Parks and Open Space Management Plan
City of Camas

Acknowledgements

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This project was a collaboration between the City of Camas staff and commissioners, the consulting team, the Camas community, and other Washington agencies. It was built upon previous plans and engagement processes in order to move community values and goals into implementation. A big thank you to everyone who contributed and gave the support needed to carry the work forward.

Table of Contents

Project Introduction: 2024 Parks and Open Space Management Plan

POSMP Goal:

Optimize the management of our resources through data-driven decision making and operational efficiencies and effectiveness.

POSMP Objective:

The City of Camas aims to create a framework to help prioritize efforts in a way that **aligns with community, city, and funding resource goals and shared values**. Effectiveness in our own operations will allow for a focus on BMPs in order to set an example, provide clear guidance, and collaborate more with the community.

Executive Summary

The Camas Parks & Open Space Management Plan (POSMP) responds to the community's feedback in Camas' long-range Parks, Recreation and Open Space Plan by outlining a strategic vision for the thoughtful management of parks and open spaces within the City of Camas, ensuring that they continue to serve as resources for all users. Camas recognizes the vital role that parks and open spaces play in fostering community well-being, recreation and environmental sustainability. Camas' parks, open space, greenways and waterways are a critical component of the City's green infrastructure and play critical roles in supporting healthy, well-functioning ecosystems.

Scope of the POSMP

The POSMP took a multi-prong approach to understanding existing conditions and practices in order to provide data-based recommendations on how to align with the goals of the project and values of the community. Key aspects of this effort included:

- City-wide urban tree canopy analysis
- Sample public land tree inventory
- Operations, organizational, and financial assessment
- Project prioritization approach to align with community values
- Best practices and recommendations
- Planning recommendations

The project also engaged with the public through the Parks & Recreation Commission meetings, a public open house, online survey, and tree inventory training.

Key Takeaways

- Nature is a valuable, critical infrastructure that serves the community in many ways
- Management of Camas' Parks and Open Spaces should utilize a systems-based approach in order to optimize ecosystem performance long-term
- Retaining canopy and character will have to be a public:private partnership with alignment on goals and expectations

The 5 Camas Community Values

Equitable access

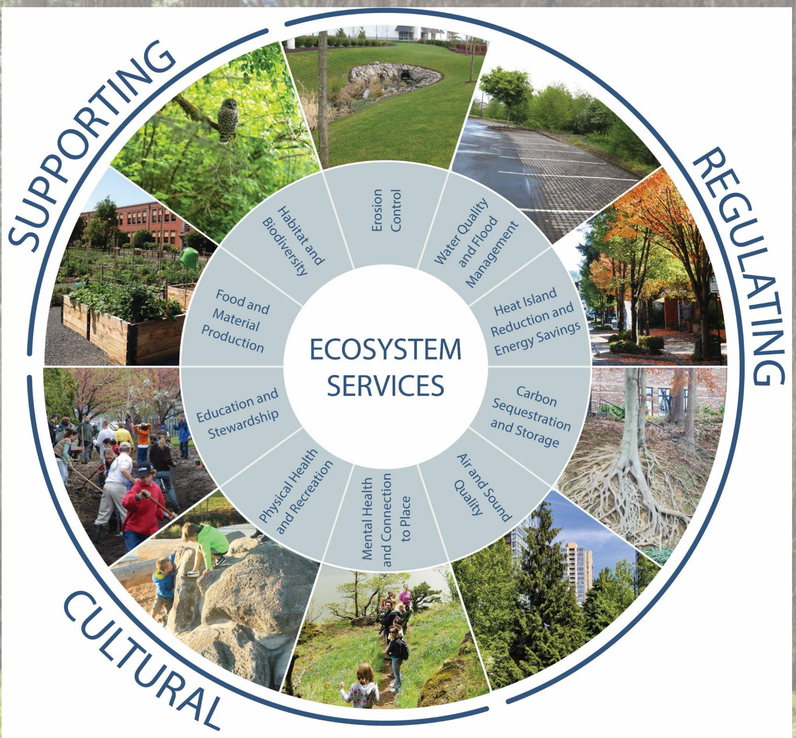
Asset protection and public safety

Preserve and enhance natural features

Outreach and education

Financial and resource allocation

Collectively increase the resilience of parks, open spaces and natural ecosystems in Camas



Best practice and planning recommendations took into account the multiple values that natural systems can provide the community.

Goals of this effort

We recognize the intrinsic value of our **parks and open spaces as essential assets** that contribute to the City's character and residents' quality of life. Through this Parks and Open Space Management Plan, we can increase the resilience of open spaces that will enrich the lives of current and future generations in Camas.

Enhance external communication and collaboration

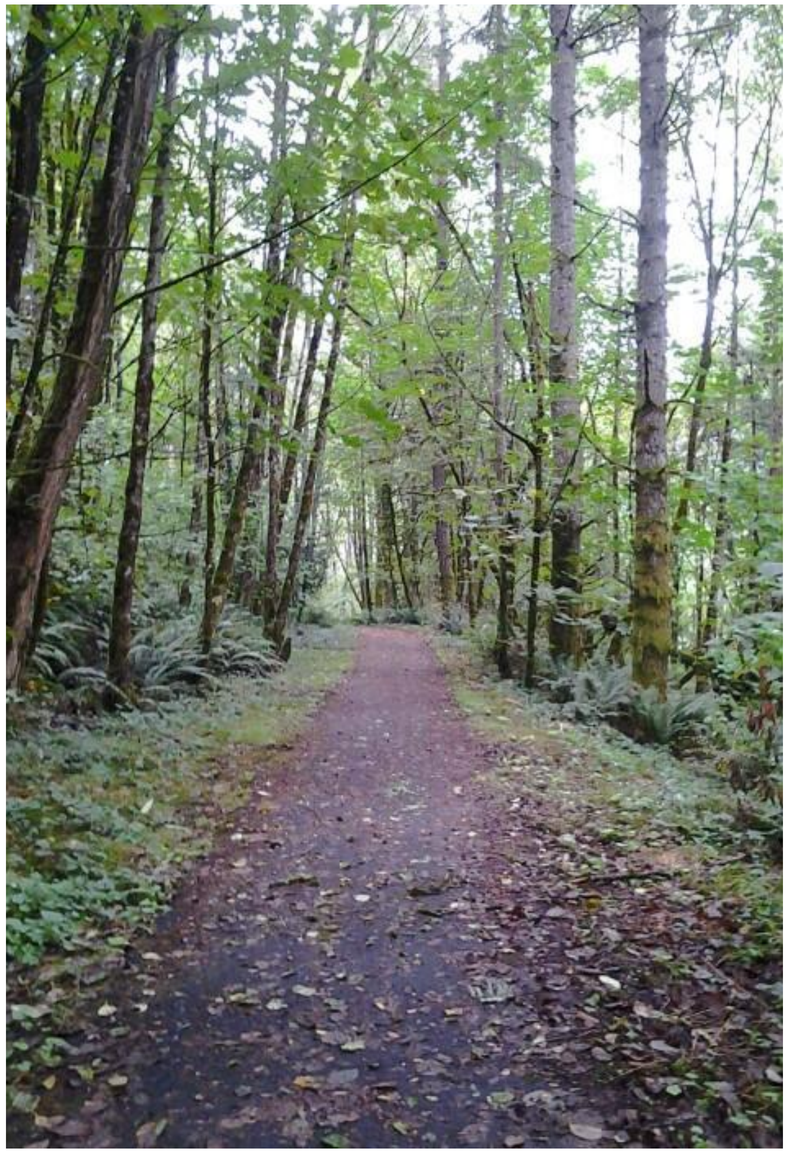
- Raise public awareness
- Encourage and support use of best management practices
- Make a Call to Action

Improve internal decision making

- Develop a clear inventory of existing conditions and best management practices
- Encourage and support use of best management practices
- Prioritize resource use with a science/ data-backed tool
- Identify opportunities for more investment

Collectively increase the resilience of parks, open spaces, and natural ecosystems

From challenges to opportunities



What challenges are we facing?

Tree canopy and open space service gaps

Without clear guidance and best management practices, coordinated management of open spaces is difficult. Gaps remain in the city that could serve the needs of those who need it most.

Climate change and extreme weather

Climate change and extreme weather events pose threats to ecosystem health and asset preservation. Longer term hazards and stressors not only impact the health of vegetation and habitats, but likely add risk to adjacent buildings and infrastructure.

Lack of data

There is a need for more comprehensive data on inventory, resources and best practices to help inform decision making on prioritizing work scope, resource allocation and funding.

Unclear guidance for private landowners

Lack of clarity around different planning documents and ordinances and the role and impact on private land owners. Limited resources limit the ability of consistent maintenance between public and private lands.

Lack of resources

Most resources are spent being reactive to ongoing safety issues and performing routine maintenance and upkeep across public lands. Proactive prioritization is needed in order to work toward the desired performance and use of parks and open space.

Community Values

Equitable access

Ensure that all community members have access to Camas' parks and natural resources and the benefits they provide.

Asset protection and public safety

Protect ecosystems, human health, safety and public and private assets through the management of natural systems to limit the effects of extreme weather, climate change and other potential impacts .

Preserve and enhance natural features

Maintain the existing natural character of Camas in ways that bolster community identity.

Outreach and education

Provide opportunities for learning to gain efficiencies, institute best practices and engage the community.

Financial and resource allocation

Optimize value and resource use in order to best balance the long-term performance goals with immediate needs for parks and public open space.

We all have a role to play

How can I help my community?

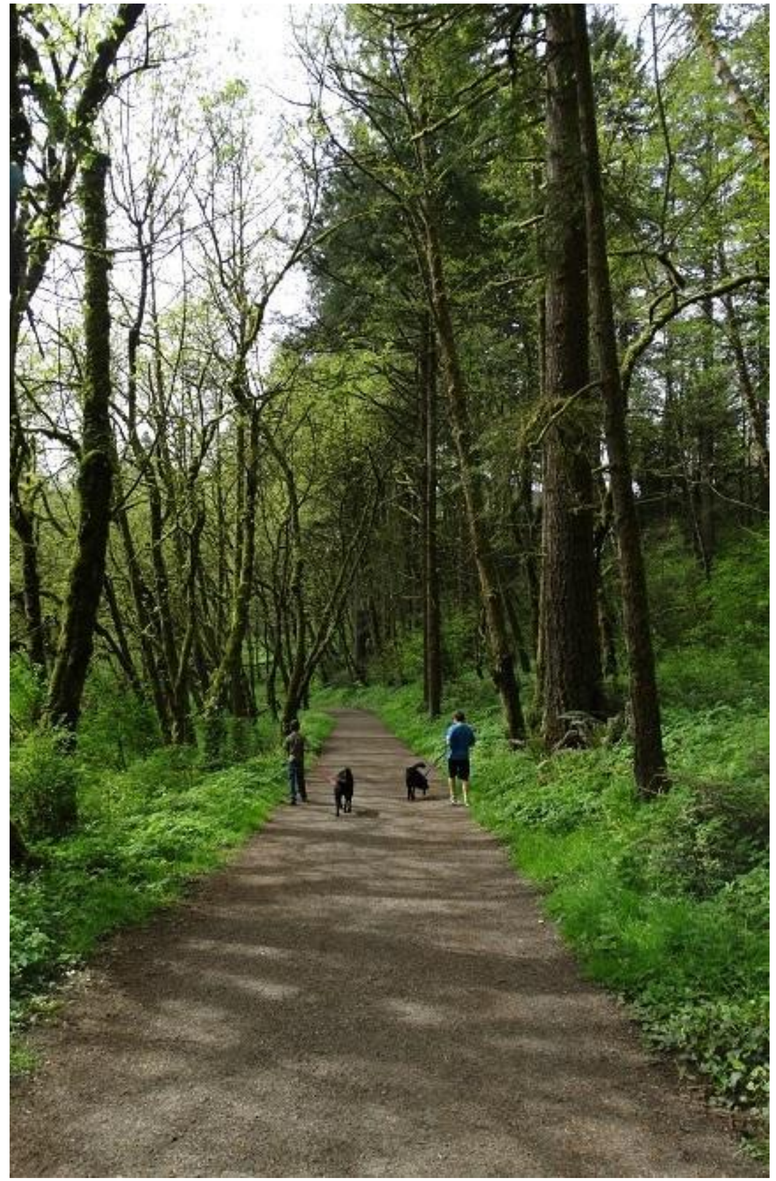
- Follow guidelines of Parks and Open Space Management Plan and other city codes and ordinances.
- Support trees and other natural systems on your properties and within your HOA.
- Volunteer your time and effort towards management of parks and open spaces through initiatives such as community tree inventory events.

How can the City of Camas help me?

- Provide clear incentives and guidelines for managing private open spaces.
- Lead by example through public land management efforts.

How can I help the City of Camas?

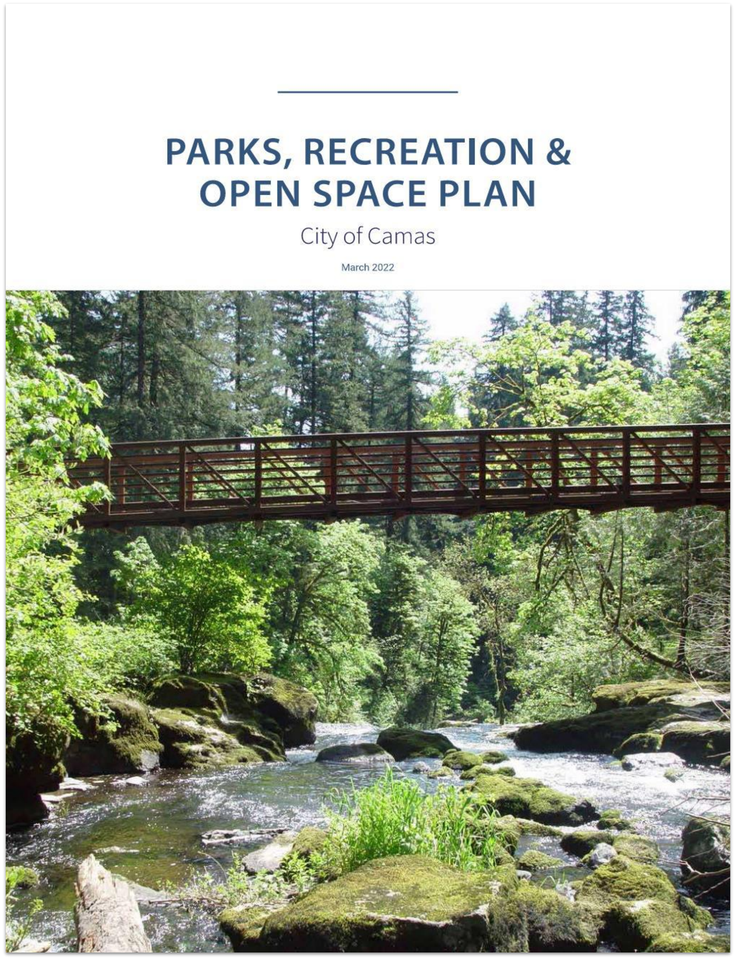
- Contribute feedback to shape resource priorities and next steps of the POSMP.
- Participate in the Comprehensive Plan update process



Setting the stage: Parks, Recreation & Open Space (PROS) Plan

Open space and stewardship

Camas' open space, greenways and waterways are a **critical component of the City's green infrastructure** and play critical roles in supporting healthy, well-functioning ecosystems.



This Parks and Open Space Management Plan responds to the community's feedback in the **2022 PROS Plan** to:

1) **Maintain what we have**
2) **Fill gaps and improve trail connections**
3) **Develop and improve existing parks**

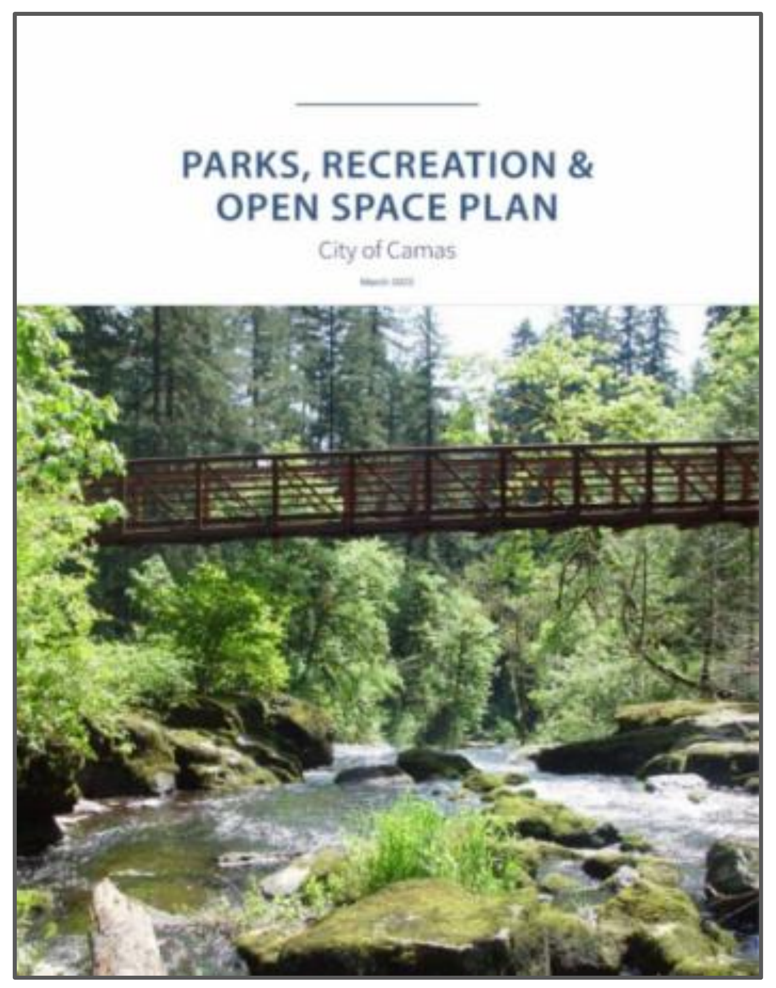
PROS Plan action

New plans should reflect the **realities of limited program funding** and the challenges presented by **climate change** to include the following considerations:

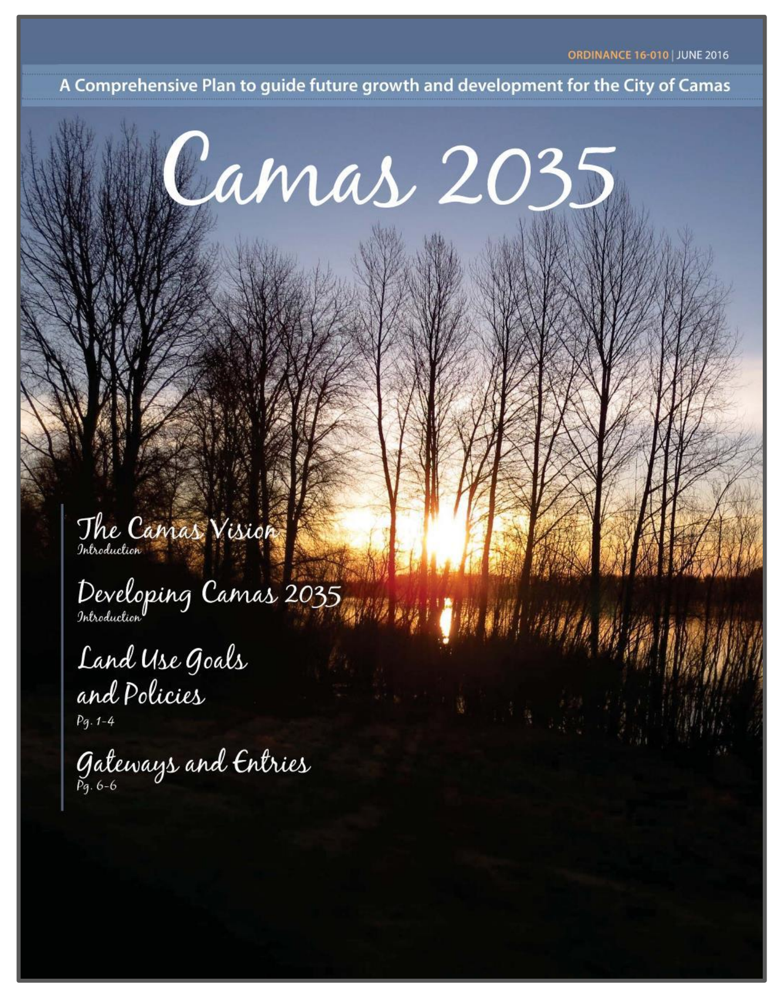
1. **Maintain the functional benefits** of open space vegetation.
2. Foster **resilient plant communities** that can recover from disturbances and adapt to climate change and its impacts, such as forest fires.
3. Implement work **based on the value** of these functional benefits, the community's priorities for the open space properties and the condition of the vegetation found there.
4. **Maximize the return** on available funding through volunteers, matching grants, and donations.

