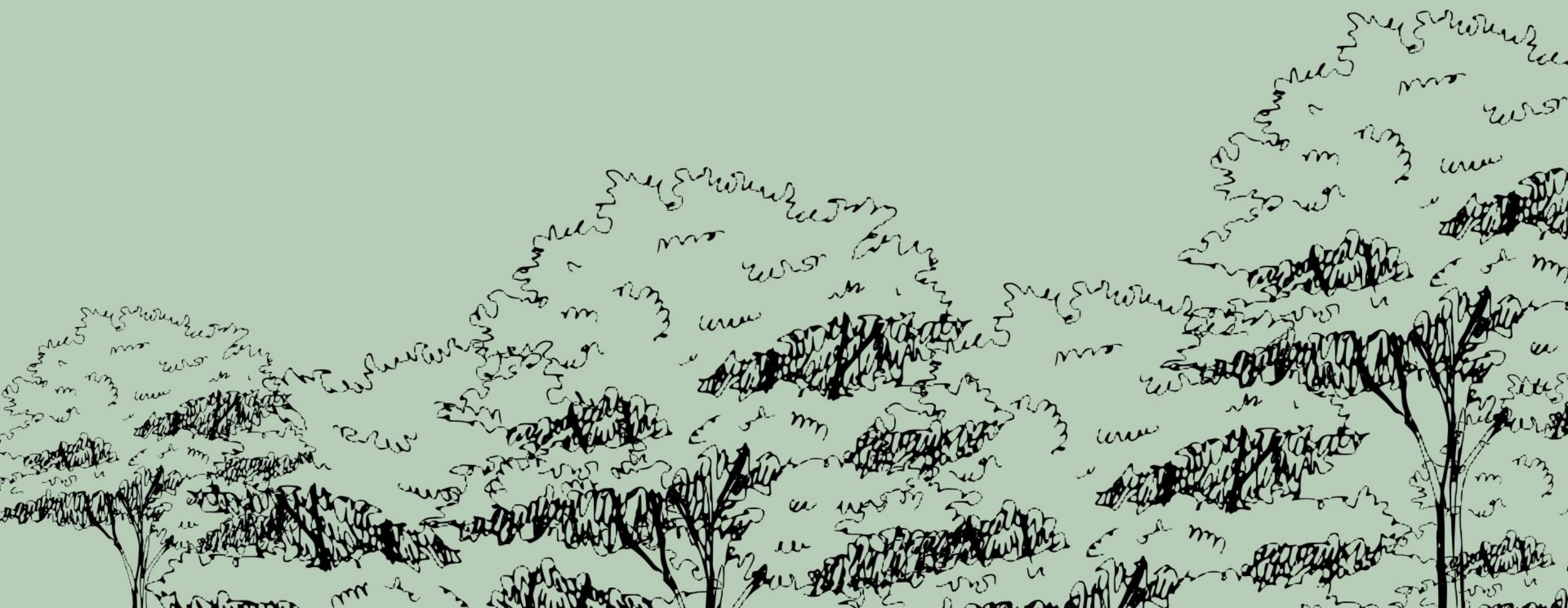
150% of actual canopy area

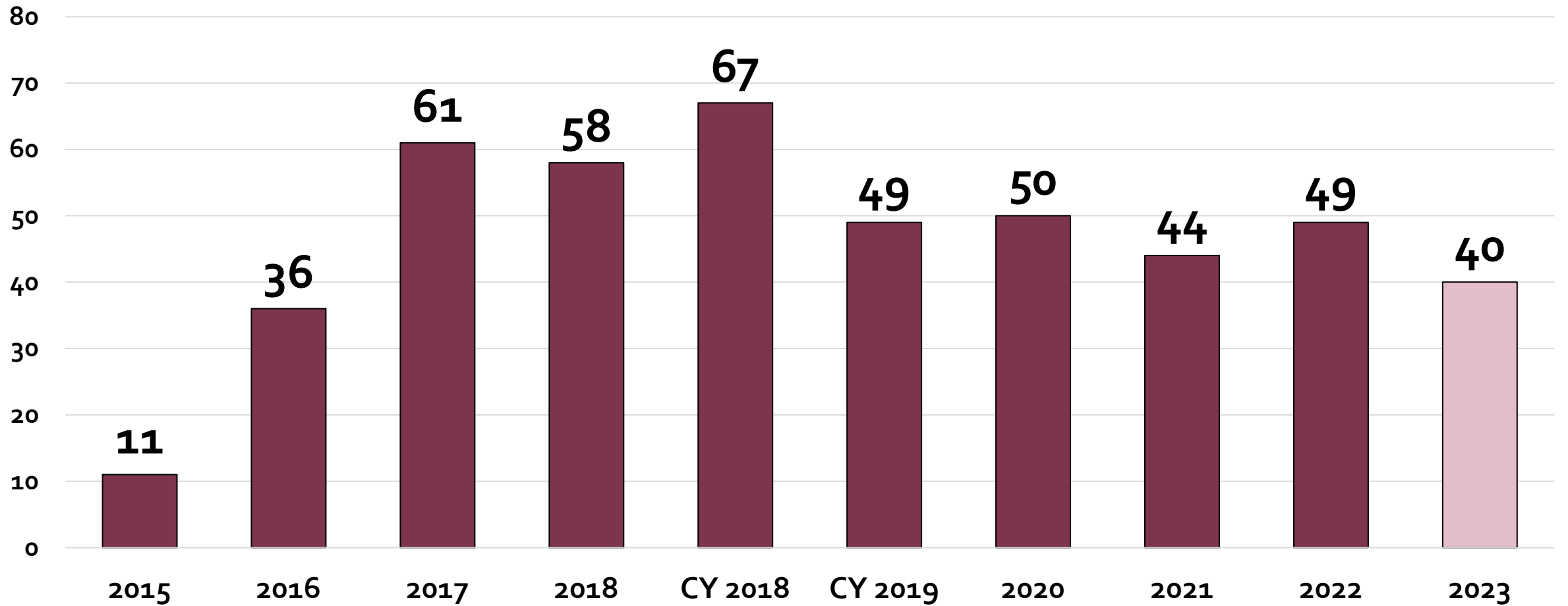


Establishing A Tree Canopy Baseline

- High-level GIS analysis of Best Available Land Cover Data provided by US Geologic Service from 2007
- 2013 analysis determined the unincorporated UGAs contained an estimated **30%** coverage
- SCC does not require further GIS analysis
- 2020 Report included updated data analysis
- Further analysis was conducted for 2023 report

2023 Tree Canopy Monitoring Report





Total Permit Applications Subject to Tree Canopy Regulations

Application Type	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)	CY 2018 -2023 Report Totals
Subdivision (10+ lots)	18	9	10	9	7	4	57
Short Subdivision (4 – 9 lots)	14	9	7	3	9	10	52
Short Subdivision (< 4 lots)	8	3	11	5	5	1	33
Single Family Detached Units (10+ units)	7	10	4	5	6	2	34
Single Family Detached Units (<10 units)	6	6	12	8	5	3	40
Cottage Housing (10+ units)	0	0	0	0	0	0	0
Cottage Housing (< 10 units)	0	0	0	0	0	0	0
Townhouse (10+ units)	5	3	3	8	11	13	43
Townhouse (<10 units)	3	2	3	2	3	1	14
Multiple Family (10+ units)	3	4	0	1	0	0	8
Multiple Family (<10 units)	0	0	0	1	0	3	4
Urban Center (residential and mixed use only)	3	3	0	2	3	3	14
Total	67	49	50	44	49	40	299

NUMBER AND TYPE OF PERMIT APPLICATIONS

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)	CY 2018-2023 Report Totals
Tree Survey	19	4	7	4	8	1	43
Aerial Estimation	11	15	19	11	15	15	86
New Canopy Only	37	30	24	29	26	24	170
Total	67	49	50	44	49	40	299
Percent of Permits that Retained Canopy Coverage	45%	39%	52%	34%	43%	45%	43%

Tree Retention



Retaining significant trees remains an objective of current regulations.

Regulations address species mix, promoting native trees, and planting the 'right tree in the right place'.

Retained Tree Canopy Data

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)	Cumulative Retained Canopy (CY 2018-2023)
Tree Survey (sq. ft.)	84,051	35,420	22,418	6,199	32,131	40,889	221,108
Aerial Estimation (sq. ft.)	253,004	475,231	1,041,803	370,662	523,339	349,776	3,013,815
Total Retained Canopy (sq. ft.)	337,055	510,651	1,064,221	376,861	555,470	390,665	3,234,923
Percent of Total Canopy Coverage Retained	19.9%	28.1%	51.8%	32.8%	43.4%	45%	36.9%

Overall Tree Canopy Data

Reporting Requirement	2021 Report	2022 Report	2023 Report	<u>Cumulative 2018-2023</u>
Number of Applications	44	49	40	299
Tree Canopy Required (sq.ft.)	1,126,694	1,107,055	689,974	7,776,834
Total Canopy New and Retained (sq. ft.)	1,147,599	1,278,474	888,521	8,757,909
Total New Trees Planted	3,306	2,766	1,816	19,018

Tree Type Diversity

- 3rd 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



2023 Tree Type Diversity

83

Total Tree
Species

1,816

New Trees
Planted

8 Species
Represented

59% of
All New Trees
Planted

2023 Most Planted Tree Species

Tree Species – Common Name	Tree Species – Scientific Name	Native Species	2023 Trees Planted	% of Trees planted in 2023
Douglas Fir	<i>Pseudotsuga menziesii</i>	Yes	167	9.2
Excelsa Western Red Cedar	<i>Thuja plicata</i> 'Excelsa'	No	165	9.1
Vine Maple	<i>Acer circinatum</i>	Yes	164	9.0
Western Red Cedar	<i>Thuja plicata</i>	No	152	8.4
Edith Bougue Southern Magnolia	<i>Magnolia Grandiflora</i> 'Edith Bougue'	No	125	6.9
Warrenred Pacific Sunset Maple	<i>Acer truncatum</i> x <i>A. platanoides</i> 'Warrenred'	No	123	6.8
Columnar American Arborvitae	<i>Thuja occidentalis</i> 'Fastigiata'	Yes	97	5.3
Pacific Wax Murtle	<i>Myrica Californica</i>	No	92	5.1
Total:			1,085	59.8