How does this plan align with existing practices and guidelines?

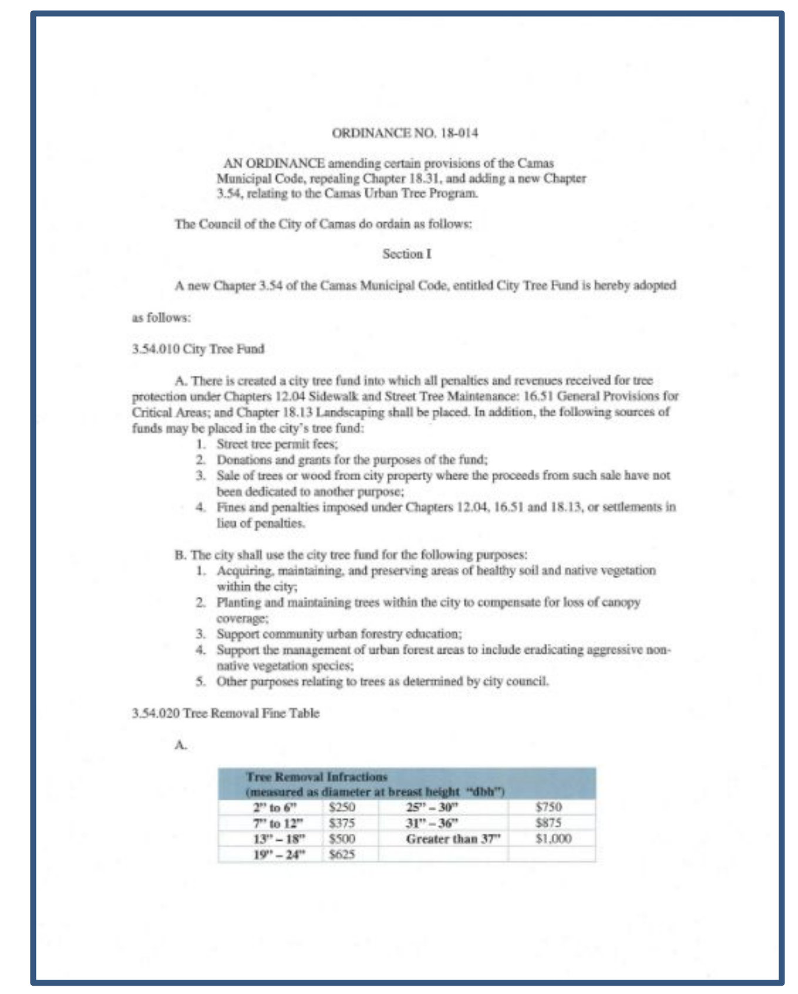
As part of the information gathering process, the team reviewed existing planning documents to understand the goals, challenges, and community feedback on how parks and open spaces are currently managed. They used this process to identify opportunities for improvements going forward to align better with city-wide goals.



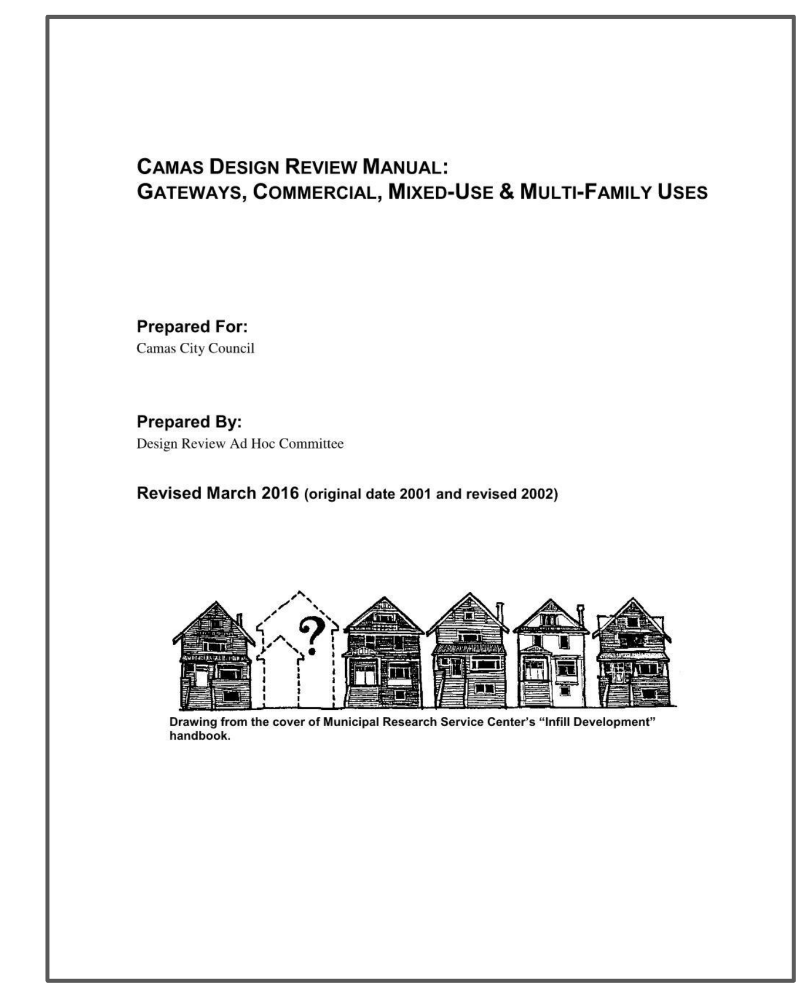
2022 PROS Plan



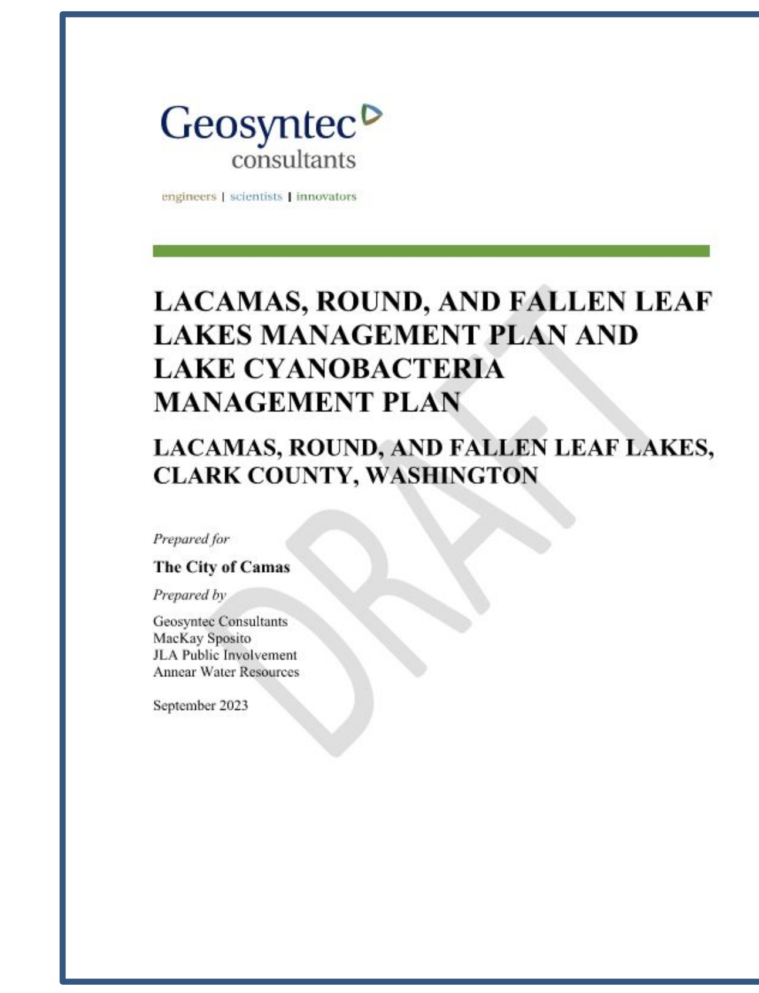
2016 Comprehensive Plan



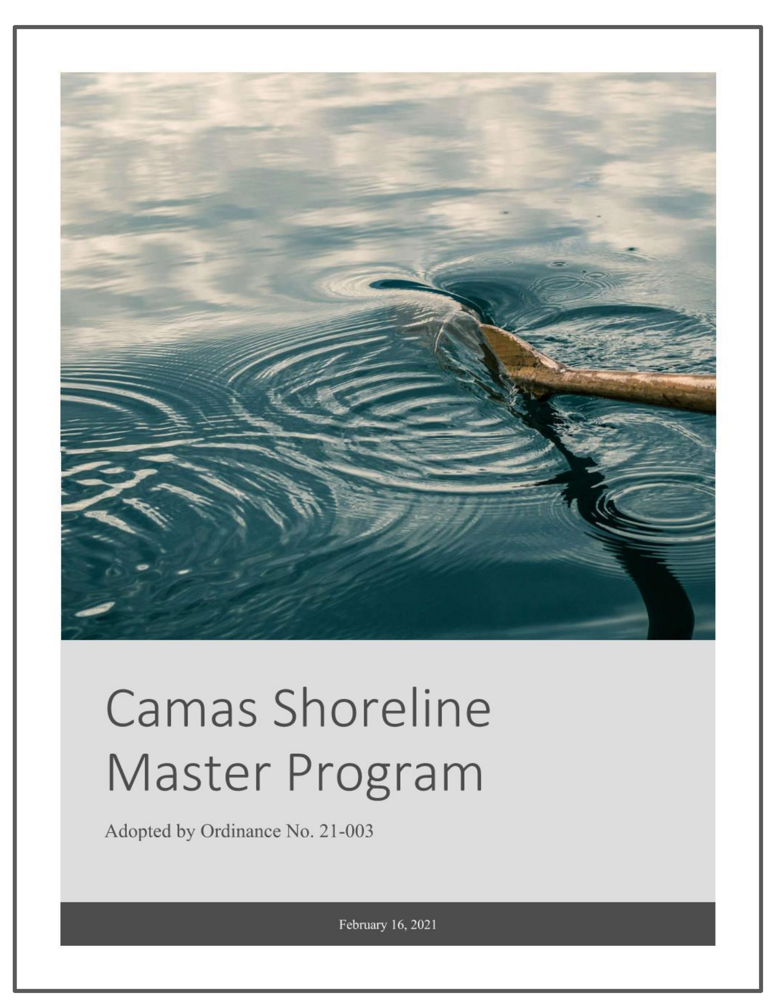
Tree Ordinance 18-014



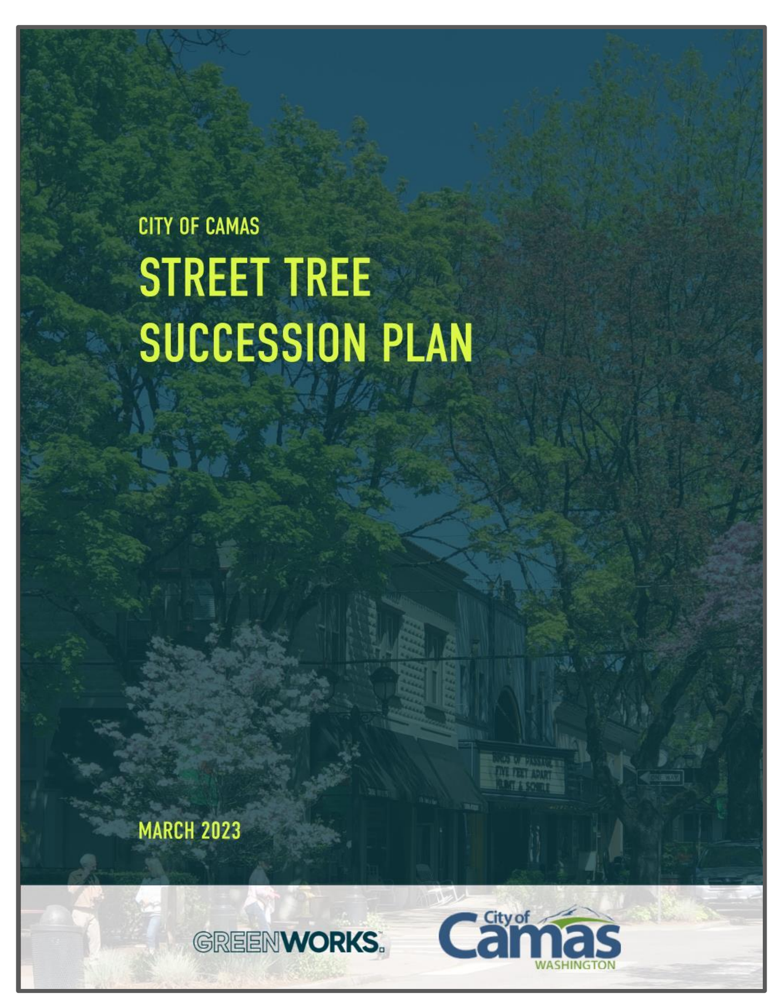
2016 Design Review Manual



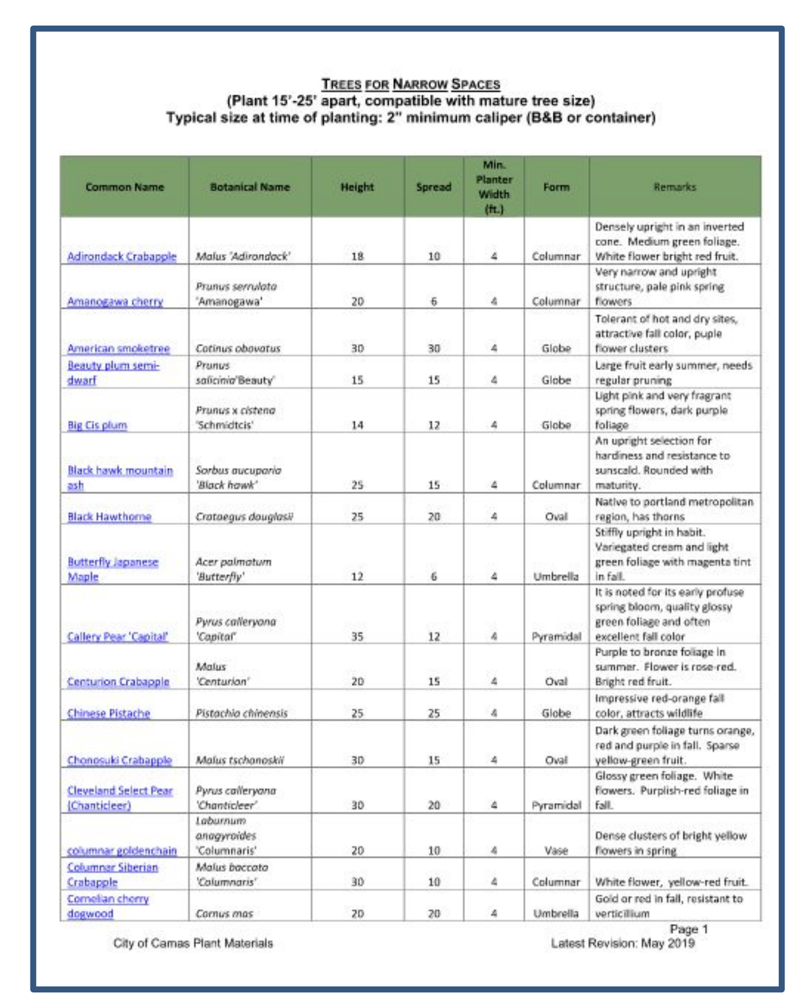
2023 DRAFT Lakes Management Plan



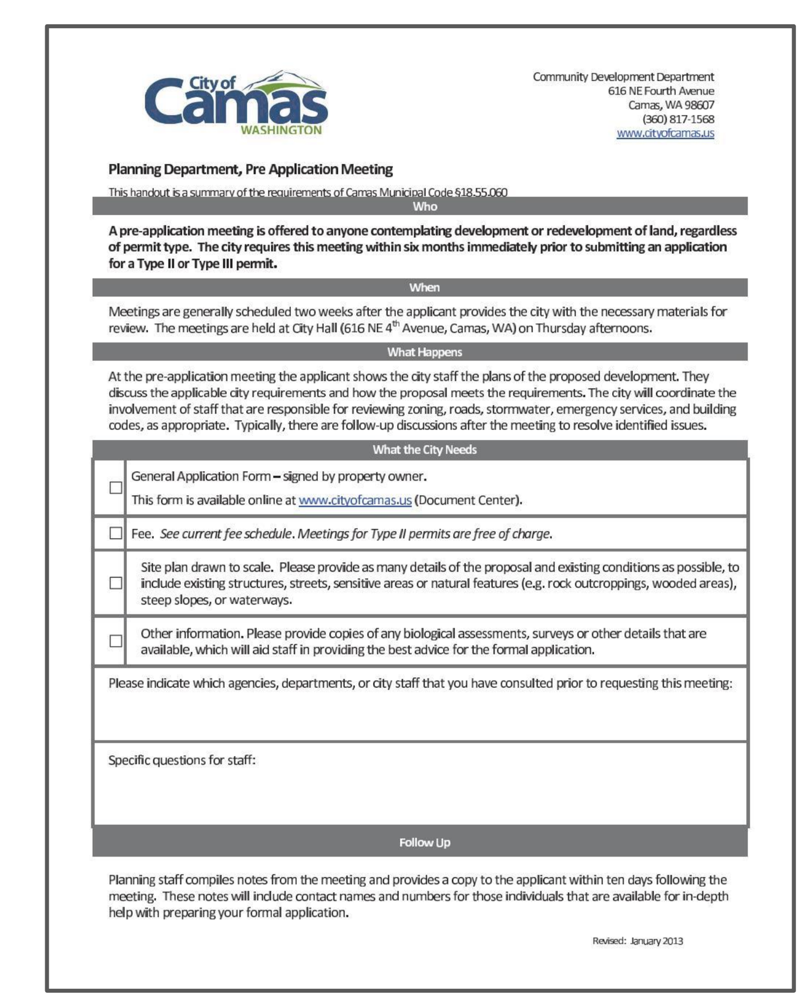
2021 Shoreline Master Program



2023 Street Tree Succession Plan (for Downtown Camas)



Camas Plant Materials



Camas Development Code

....and many more

Key Concepts

Active Recreation
Activities that require physical exertion and typical require specialty facilities or equipment.