Summary of 2023 Data

1

Applicant Used
Canopy Bonuses

3

Significant Trees
Retained

1,816

New Trees
Planted

4

Permits Met
Requirements with
Retained Canopy Only

15

Permits Met
Requirements with
Retained and New Trees

22

Permits Met
Requirements with
New Canopy Only

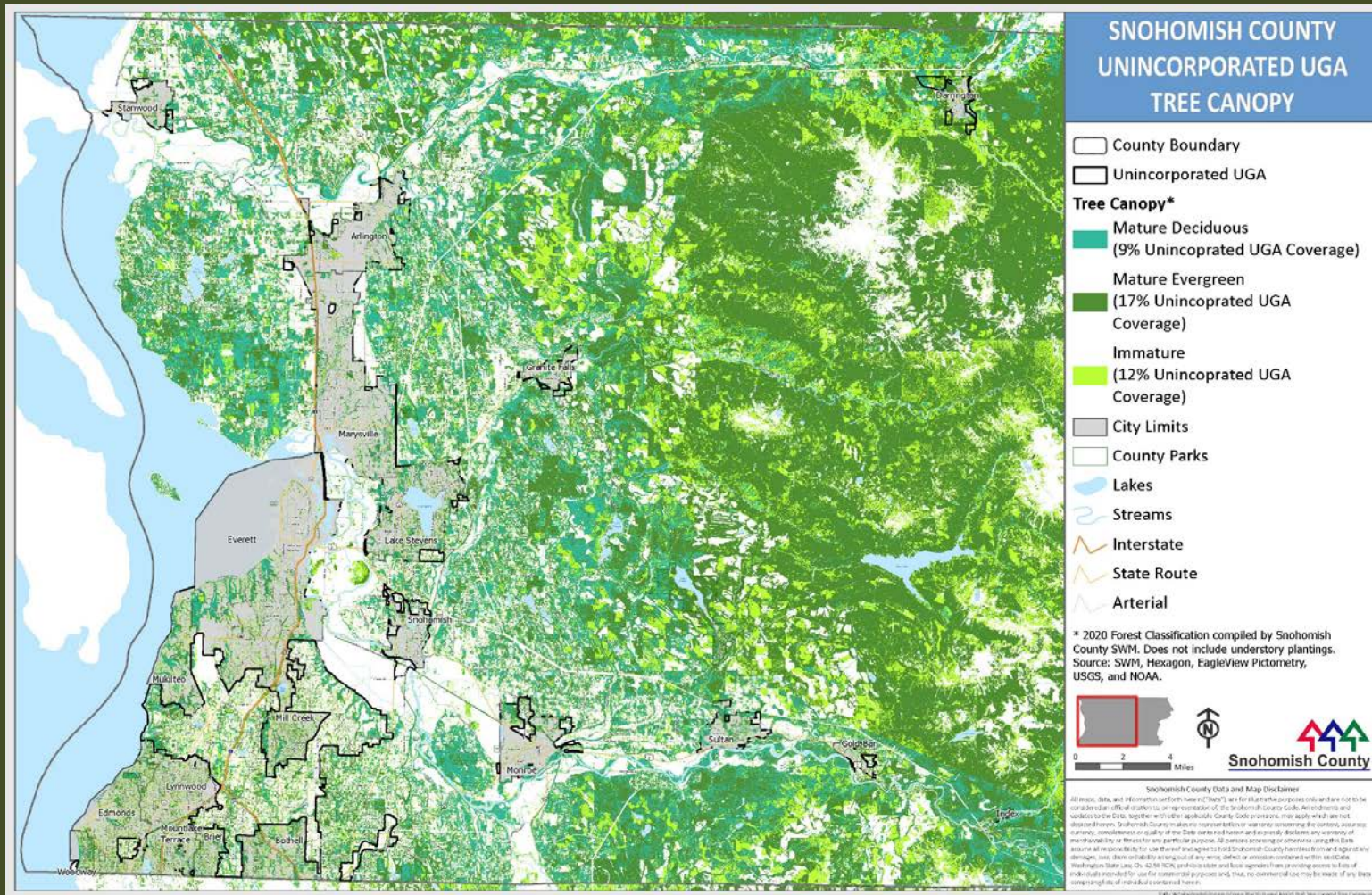