Ecosystem services
The benefits that ecosystems provide to humans. This can include things like clean air and water, temperature regulation, and recreational opportunities.

Maintenance
Maintenance responds to immediate issues and addresses day-to-day conditions through routine tasks and activities.

Management
Management addresses long-term goals through strategic planning, decision-making, and resource allocation.

Nature-based solutions / Green Infrastructure
Approaches that use natural processes and ecosystems to address challenges or provide functions to humans.

Naturescaping
Naturescaping involves designing landscapes using native plants and natural elements to create habitats that support local wildlife and conserve resources.

Passive Recreation
Outside activities that utilize the natural environment for exercise, relaxation, or entertainment.

Quantitative vs qualitative metrics
Qualitative metrics describe qualities or characteristics, while quantitative metrics measure quantities or amounts. Both can be valid ways to understand value.

Resilient
The ability to withstand or bounce back from a variety of shocks and stresses.

Stewardship
Restoring and guiding natural processes and systems to enable them to regenerate and function mostly on their own.

Succession planning
Managing the growth and replacement of species to maintain a healthy ecosystem over time. Includes using a diversity of species and ages to provide variety.

Vulnerability
A vulnerable system is prone to adverse impacts from stressors such as climate change, human activity, or natural disasters.

Project Schedule

	2023				2024							
	September	October	November	December	January	February	March	April	May	June	July	August
City & Community Engagement												
Kickoff Meeting	●											
Interview Parks and Operations Staff		●										
Conduct Open House								●				
Conduct Community Survey								■				
Earth Day Tree Inventory								●				
Parks and Rec Commission Presentation						●			●			
Submit Draft Plan to DNR										●		
Present Draft Plan at Parks & Rec Commission											●	
City Council Adoption												●
Gather Information												
Information Gathering and Mapping	■	■	■	■	■	■						
Assessments												
Financial Analysis, Operations Assessment, Management Practices					■	■	■	■	■			
Assess Strengths and Opportunities						■	■	■	■			
Recommendations for Improvements							■	■	■	■		
Plan Development												
Synthesize info into POSMP report							■	■	■	■	■	

Valuing Nature

This plan recognizes the value and multiple ways that natural systems contribute to the Camas community and underlines the importance for providing effective management practices to preserve and enhances those functions. It will look to identify and incorporate nature's value in prioritization, resource allocation, and ongoing management practices.

The Role of Natural Areas to Meet Our Needs

Parks and Open Spaces are critical infrastructure that provide a variety of benefits to our communities

Parks & Open Space contribute to human physical and mental health, economic wellbeing, climate mitigation and asset protection. Sometimes referred to as “Green Infrastructure” or “Nature-based solutions,” natural systems integrated into the built environment provide a variety of valuable services that make them a crucial part of the places we live, work, and play.

Mental Health and Connection to Place: Contributes to cognitive restoration, emotional connections and a sense of identity.

Physical Health and Recreation: Provides a venue for individual or group activities and exercise. Can contribute to safety and security.

Education and Stewardship: Provides learning opportunities, ways to contribute and a sense of community.

Food and Material Production: Plays host to a variety edible plants and berries, as well as raw materials that contribute to the economy.

Habitat and Biodiversity: Is home to or can support native or migratory fauna.

Erosion Control: Prevents degradation of soils and sedimentation.

Water Quality and Flood Management: Filters sediment, nutrients, and pollution and controls water temperature. Absorbs water during rain or snow events.

Heat Island Reduction and Energy Savings: Provides shade to surfaces and structures to reduce air and surface temperature and reduce glare.

Carbon Sequestration and Storage: Absorbs carbon dioxide and stores it in vegetation and soil.

Air and Sound Quality: Captures gases and particulates to reduce them in the environment. Provide buffers to block or absorb noises and contribute to positive soundscapes.

National and Research Trends

The benefits of nature are being quantified across multiple sectors and entities

National trends around ecosystem service valuations have been undertaken by FEMA, NOAA, EPA, USFS, and a variety of public and private research institutions.

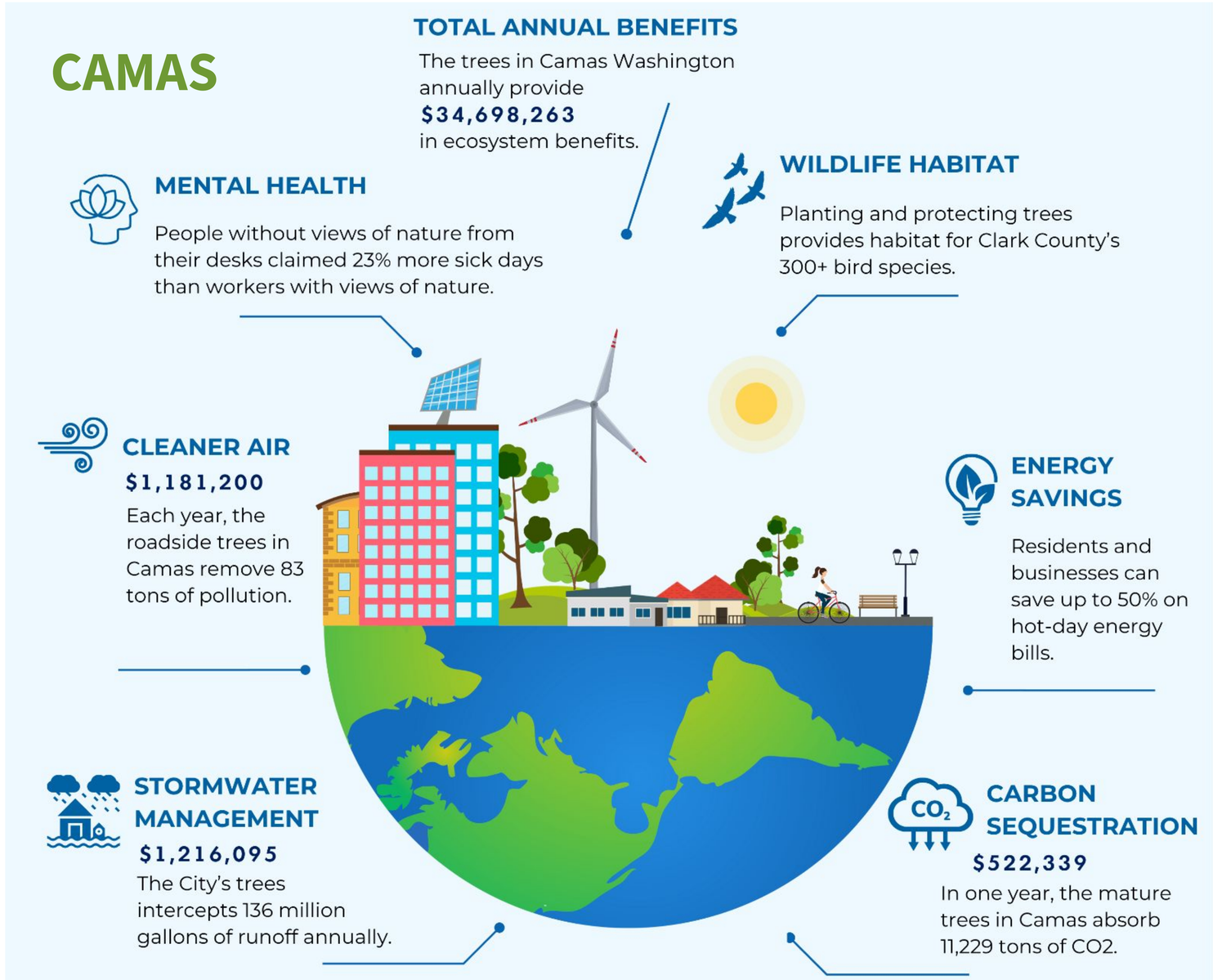
2022 Proposed Values	
Land Cover Category	Value (2021 USD/acre/year)
Forest	12,589
Urban Green Open Space	15,541
Rural Green Open Space	10,632
Riparian	37,199
Coastal Wetland	8,955
Inland Wetland	8,171

Source: FEMA Ecosystem Service Value Updates, June 2022

"Park access was associated with ***better mental health among children and parents***, and more parent physical activity and ***parent–child co-participation in outdoor activity during the COVID-19 pandemic***. Access to nearby parks may be an important resource to promote health and well-being, for both individuals and families."

Hazlehurst, M.F., Muqueeth, S., Wolf, K.L. *et al.* Park access and mental health among parents and children during the COVID-19 pandemic. *BMC Public Health* 22, 800 (2022). https://doi.org/10.1186/s12889-022-13148-2

Mental, physical, and social health benefits of being in or having access to nature has been studied in hundreds of research papers.



Eco. Benefit	Description	Camas Citywide*	Urban Tract	Rural Tract	Units
Air Quality	Particulates intercepted	$347.53	$347.57	$17.85	$/year/acre
CO		$0.60	$0.60	$0.01	$/year/acre
NO2		$1.40	$1.40	$0.07	$/year/acre
O3		$39.71	$39.72	$1.87	$/year/acre
PM10		$31.16	$31.16	$0.74	$/year/acre
PM2.5		$274.50	$274.53	$15.15	$/year/acre
SO2		$0.15	$0.15	$0.01	$/year/acre
StormWater	Avoided runoff	$357.79	$357.83	$30.00	$/year/acre
Carbon Sequestration	Accumulated carbon	$153.68	$168.14	$145.75	$/year/acre
Total		**$859.00**	**$873.54**	**$193.60**	**$/year/acre**
Carbon Storage		$9,349.72	$8,166.75	$10,004.32	$/acre

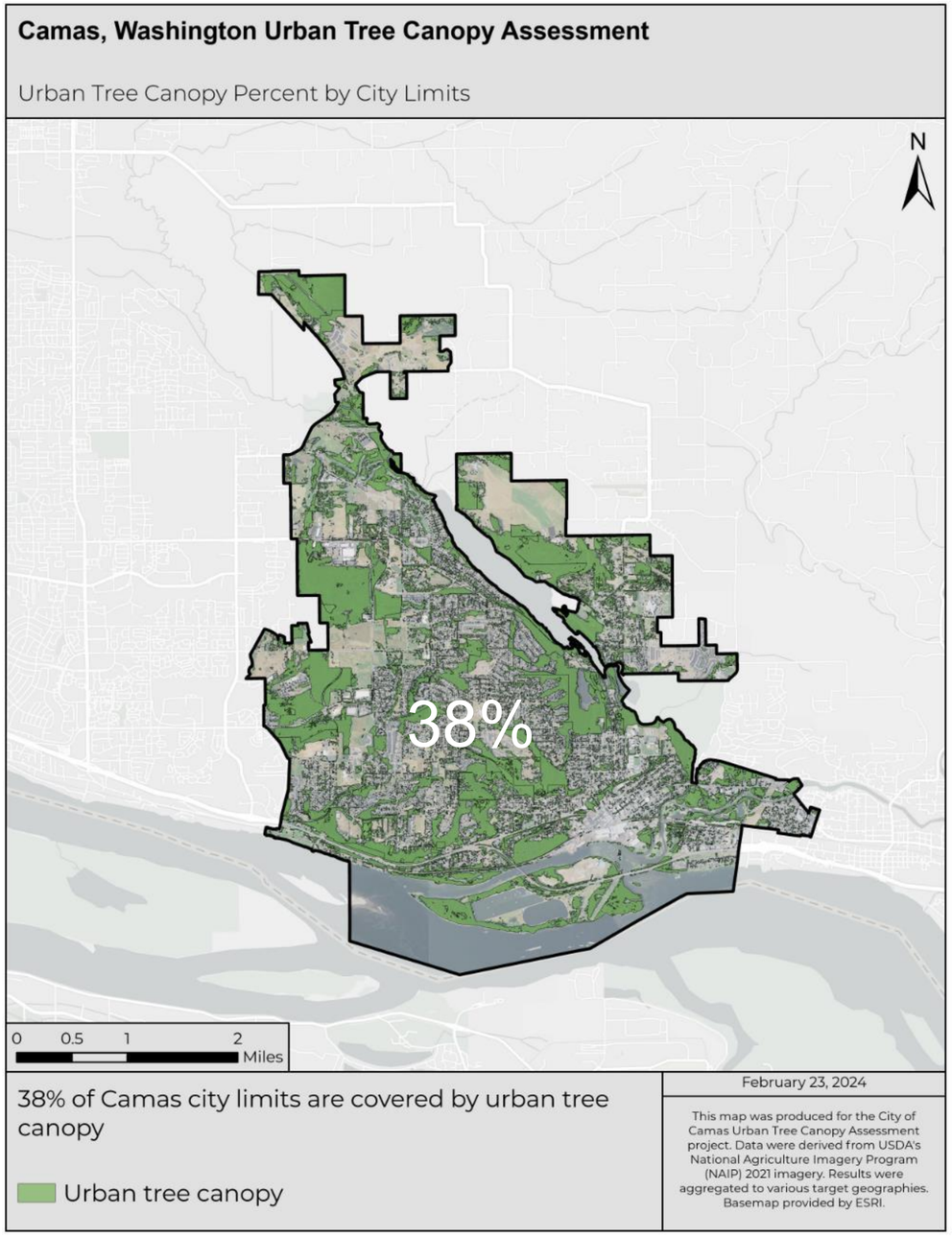
*Metrics are taken from iTree tool database. The tool classified a majority of the Camas area as "urban" which is reflected in the citywide calculations. With a more nuanced evaluation, some of the Camas land area may act as more rural, depending on the land use.

The annual economic benefits of Camas' urban tree canopy were quantified based on a commonly used standard (right). These numbers do NOT include benefits to energy savings, mental and physical health, wildlife, and other ecosystem services. They are for the tree canopy only, and do NOT quantify the benefits provided by other natural features and systems like wetlands, understory vegetation, lawns, and lakes. The quantified benefits are over 10x the annual Camas Parks and Recreation Department budget.

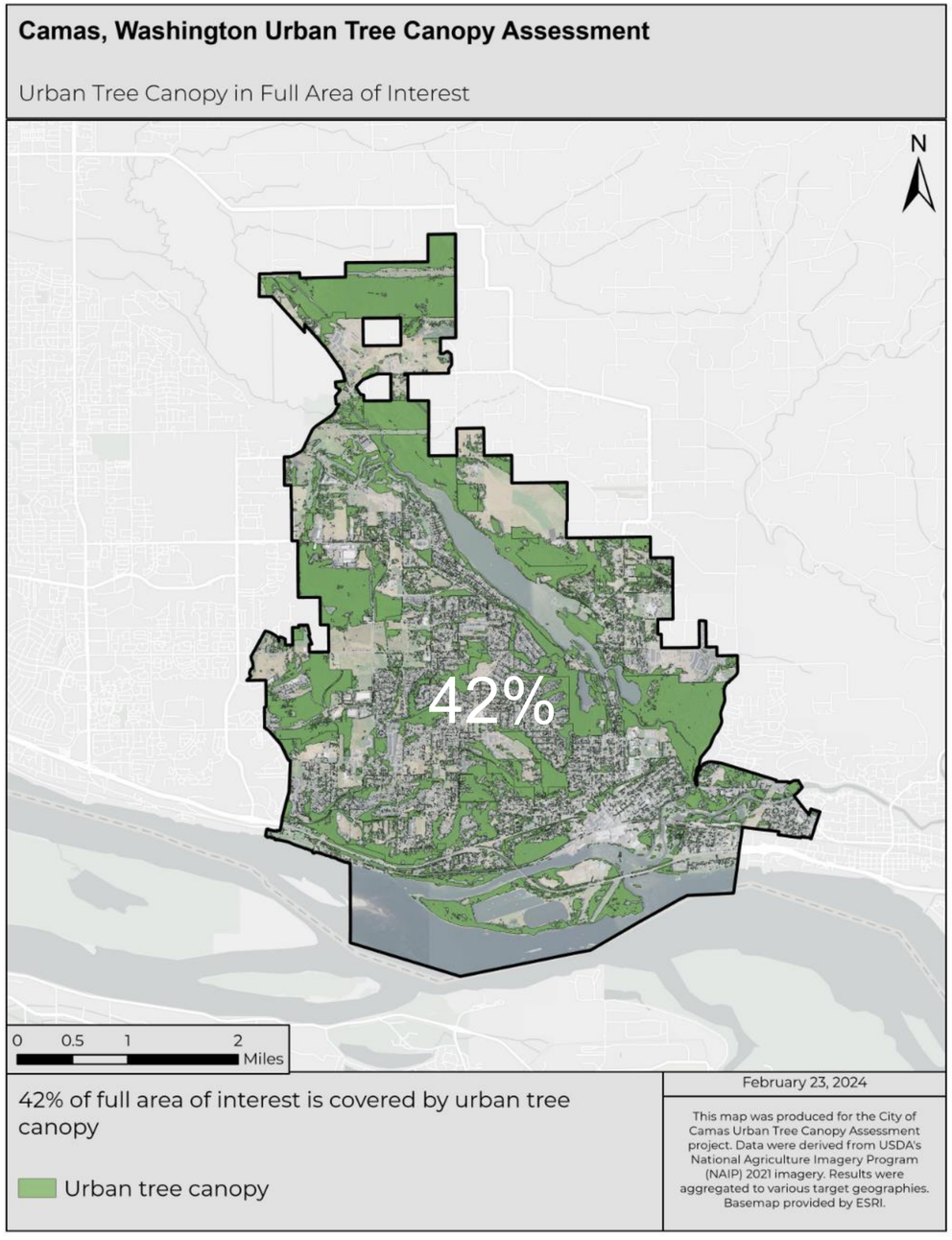
ECOSYSTEM SERVICES: CAMAS TREE CANOPY

Tree Canopy Assessment

As part of the POSMP, the team analyzed the existing conditions of the city-wide tree canopy as a whole, as well as inventoried a group of individual trees. These assessments establish a data-backed baseline to measure future conditions in order to track progress against goals. They looked at current conditions, change over the last decade, and potential for canopy enhancements.



CITY LIMITS

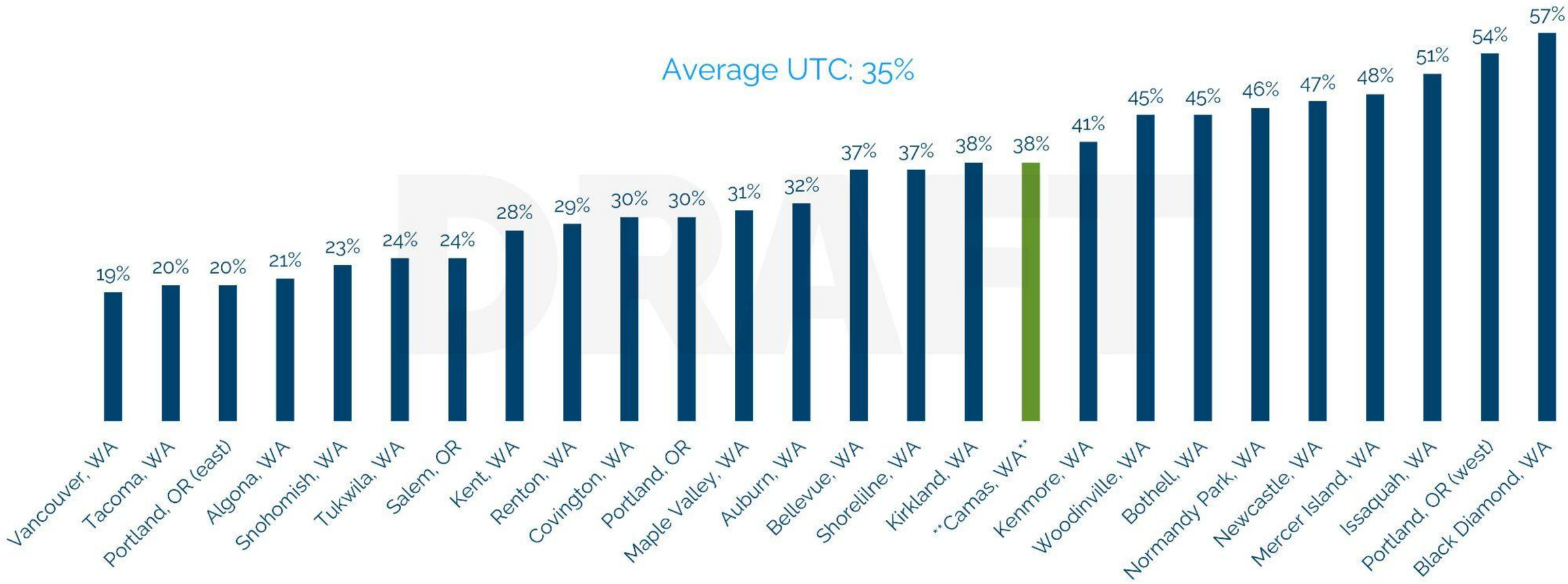


CITY LIMITS + COUNTY OPEN SPACE

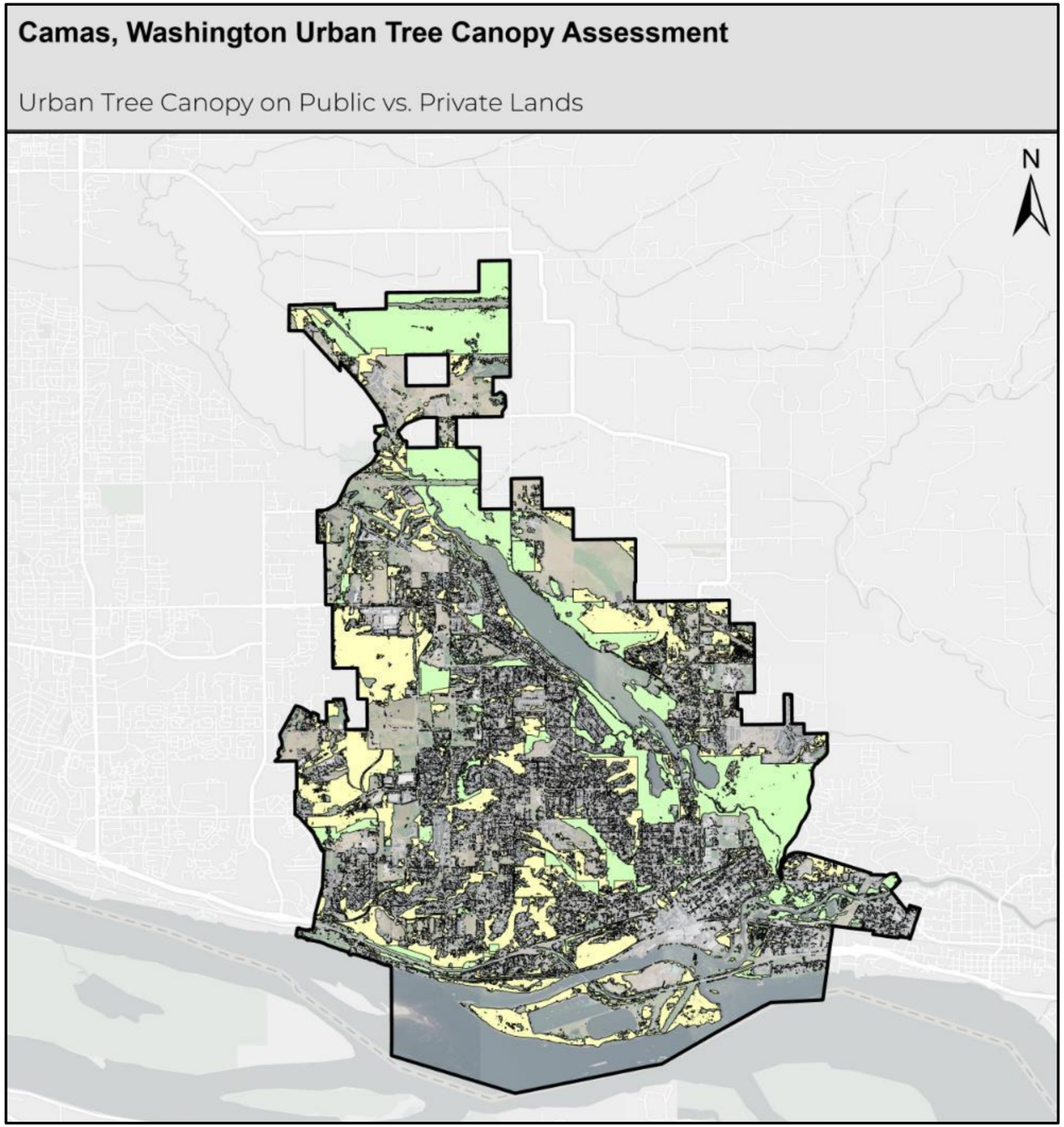
Land Type	Area
City Limits	3,399 acres
City Limits + County Open Space	4,205 acres

EXISTING

Percent canopy coverage within city limits as compared to other local communities.
Camas has more coverage than many urban areas, but less than more rural and suburban ones.



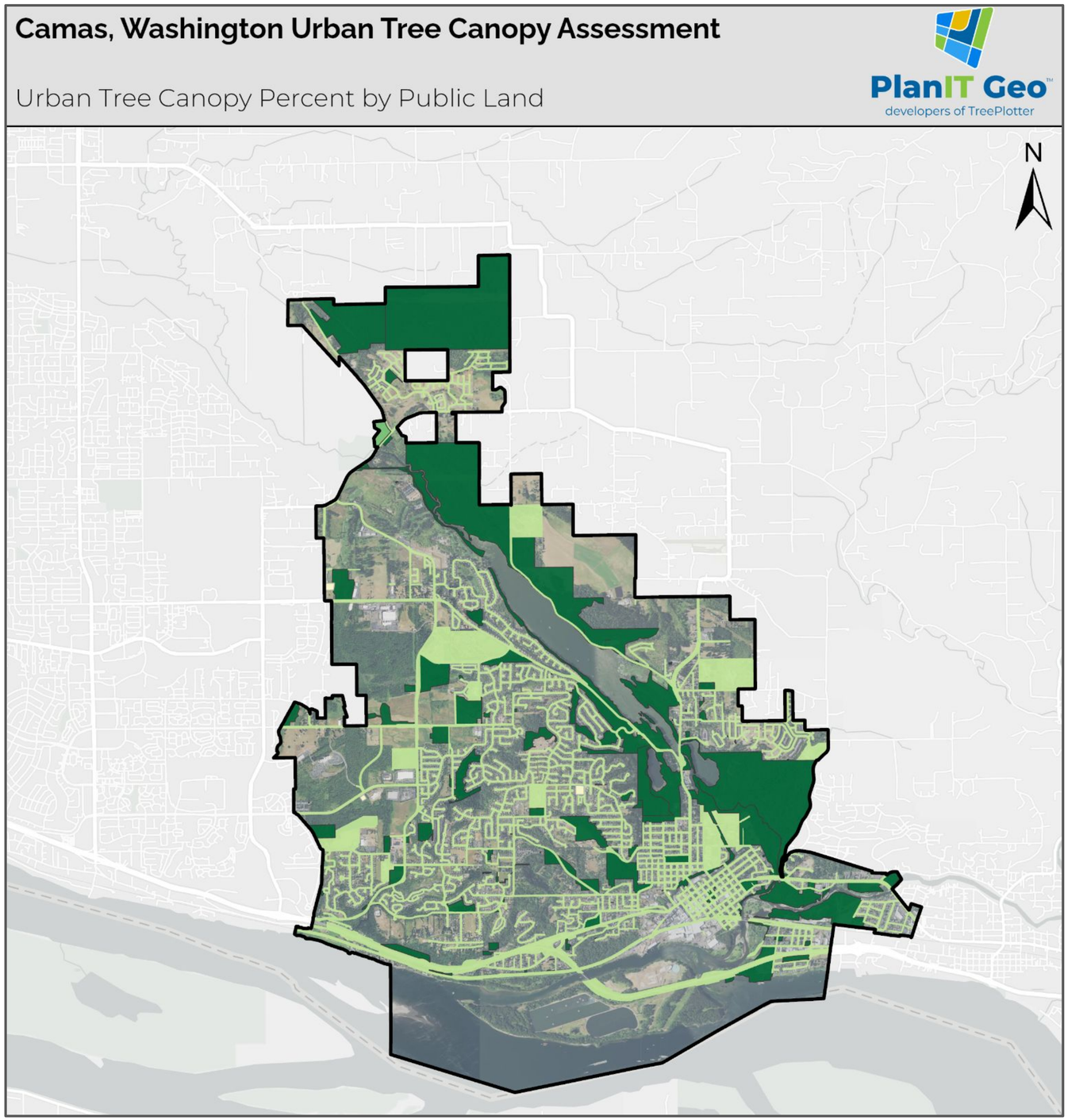
URBAN TREE CANOPY COMPARISONS

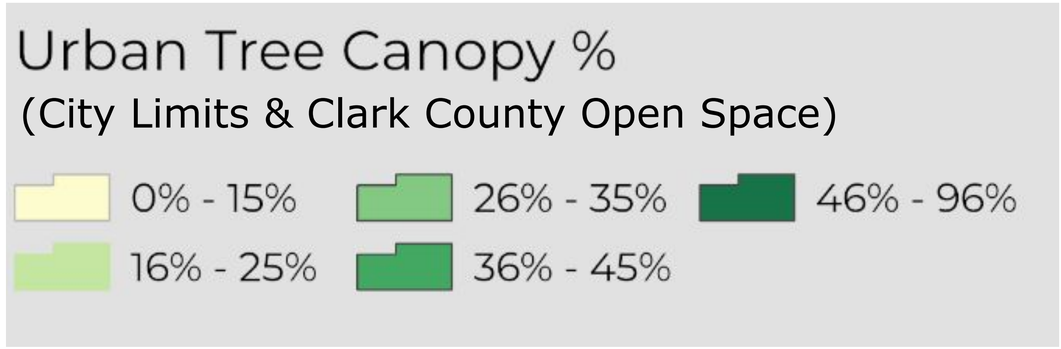


Land Type (City Limits & Clark County Open Space)	%	Area
Tree canopy on private lands	54.91%	2,293 acres
Tree canopy on public lands	45.09%	1,883 acres
All tree canopy (within POSMP area)	100%	4,176 acres

About half of all urban tree canopy in Camas is on private property.

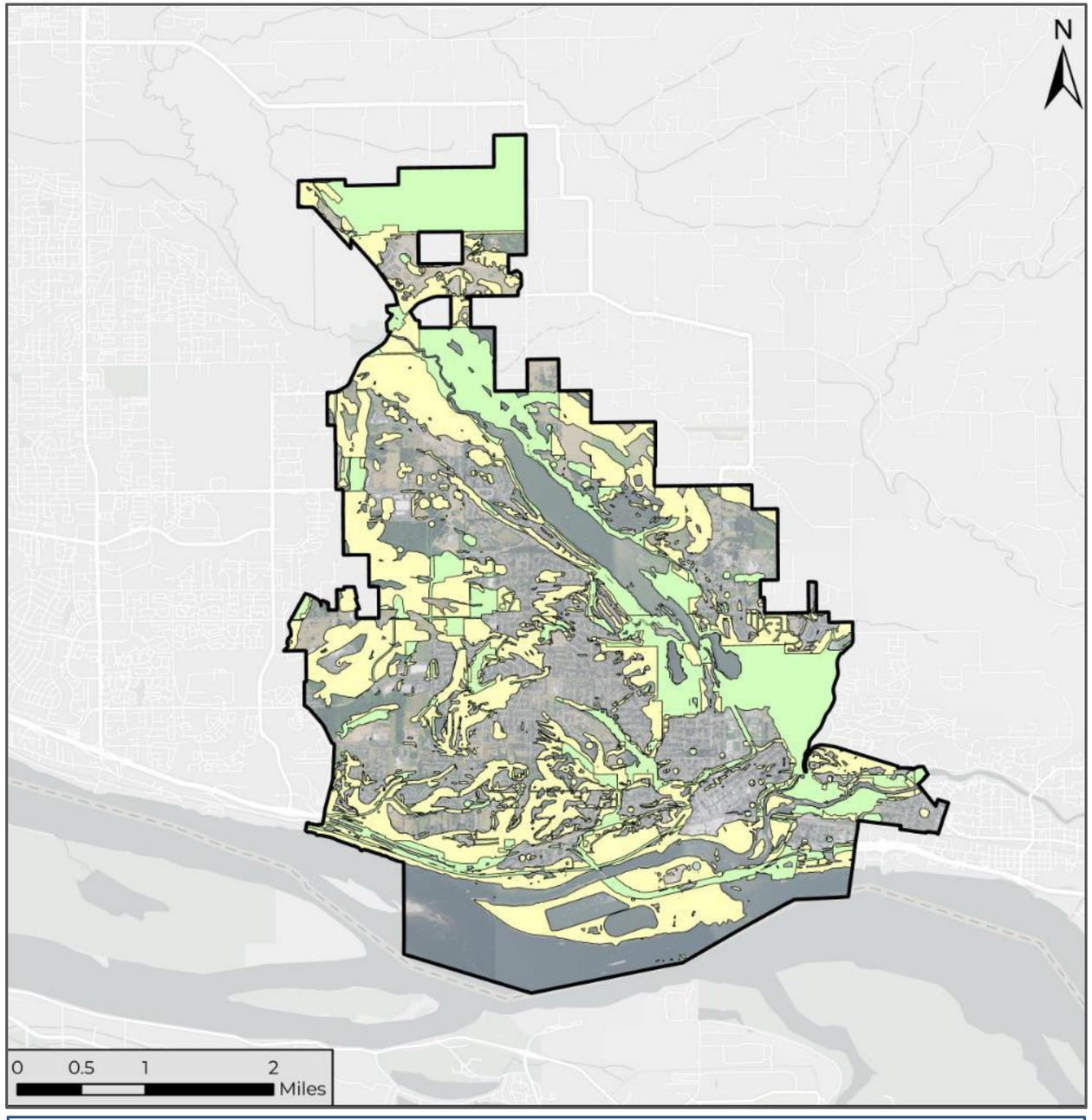
EXISTING - URBAN TREE CANOPY





Much of the public tree canopy is concentrated around Lacamas Lake and Green Mountain. Developed parks and street trees provide coverage throughout the city.

EXISTING - PUBLIC LANDS



About half of all critical areas in Camas are on private property.