Proposed Urban Tree Canopy Subelement

Goal NE 9 of the Natural Environment Element



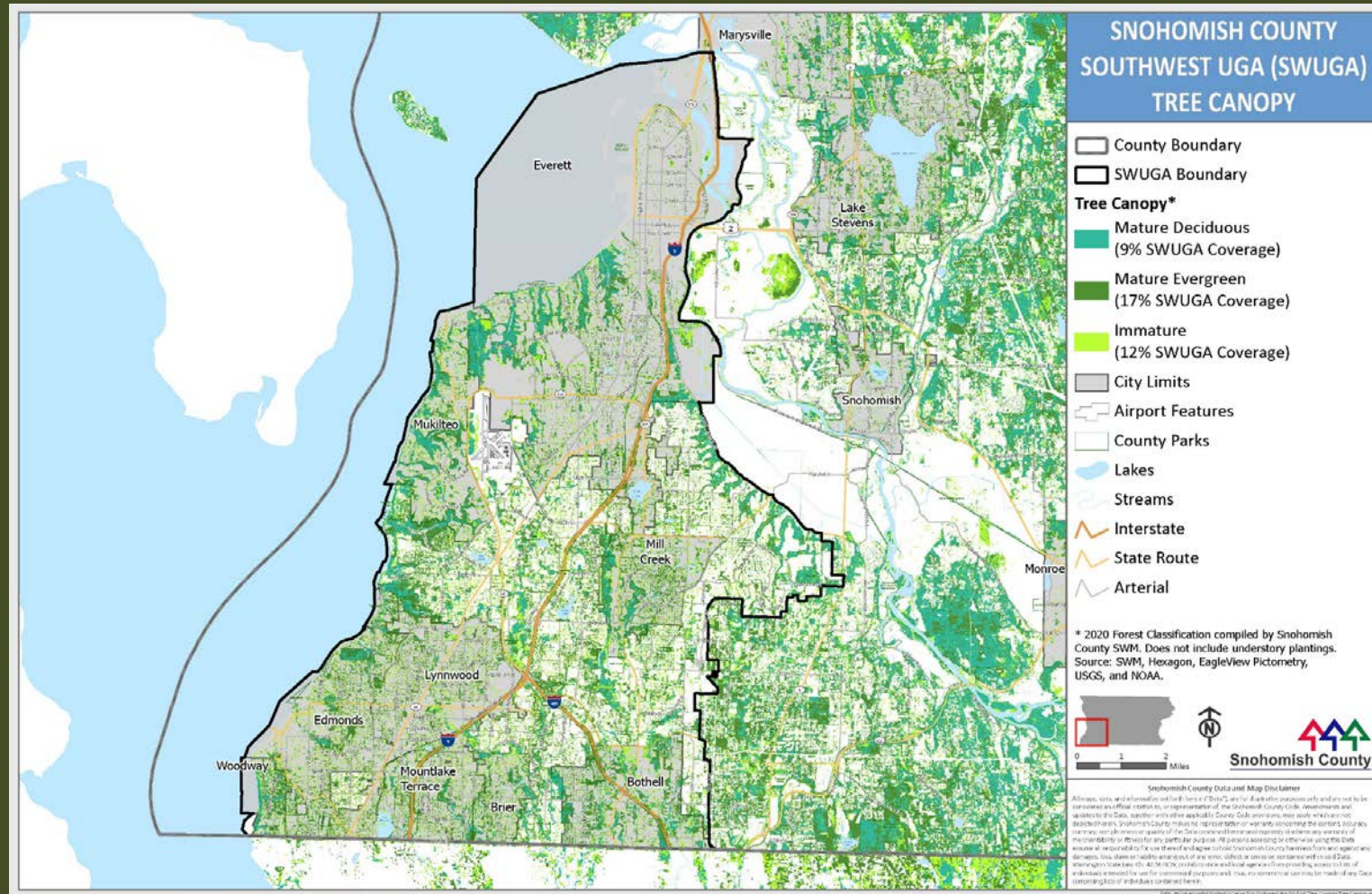
Assesses current regulations on tree canopy coverage to meet the current & long term needs of communities.

TREE CANOPY COVERAGE DATA AND TREE MATURITY IN THE UNINCORPORATED URBAN GROWTH AREA.