	Land Type (City Limits & Clark County Open Space)	%	Area
	Privately-owned critical lands (within POSMP area)	53.96%	3,425 acres
	Publicly-owned critical lands (within POSMP area, includes bodies of water)	46.04%	2,922 acres
	All critical lands (within POSMP area)	100%	6,347 acres

Wetlands | Steep Slopes | Sensitive Habitat

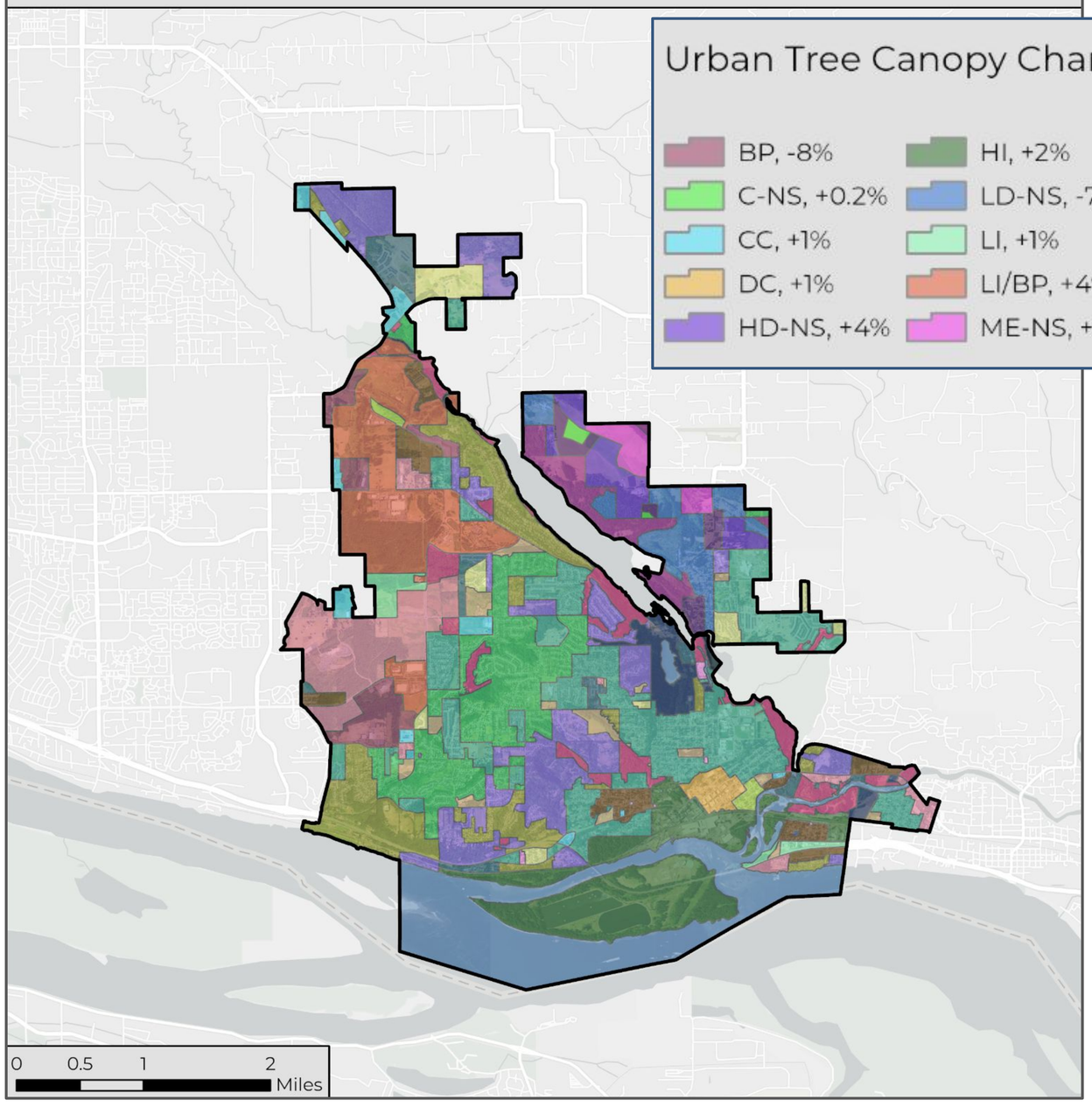
Shoreline Master Program:

The City finds that critical areas provide a variety of valuable and beneficial biological and physical functions that benefit the City of Camas and its residents, and/or may pose a threat to human safety, or to public and private property.

Goals:

1. Protect members of the public and public resources and facilities from injury, loss of life, or property damage due to landslides and steep slope failures, erosion, seismic events, or flooding;
2. Protect unique, fragile, and valuable elements of the environment, including ground and surface waters;
3. Direct activities not dependent on critical area resources to less ecologically sensitive sites, and mitigate necessary impacts to critical areas by regulating alterations in and adjacent to critical areas; and
4. Prevent cumulative adverse environmental impacts to critical aquifer recharge and frequently flooded areas.

EXISTING - CRITICAL AREAS



Total change of canopy coverage from 2011-2021

City + County Lands: -0.32% City Limits: -0.14%

Urban Tree Canopy Change % by Zoning Designation (descriptions)

BP, -8%	HI, +2%	MF-10, -4%	NP, +5%	R-15, 0%	Water, +7%
C-NS, +0.2%	LD-NS, -7%	MF-18, -9%	OS, +4%	R-6, -1%	
CC, +1%	LI, +1%	MX, +5%	POS-NS, 0%	R-7.5, -5%	
DC, +1%	LI/BP, +4%	MX-NS, +1%	R-10, -1%	RC, +3%	
HD-NS, +4%	ME-NS, +2%	NC, -4%	R-12, +4%	SU, +1%	

This analysis did not include an assessment of individual parcels or land types and their potential reasons for gain or loss.

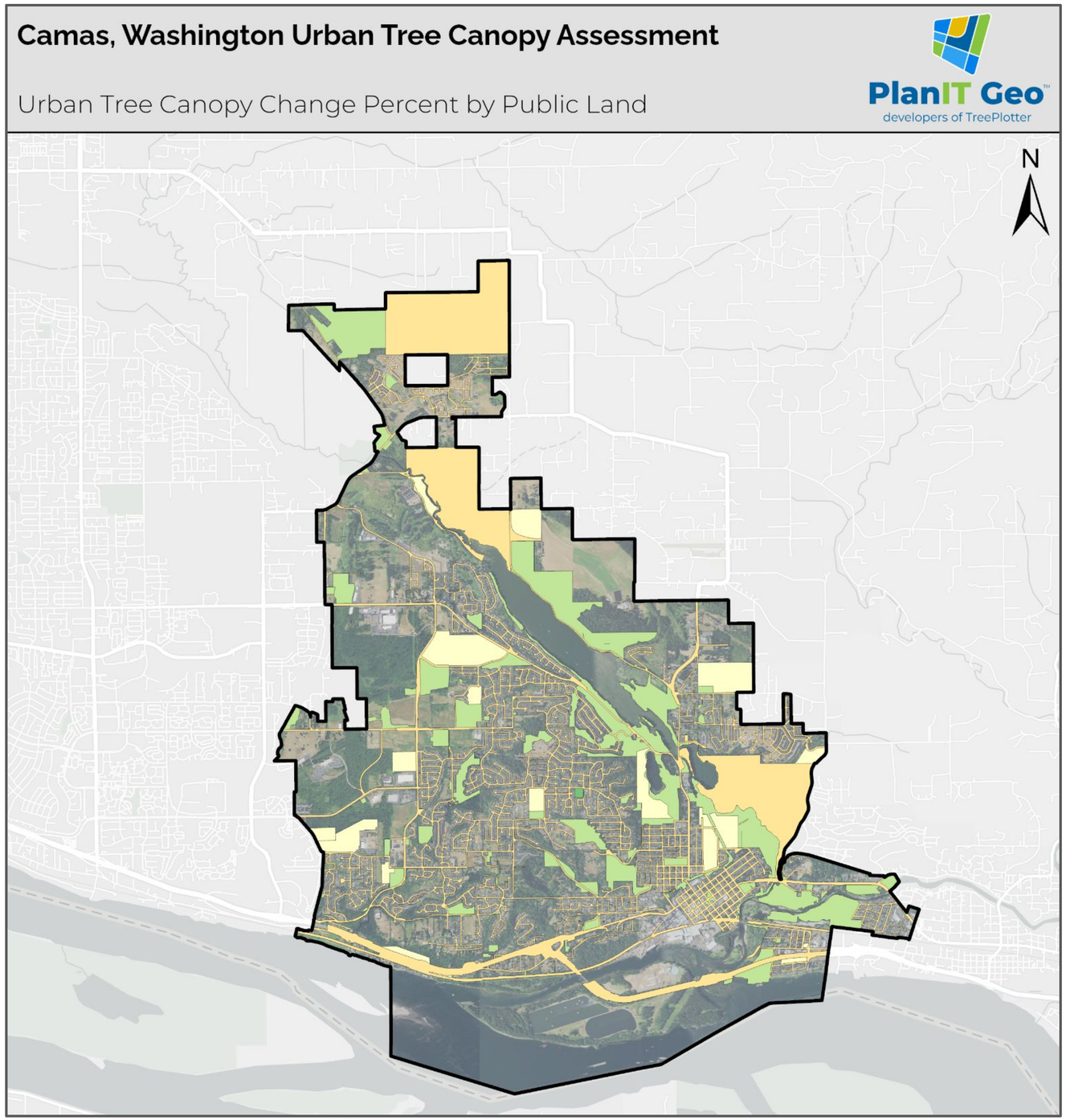
Common Reasons for %Gain

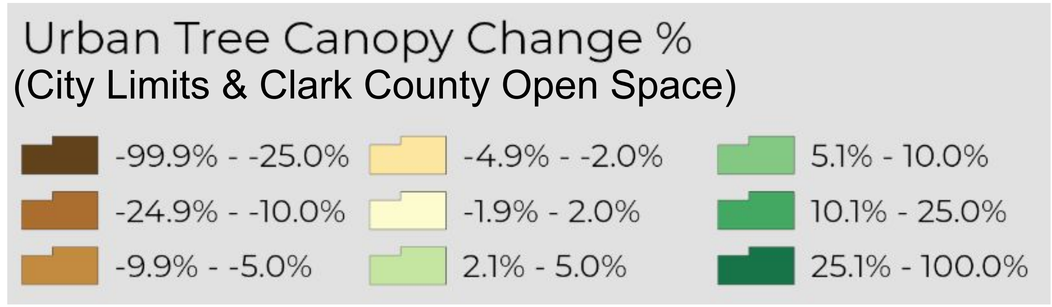
- Fallow field establishment
- Natural canopy expansion
- Restoration or infill

Common Reasons for % Loss

- Development
- Wildfire
- Expansion of land type
  - i.e. Right of Way added with small trees.

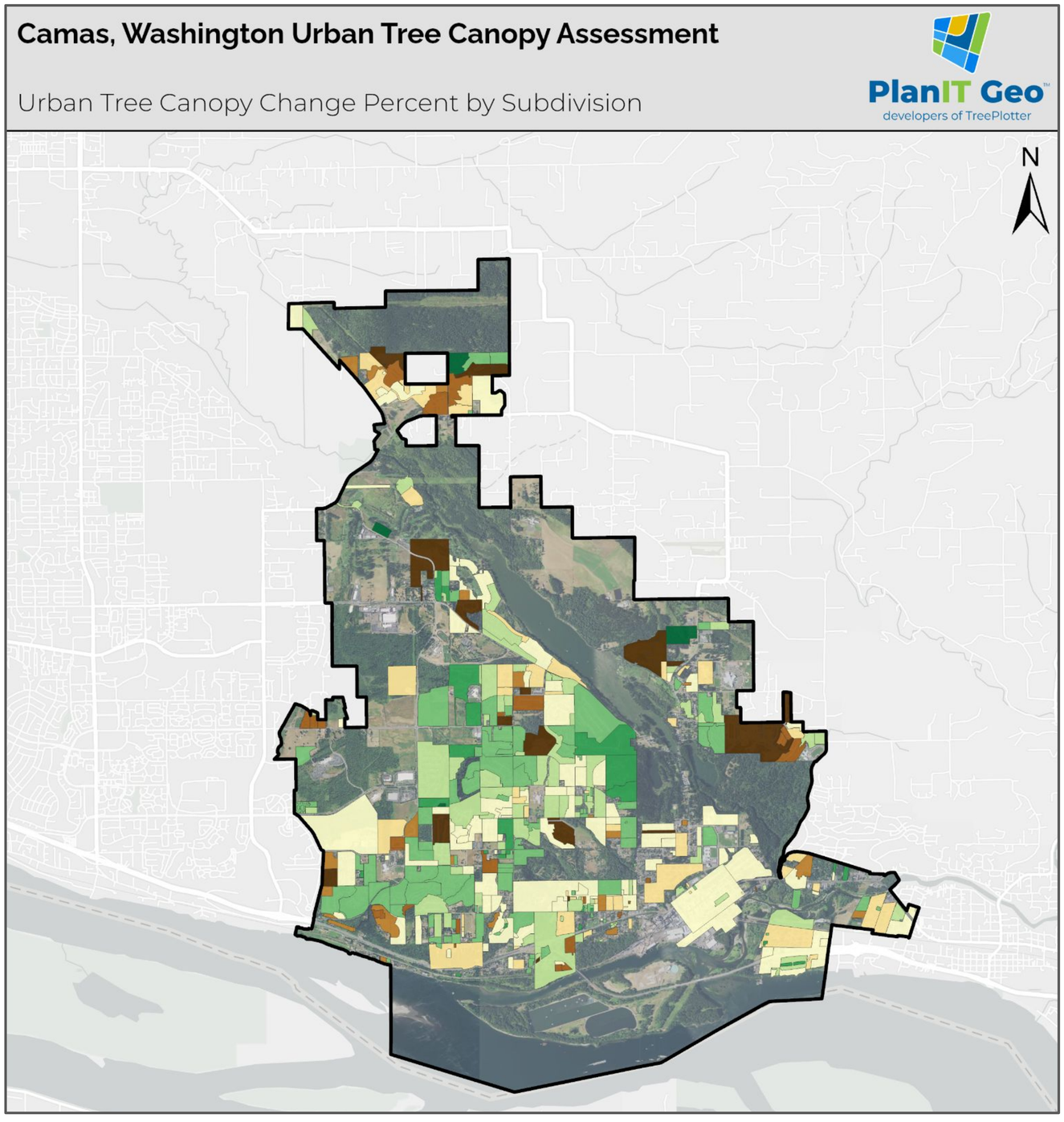
CHANGE (2011 - 2021)





Low to moderate gains and losses occurred on public lands

CHANGE (2011 - 2021): PUBLIC LAND



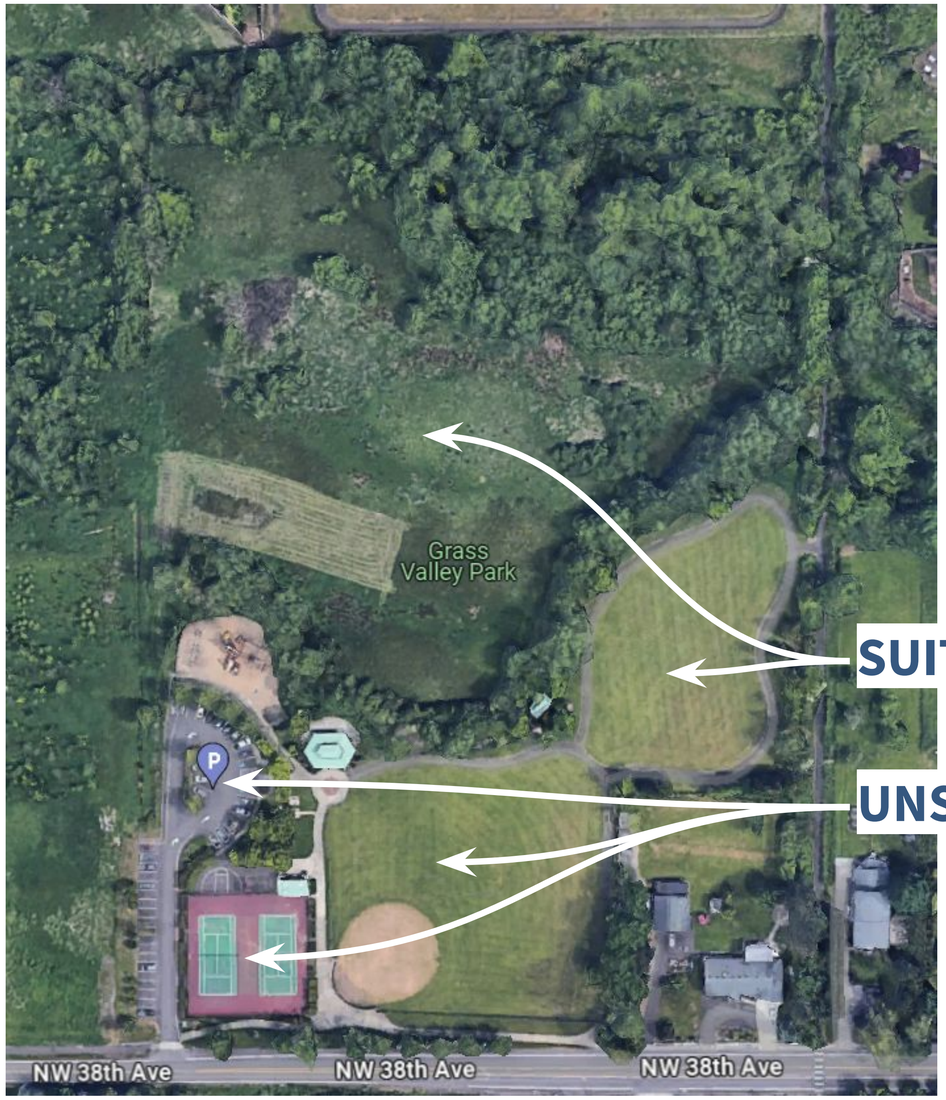
Urban Tree Canopy Change %
(City Limits & Clark County Open Space)

-99.9% - -25.0%	-4.9% - -2.0%	5.1% - 10.0%
-24.9% - -10.0%	-1.9% - 2.0%	10.1% - 25.0%
-9.9% - -5.0%	2.1% - 5.0%	25.1% - 100.0%

Biggest losses on subdivision land is likely due to private land development.

CHANGE (2011 - 2021): SUBDIVISIONS

All land areas in the City of Camas that were not currently tree canopy were classified as either possible planting areas (PPA) or unsuitable for planting.



POTENTIAL PLANTING AREAS

- Lawn, open fields, or grass areas
- Shrub and ground cover vegetation
- Bare or fallow soils

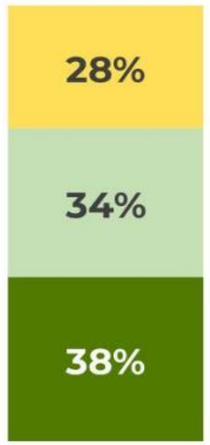
UNSUITABLE AREAS

- Recreation fields
- Utility corridors
- Stormwater facilities
- Roadways
- Building Structures

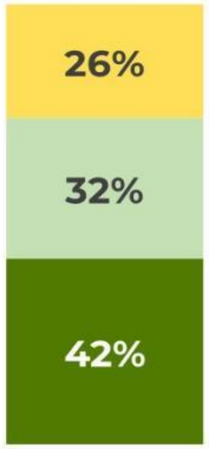
POSSIBLE PLANTING AREA: EXAMPLE

Results Charts Key: Canopy | Total PPA | Unsuitable UTC

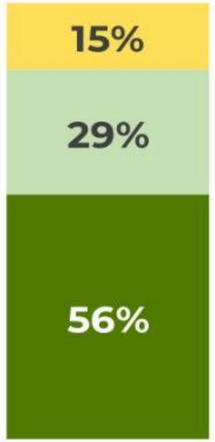
City Boundary



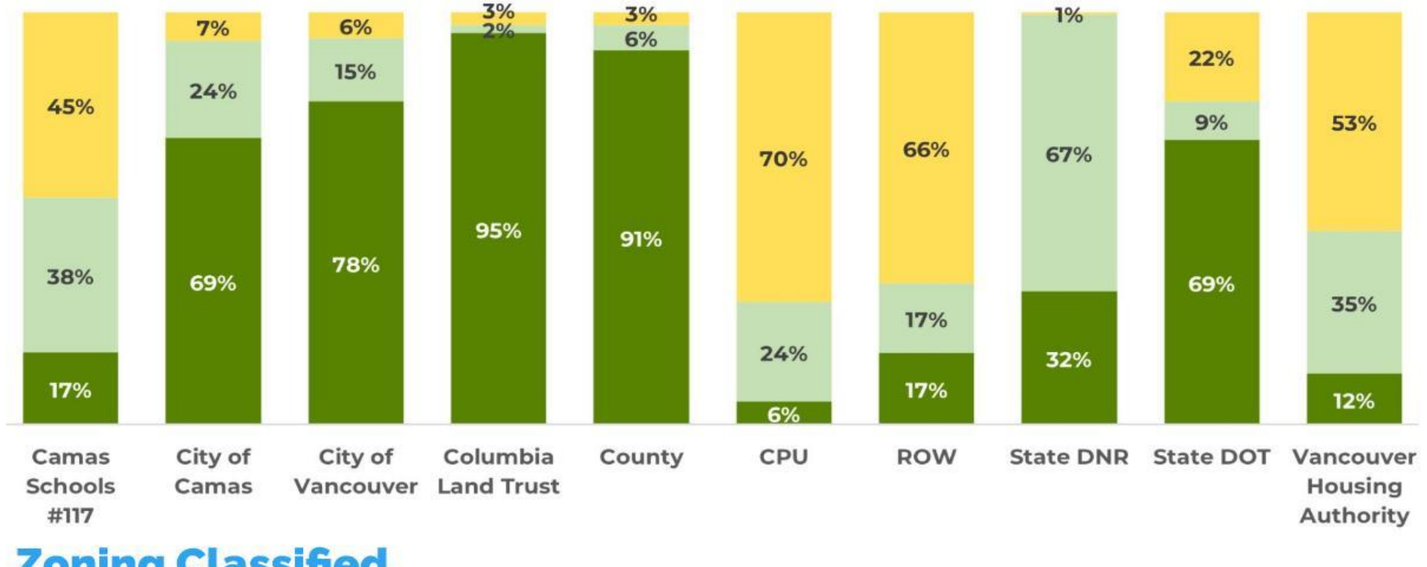
AOI



Critical Places



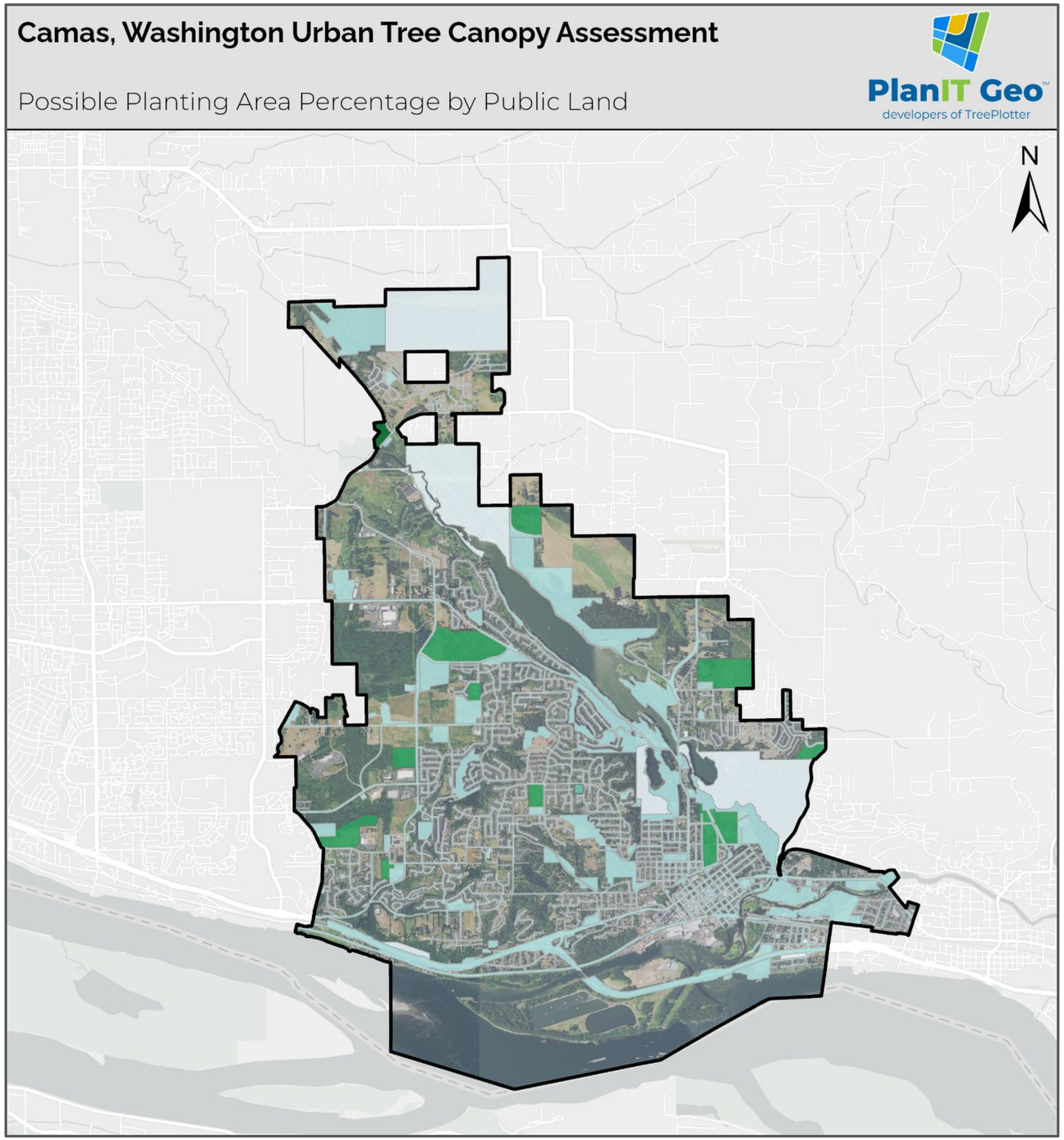
Public Lands



Zoning Classified

Existing tree canopy, potential planting area, and unsuitable areas for planting broken out by land use and ownership

POSSIBLE PLANTING AREA: SUMMARY



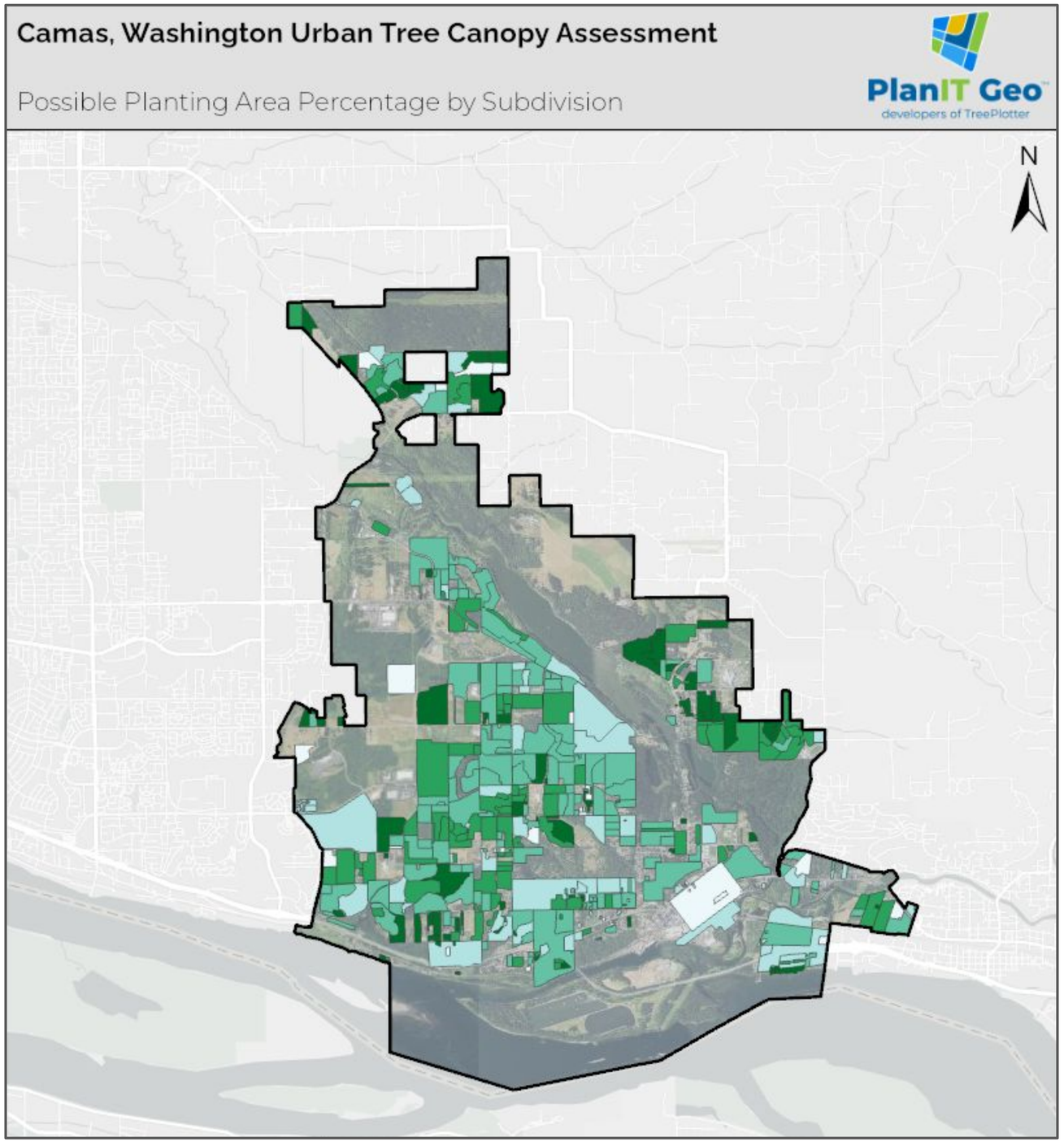
Possible Planting Area %

(City Limits & Clark County Open Space)

0% - 15%
16% - 25%
26% - 35%
36% - 45%
46% - 98%

Schools present the biggest opportunity for increased canopy coverage on public lands.

POSSIBLE PLANTING AREA: PUBLIC LANDS



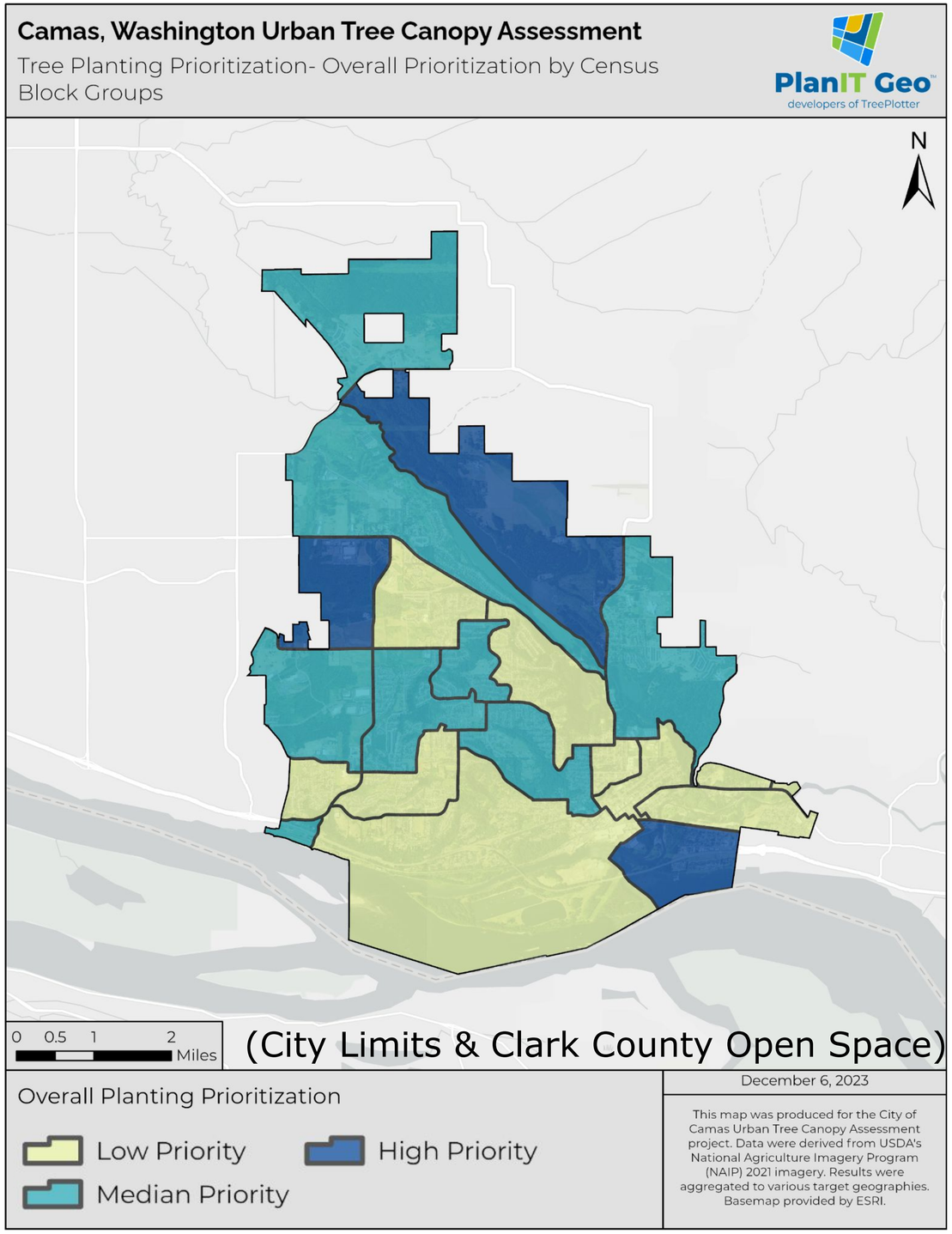
Possible Planting Area %

(City Limits & Clark County Open Space)

0% - 15%
16% - 25%
26% - 35%
36% - 45%
46% - 98%

HOAs carry a lot of potential to contribute to canopy gain.

POSSIBLE PLANTING AREA: SUBDIVISIONS



An assessment was done to determine priority areas for future planting. It was based on the following factors, equally weighted, which align with many grant applications with equity requirements:

- **Low UTC** - areas currently low in canopy cover
- **High PPA** - areas currently high in possible planting area
- **Economic vitality** - average annual household income
- **Poverty %** - percentage of population living below poverty line
- **Vulnerable population %** - percentage of residents under 18 or over 65
- **% unemployed** - percentage of residents considered unemployed
- **Educational attainment** - percentage of the population w/o GED or HS diploma
- **People of color** - percentage of residents of color

DEMOGRAPHIC PRIORITY AREAS

Plan for Adaptability

Urban areas around the world are facing dramatically intensifying extreme weather and climate impacts including drought, long-term water shortages, flooding, extreme weather events, and prolonged heat. Urban trees can play a significant role in making Camas, Washington resilient to weather and climate extremes, and in protecting human and ecosystem health and safety.

Increased temperatures and prolonged heat have a dramatic effect on urban trees. Urban trees already face many struggles of the urban environment, including competition for space, elements of an urban environment, vandalism, and harmful pests and diseases. Some of Camas's established trees are unlikely to survive the changes in the climate and weather patterns over the next 50-75 years. Planting the right trees for Camas today and in the future will play a vital role in the resiliency of the City's urban forest as well as overall community sustainability.

In pursuit of a sustainable and resilient urban forest, the City of Camas may seek to apply climate adaptation strategies to urban forest management planning. Building toward this objective, the City maintains a recommended tree list of small, medium, and large trees and trees that are prohibited for planting in public areas or through private development projects as a requirement of City Code. The Camas Urban Forest Vulnerability Report provides a summary of the changing climate, an analysis of urban tree species vulnerability to changing climate, and considerations for new tree species to integrate into Camas's urban forest over time. See Appendix for full report.