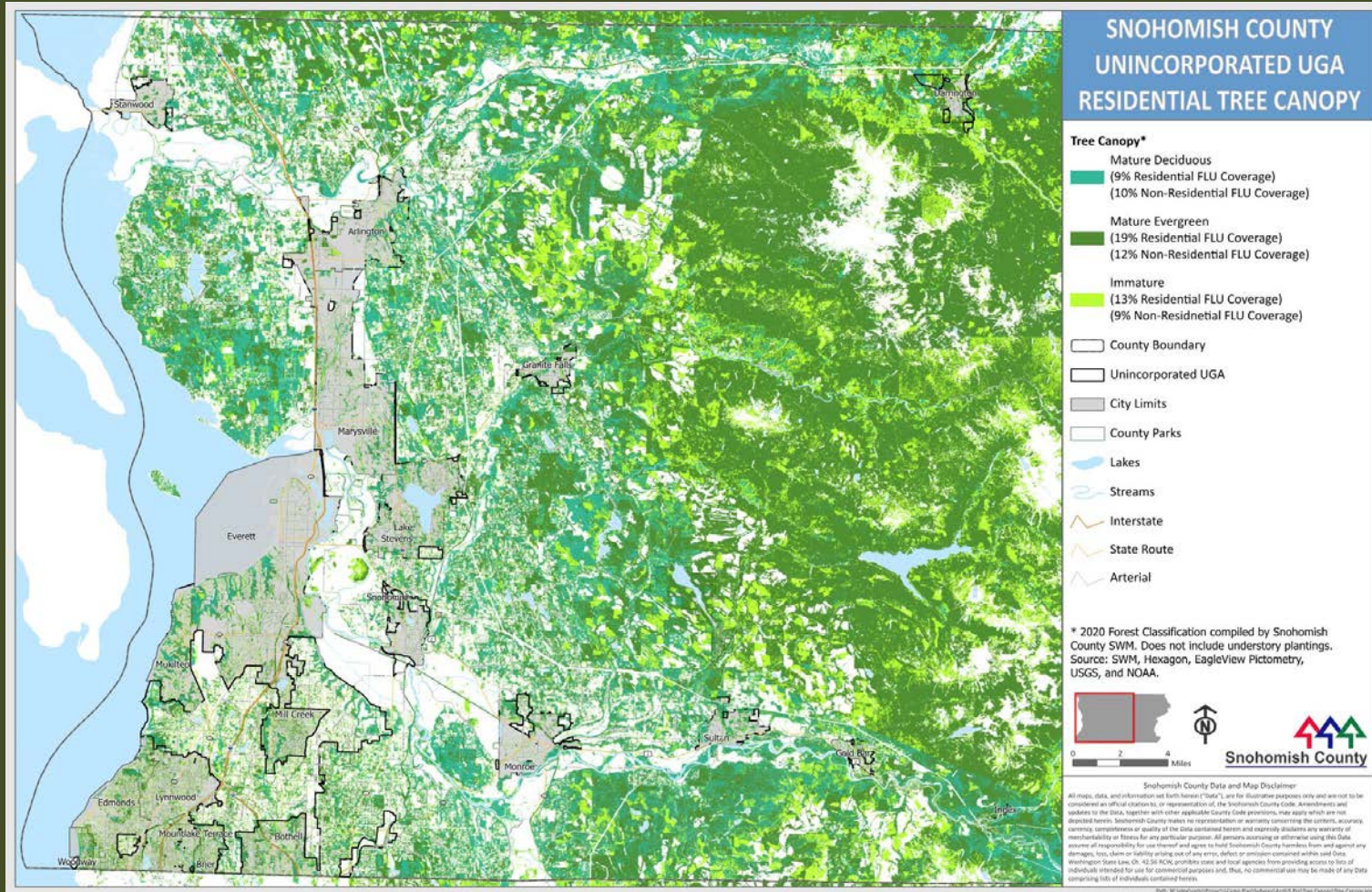
- 9% Mature deciduous Canopy.
- 17% Mature Evergreen
- 12 % Immature canopy

TREE CANOPY COVERAGE DATA FOCUSED WITHIN THE SOUTHWEST URBAN GROWTH AREA (SWUGA)



- 9% Mature deciduous Canopy.
- 17% Mature Evergreen
- 12 % Immature canopy

RESIDENTIAL MAPPING FOR UNINCORPORATED UGA



The 2023 report includes mapping detailing canopy coverage within residential & non-residential areas for the unincorporated Urban Growth Areas and the SWUGA.