Climate Change Vulnerability Ratings for Northwest Urban Trees

Table Key:					
Urban Adaptability:		**Zone Suitability:**		**Vulnerability:**	
+	High: Species may perform better than modeled	√	Suitable	▼	Low: Suitable zone, high adaptability
●	Medium	X	Not Suitable	●	Low-moderate: Suitable zone, medium adaptability
–	Low: Species may perform worse than modeled			⊖	Moderate: Suitable zone, low adaptability or zone suitable, high adaptability
				○	Moderate-high: Zone not suitable, medium adaptability
				△	High: Zone not suitable, low adaptability

*Invasive species

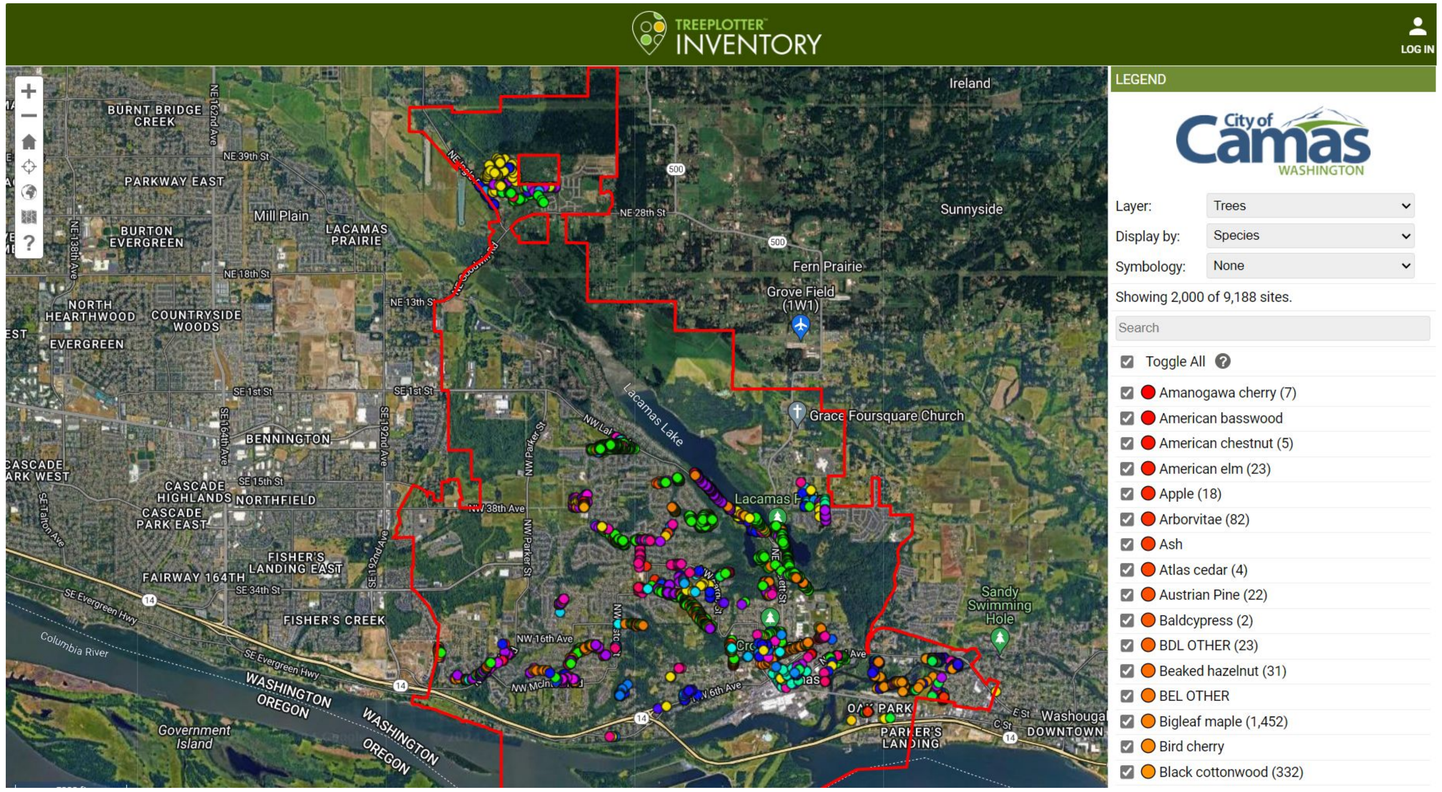
Table 8. Climate vulnerability and suitability of urban trees in the Pacific Northwest (Source: Climate Change Response Framework, NIACS)

		HEAT ONLY		HEAT & HARDINESS	
Common Name (Alphabetized)**	**Urban Adapt-ability**	**Zone Suitability**	**Vulnerability**	**Zone Suitability**	**Vulnerability**
Aleppo pine	●	√	●	√	●
Alleghany serviceberry	+	√	▼	√	▼
American basswood	●	√	●	X	○
American beech	●	√	●	√	●
American elm	●	√	●	√	●
American hornbeam	+	√	▼	√	▼
American smoke tree	●	√	●	X	○
American sycamore	●	√	●	√	●
American witch-hazel	●	√	●	X	○
Amur maackia*	+	√	▼	X	⊖
Apricot	●	√	●	X	○
Arizona cypress	●	√	●	√	●
Austrian pine	●	√	●	X	○
Bald cypress	+	√	▼	√	▼
Big leaf maple	●	√	●	√	●
Birch bark cherry	●	√	●	X	○
Black cherry	–	√	⊖	√	⊖
Black locust*	●	√	●	X	○
Black maple	●	√	●	X	○
Black poplar	●	N/A	N/A	√	●
Black walnut	–	√	⊖	√	⊖
Boxelder	●	√	●	√	●
Callery pear*	●	√	●	√	●
Cherry plum	●	√	●	√	●
Chinese chestnut	●	√	●	X	○
Chinese elm	+	√	▼	√	▼

Example tree species list. See report for full list.

Measure What You Have

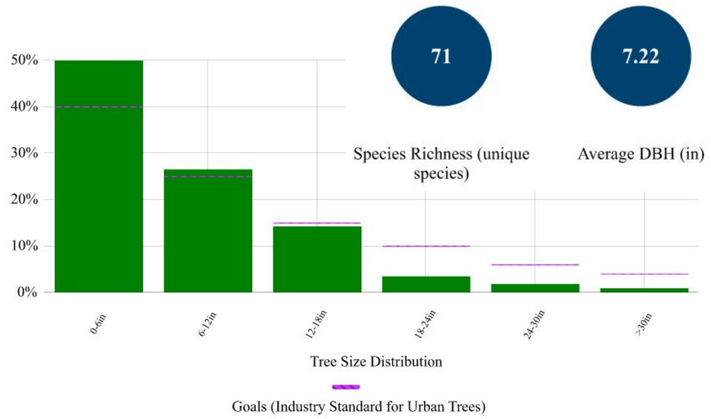
As part of assessing the urban tree canopy, this project inventoried over 9000 individual trees on public land across the city. This effort is a start to understanding the species and size diversity, health, and potential long- and short-term maintenance issues that may occur. The City will be adding to and managing this database in order to track changes over time in order to align more with the recommendations of this plan.



Visit TreePlotter (pg-cloud.com/CamasWA/) to see more details on the inventoried trees on Camas public lands. The first 9000 trees were prioritized to include downtown street trees, developed parks, and trail and open space corridors that might pose potential hazards to recreational uses. It also included a few sample Right of Way areas in residential neighborhoods.

Street Trees

While not all street trees were inventoried, a snapshot of the diversity in species and size provides an overview of the overall conditions and can set a baseline for tracking future conditions. Many new trees were recently added, so care should be taken to allow them to mature and adapt to a changing climate.



Richards, N. A. 1983. "Diversity and Stability in a Street Tree Population." Urban Ecology 7(2):159–171.

Richards, N.A. 1993. Reasonable guidelines for street tree diversity. Journal of Arboriculture 19:344–349.

Value & Resource Use

The POSMP used budget and spending data over the past several years to get a sense of existing resource allocation. These were compared to other local agencies and best practices to produce recommendations for re-aligning to meet Camas' Community Values.

Current Practices and Allocated Resources Assessment

Identifying gaps and opportunities in service delivery

In order to shift operations towards a long-term management and stewardship model, this plan summarized and assessed existing staffing, time and resource use, and relationships with other organizations. Understanding the gaps and strengths helped to focus recommendations on potential methods of improvements.

Best Practices focused on these three key areas. Finding a balance across these goals can lead to alignment with the priorities of this plan:

More efficient service delivery and resource allocation.
Changes to service delivery methods that reduce costs, level of staff effort, and timelines can more efficiently use public funding and resources, and typically lead to a greater quantity of services provided.

More equitable distribution of and access to services in the community.
A more equitable distribution of public resources can address deficiencies within communities that have been historically underserved by public programs, investments, and processes.

Higher quality ecosystem services and social benefits.
Public-sector agencies are recognizing parks, trails, and open space as critical infrastructure. Improving services in the context of natural resources can mean improving outcomes directly for the ecosystem (e.g. air and water quality) and social benefits (e.g. recreation and improved health outcomes).

Recommendations Summary

STRENGTHEN COLLABORATION WITH PARTNERS

- Create full time position focused on development, coordination, and implementation of a partnership and volunteer program that engages with HOAs, community-based groups, volunteers, and other government entities.
- Establish management standards that can give clear guidance to City staff and private landowners to help meet the goals of climate resiliency, best management practices, and effective resource allocation.
- Establish agreements with HOAs and other partners for collaborative management of ecosystem services and recreational resources.
- Create ongoing channels with state and county level partners.

ALIGN INTERNAL ORGANIZATION AND METRICS WITH POSMP FRAMEWORK

- Reorganize maintenance staff by land type and train or hire champions to provide overall stewardship practices and goals.
- Implement per-capita and/or per-acre spending targets and tracking metrics to ensure adequate funding levels for maintaining high-quality parks and recreation amenities that meet the needs of the community in Camas.

Service Delivery: Department Spending

In terms of spending per acre and level of service, Camas provides more acres per 1,000 residents than any comparable district while spending the second lowest amount per acre.

PARK PROVIDERS	POPULATION ESTIMATE	PARKS BUDGET	PARKLAND ACRES	PER-CAPITA SPENDING	PER-ACRE SPENDING	ACRES/1000 RESIDENTS
City of Tumwater	27,100	$7,608,421	514.5	$280.8	$14,788	19.0
City of SeaTac	31,740	$8,317,584	352	$262.1	$23,630	11.1
City of Port Angeles	20,240	$3,914,100	270	$193.4	$14,497	13.3
Park Districts of Si View	42,060	$6,250,632	890	$148.6	$7,023	21.2
PenMet Park District	40,000	$5,866,627	570.9	$146.7	$10,276	14.3
City of Camas	**27,420**	**$3,437,438**	**1,064**	**$125.4**	**$3,231**	**38.8**
City of Mercer Island	25,800	$2,127,581	479	$82.5	$4,442	18.6
City of Kenmore	24,230	$1,873,638	146	$77.3	$12,833	6.0
City of Longview	38,130	$2,170,690	488	$56.9	$4,448	12.8
City of Mountlake Terrace	23,810	$1,306,090	269	$54.9	$4,855	11.3
City of Maple Valley	29,250	$1,069,653	370.8	$36.6	$2,885	12.7

WA State Comparisons

In its 2022 Parks, Recreation, and Open Space (PROS) Plan, Camas identified comparisons with other cities in Washington with similarities to Camas to understand the variation in operations. The PROS Plan found that in 2018 data reviewed, Camas had considerably lower spending and operating budget on parks and recreation services compared with peer cities, allocating the equivalent of $78.65 per person. The PROS Plan used 2018 data to avoid pandemic distortions in local budget data. An updated comparison using 2023 data of park providers in Washington, Camas fell in the middle of per-capita spending looking at a broad section of cities but was still less than half of the cities with the greatest spending (the Cities of Tumwater and SeaTac). Total budget numbers include all O&M including recreational services.

Strengths, Weaknesses, Opportunities, and Threats

Summary of existing conditions to provide context for efficient service delivery related to operations and allocating resources

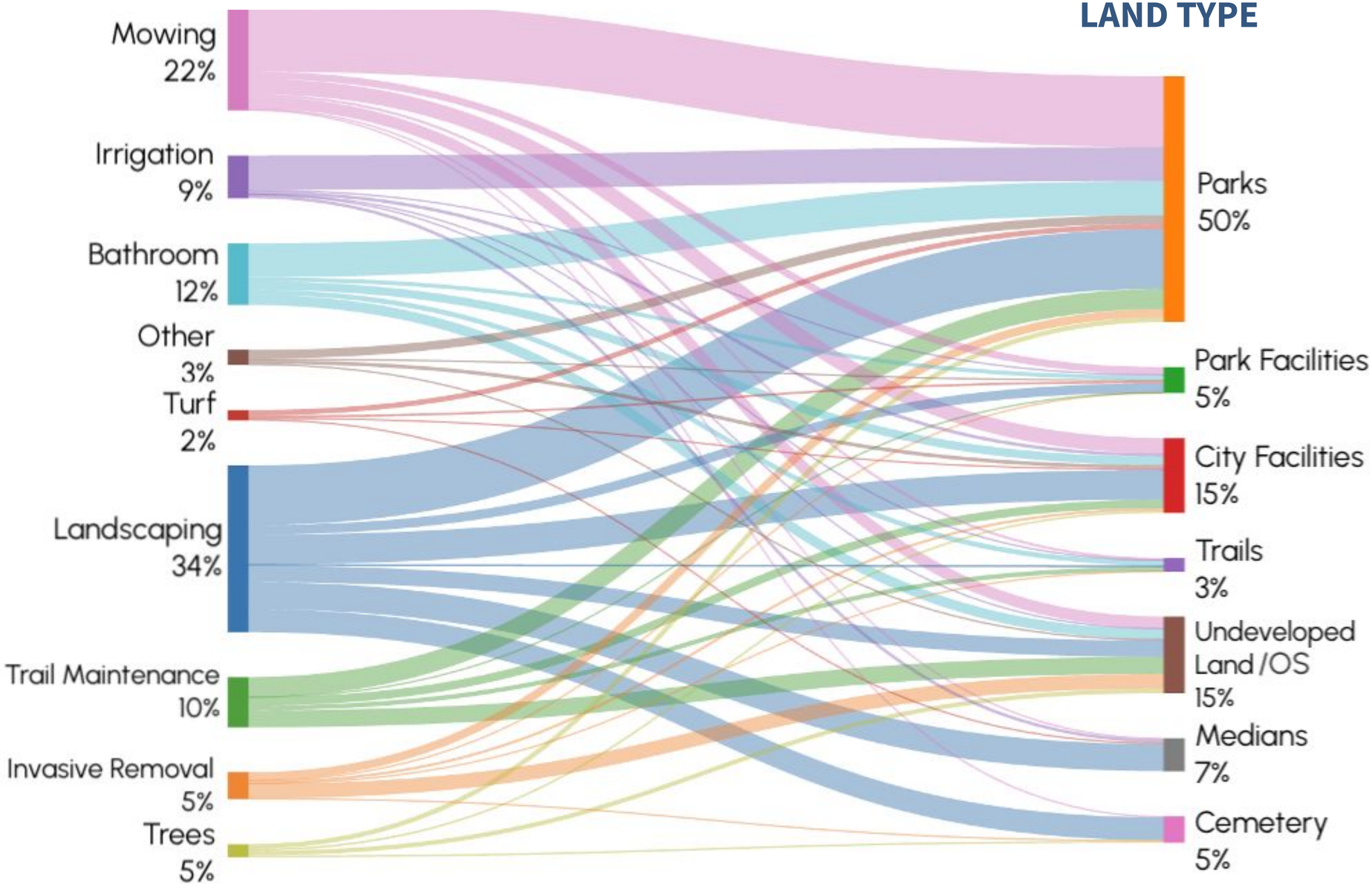
Strengths:
- Large and growing inventory of parks and open spaces
- High level-of-service acreage with 38.8 acres per resident (the highest among comparison districts analyzed)
- Skilled Parks and Recreation staff
- Diverse schedule of recreation activities for residents accessible for different ages
- Currently leveraging County resources to expand portfolio (Legacy Lands program) and other grant resources for capital projects
- Community member interest in parks and open space stewardship and greater involvement; existing Camas Parks Foundation and Ivy League for fundraising and invasive plant removal volunteers

Weaknesses:
- City subsidizes community use through low facility-rental fees and charges
- High amount of effort towards mowing/landscaping
- Significant time and resources spent on non-Parks and non-Open Space facilities
- Need for additional invasives removal in open spaces (citywide)
- Resources spent on reactive management to extreme weather events
- Lack of specialized stewardship experience for different land types or natural systems
- Lack of established standards, agreements or ongoing conversations with private entities (HOAs) about parks and natural system expectations

Opportunities:
- Increase staff capacity to grow partnerships with community-based groups and leverage potential volunteer efforts
- Identify opportunities for joint training for both staff and community members to improve knowledge and best practices
- Work with Homeowners Associations (HOAs) to collectively address natural area needs on private property (e.g. invasives removal, trail maintenance, replanting of native plants/trees)
- Identify best design practices that reduce need for ongoing maintenance to free up staff time to address long-term or proactive issues

Threats:
- Lack of additional external resources (grants) for maintenance and ongoing operations with new assets
- Low capacity at current staff levels to engage with volunteer/community partners
- Increasing need for more specialized contract services (e.g. arborists) to handle reactive issues
- Unpredictable weather patterns associated with climate change that create unexpected costs and maintenance needs and increase system-wide vulnerabilities.