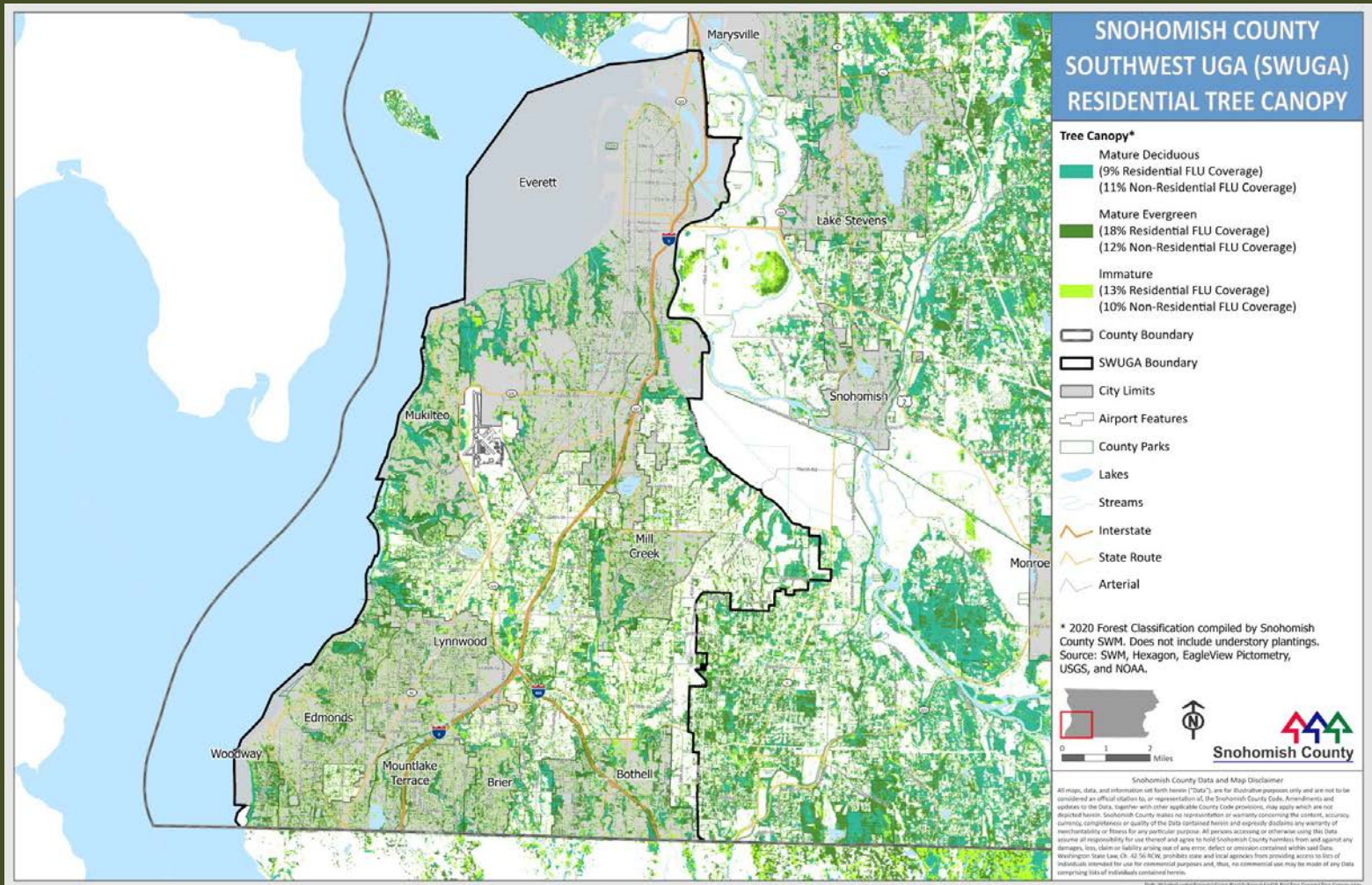
Residential tree canopy coverage:

9% Mature Deciduous

19% Mature Evergreen

13% Immature Canopy.

RESIDENTIAL & NONRESIDENTIAL MAPPING FOR UNINCORPORATED SWUGA



SWUGA Residential Tree canopy Coverage:

- 9% Mature Deciduous
- 18% Mature Evergreen
- 13% Immature canopy

FUTURE RECOMMENDATIONS

- To pursue additional mapping by requiring further GIS analysis of the most recent USGS Best Available Land Cover Data for canopy coverage.
- Documenting the existing tree canopy coverage for option 2 aerial estimation methods that combine tree retention and new plantings.
- The positive changes brought by the adoption of Motion 22-096, the urban tree canopy policy NE 12
- updates to the growing list of Native Tree Species to increase tree diversity
- Tracking the proposed tree canopy policies for 2024 Comprehensive plan update.

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?