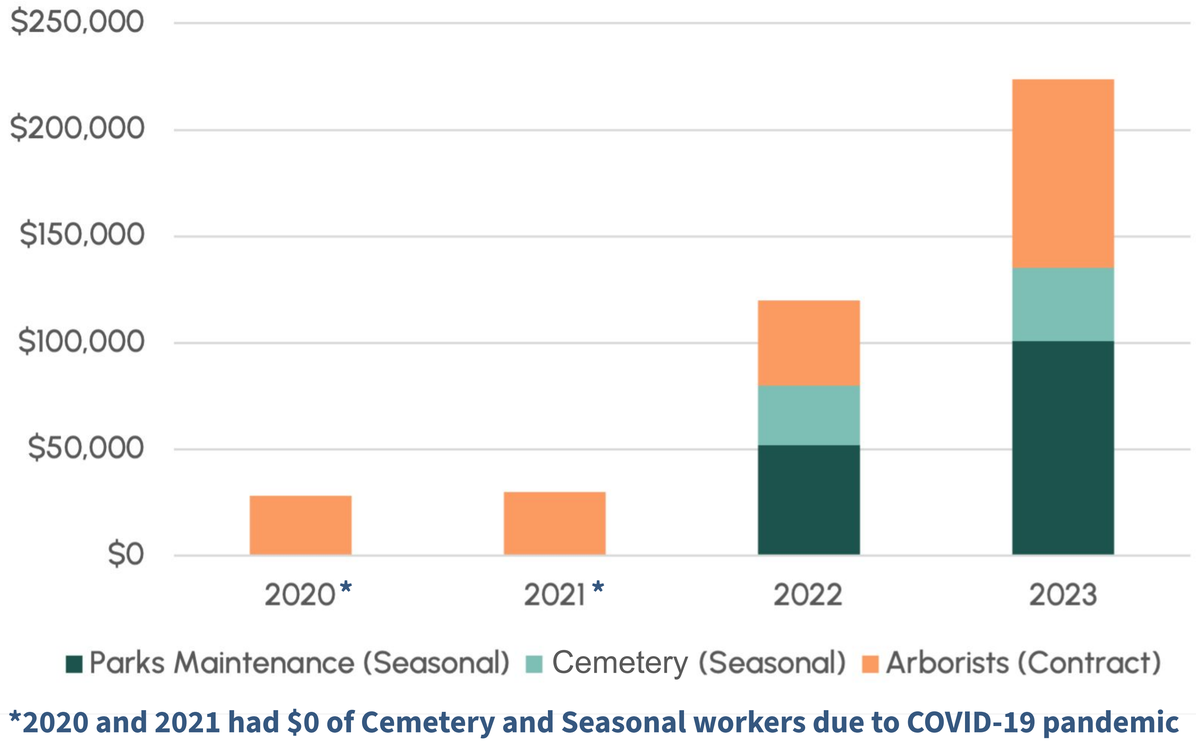
TIME SPENT PER ACTIVITY



TIME SPENT PER LAND TYPE

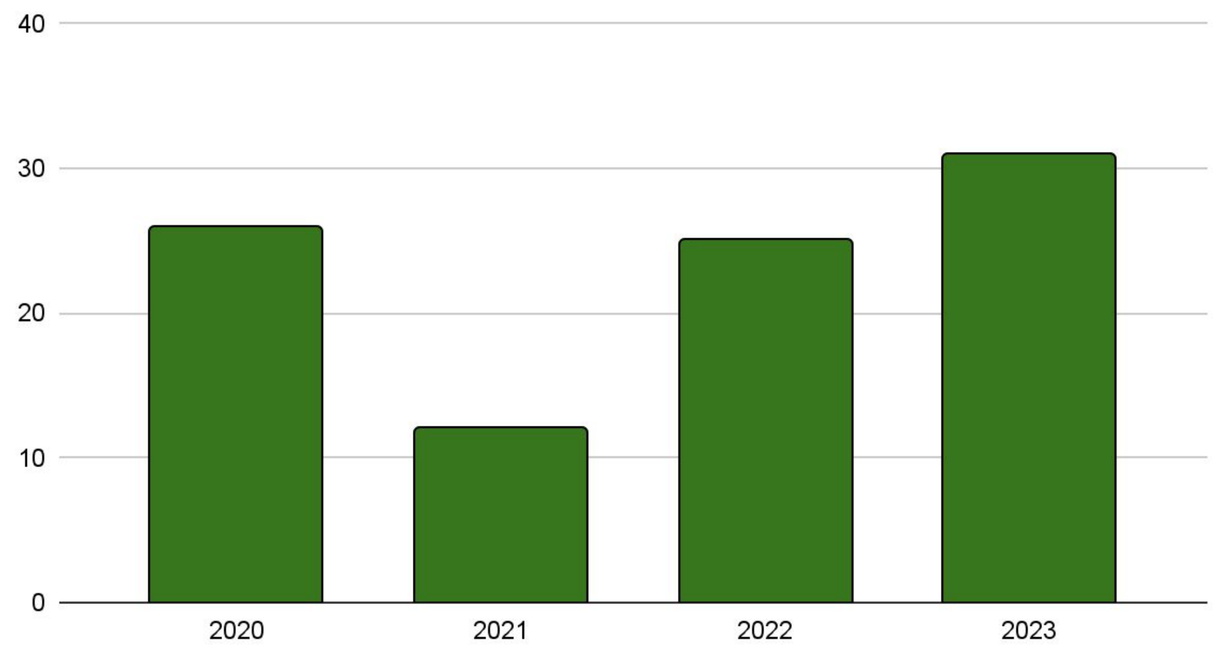
Parks and Recreation staff maintenance hours for the 2023 year were also assessed as part of this process in order to understand how time and resources were being prioritized. As the graph indicates, about a third of the time was being spent on maintaining lawns and irrigation, with another third on more detailed landscaping. About half of all time spent was on developed parks, while much of the time was also spent on non-Park facilities.

Annual Contract Employee Costs

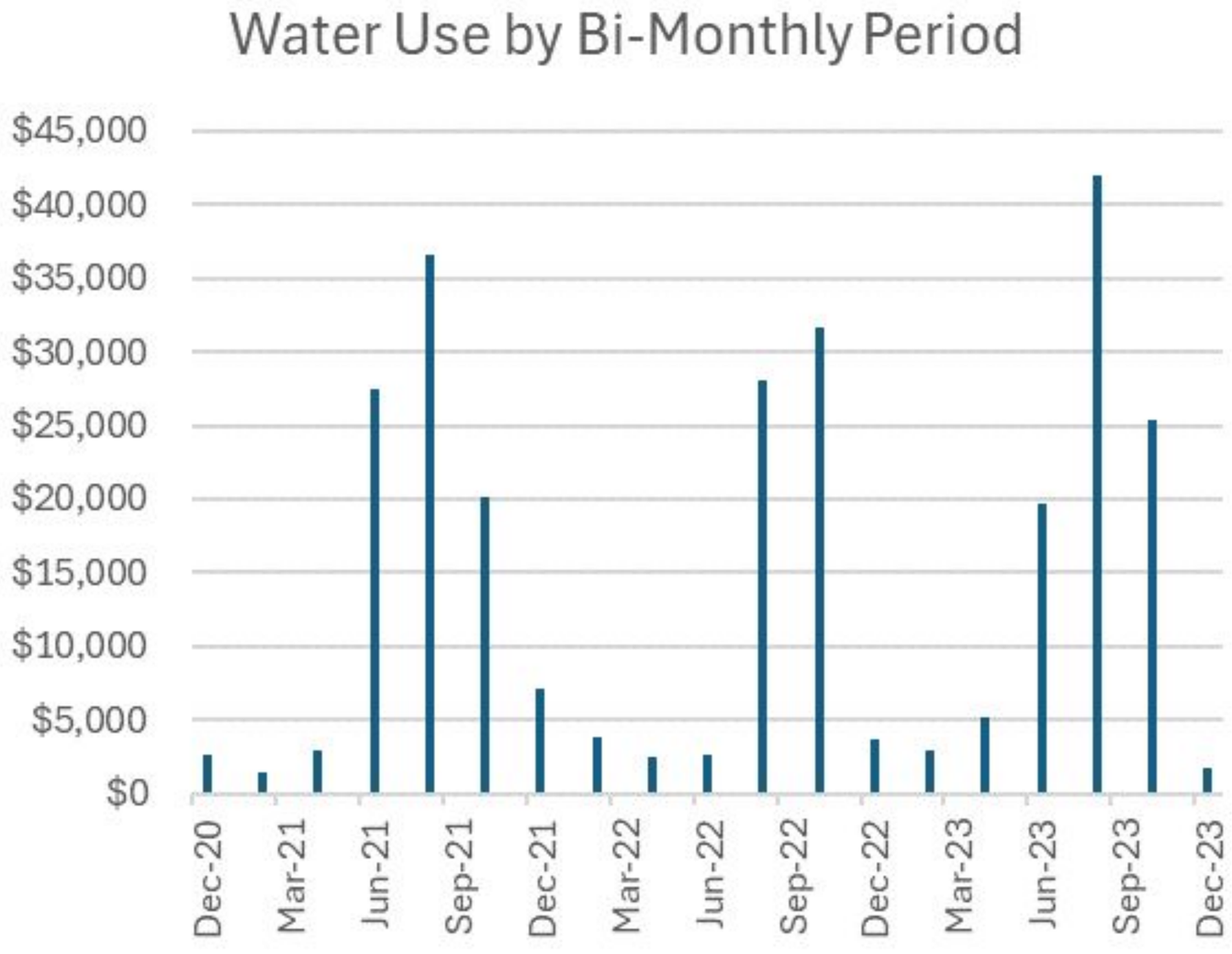


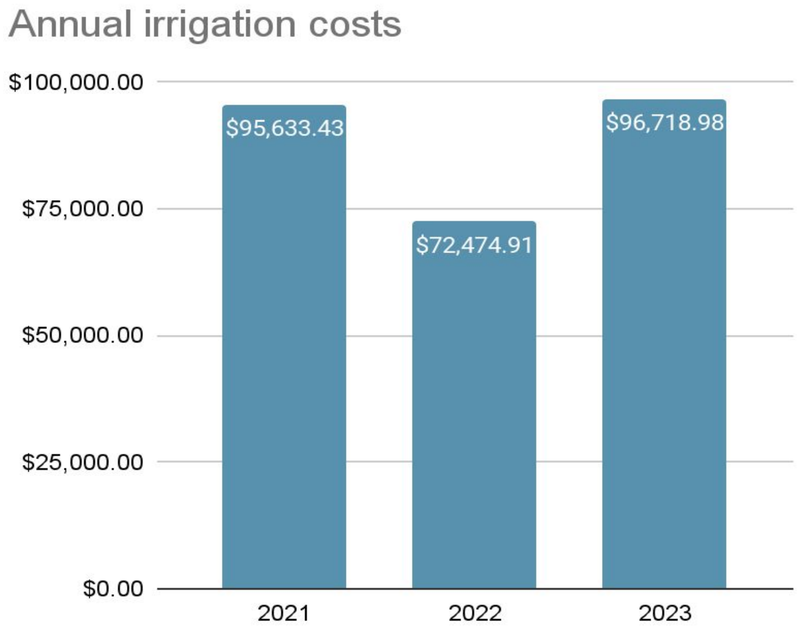
***2020 and 2021 had $0 of Cemetery and Seasonal workers due to COVID-19 pandemic**

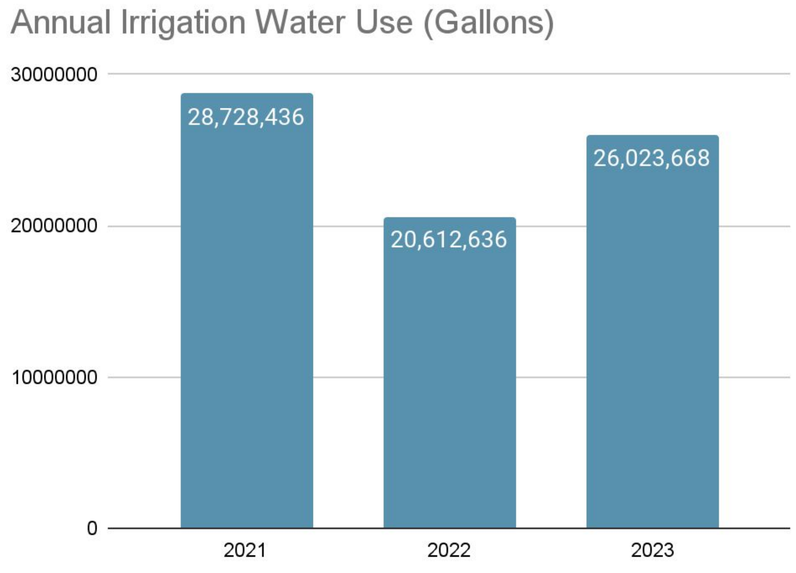
Number of Public Tree Requests



As extreme weather events and tree health and structural issues cause branch failures or risks, the number of public tree maintenance requests and other instances have increased. As public safety is a top priority, the city has been reactionary with the resources they have had, but mostly have contracted out arborists to handle these instances with costs increasing over the last several years.







A significant portion of time and money goes into watering the public landscapes of Camas. The best practice recommendations look to find ways to reduce water use through use of native and adaptive vegetation.

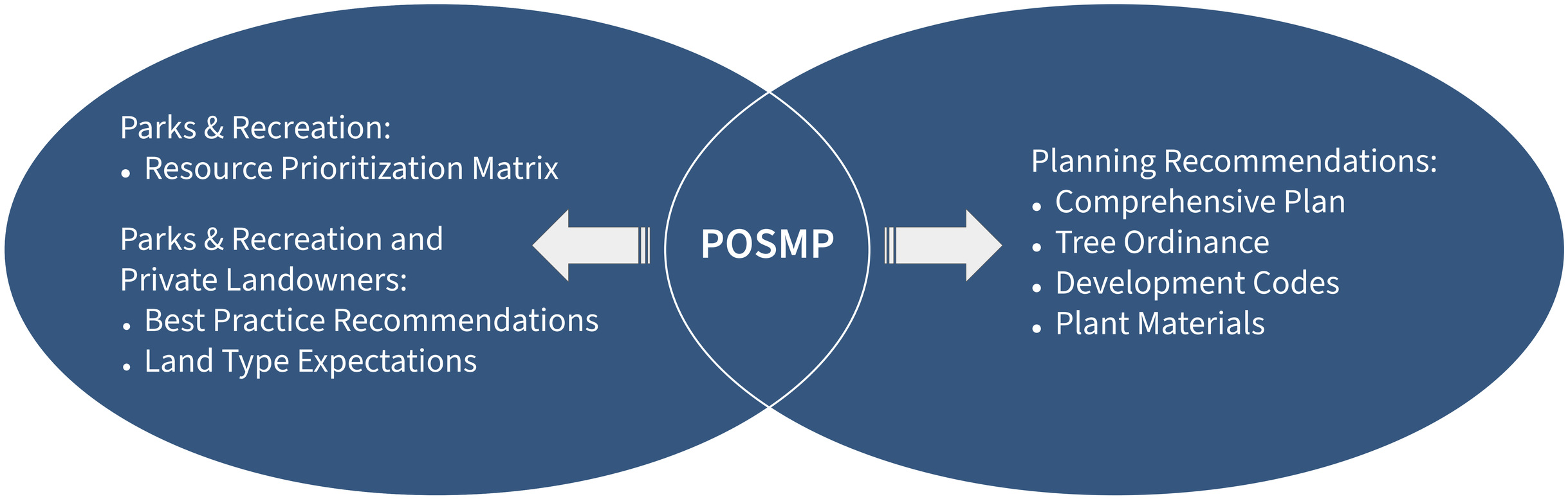
ANNUAL IRRIGATION WATER USE: 2021-2023

Resource Prioritization

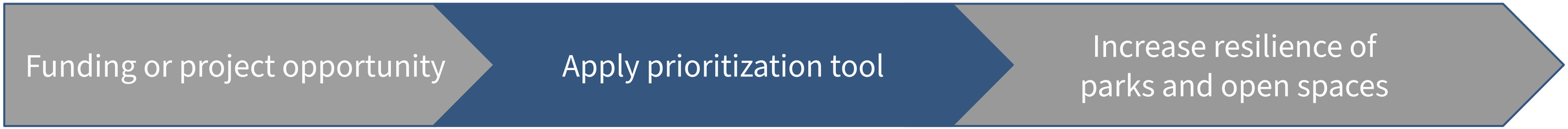
The 5 Camas Community Values were identified and used as a framework for making future decisions. It is the intent of this plan to provide guidance on how to incorporate and balance these values into projects and management practices of different scales.

Recommendations

Based on the community values and existing conditions analysis performed by this plan, several types of recommendations were developed in order to find better alignment between the POSMP goals and the public and private practices that influence the resilience of the Parks and Open Spaces of Camas.



Building a prioritization tool



How can we use our resources strategically to support our parks and open spaces when a funding source or project opportunity becomes available?

We can use a set of criteria to make good management decisions and prioritize opportunities.

By using a data-backed prioritization tool, we can effectively use resources and increase the resilience of our parks and open spaces.

Project Approach Matrix: Overview

Values	Goal
Financial and Resource Allocation	Optimize value and resource use in order to best balance the long-term performance goals with immediate needs for parks and public open space.
Outreach and Education	Provide opportunities for learning to gain efficiencies, institute best practices, and engage the community.
Natural Character	Maintain the existing natural character of Camas in ways that bolster community identity.
Equitable Access	Ensure that all community members have access to Camas' parks and natural resources and the benefits they provide.
Asset Protection + Public Safety	Protect ecosystems, human health, safety, and public and private assets through the management of natural systems to limit the effects of extreme weather, climate change, and other potential impacts .

Where most cities are required to focus and start from

Additional values Camas wants to incorporate into decision making and resource allocation

Legend

Establishes system-wide resilience

Considers connectivity and impacts to other sites or organizations

Makes site or process improvements

Status Quo Current practices

Roadblocks Obstacles to implementation

It is the intent of this tool to use these 5 community values as a guide to prioritize resources and projects in order to maximize the potential impact of the work. The following matrix should be used by each project team to initiate a conversation and develop an intentional approach for how each project is addressing these values. Each value can be addressed in a variety of ways to contribute to the project site, the surrounding area, and the system as a whole.

Community Value: Financial and Resource Allocation

Goal: Optimize value and resource use in order to best balance the long-term performance goals with immediate needs for parks and public open space.

Challenges with available resources have led to some misalignment between public expectations and the abilities of current staff to keep up with the needs across the management portfolio. These resource challenges have also been amplified as the City of Camas has acquired a substantial amount of land in the last 10 years. While additional funding opportunities may become available through the treatment of parks and open spaces as valuable infrastructure, decisions have to be made to shift time and resources to the most impact tasks in order to align with the community values and POSMP goals.

Key Opportunities for Allocating Resources

- **Incorporate the value of ecosystem services**
- **Expand decision making to intentionally incorporate the 5 community values**
- **Align goals with grant funding requirements**

Recommended Project Approaches

System	Connectivity	Local Improvements	Status Quo → Roadblocks	
• Do the goals and strategies open up opportunities for additional ongoing funding sources? • Does it reduce liability? • Can it utilize current practices or resources? • Are operational savings or ecosystem services quantified to support future assessments and tracking?	• Are off-site ecosystem services, trade-offs, or mitigation being considered? • Do the goals and strategies open up opportunities for supplemental grant funding?	• Does it reduce resource use or operational costs? • Are on-site ecosystem services included in the project goals and value discussions? • Does it reduce the need to hire outside vendors?	• Not currently funded or intentionally pursuing resources • Maintains status quo in funding for maintenance and operations • Is reactive to comprehensive ecosystem services.	• Increase maintenance costs or resource use. • Removes ecosystem services without mitigation.

Community Value: Outreach and Education

Goal: Provide opportunities for learning to gain efficiencies, institute best practices, and engage the community.

With so much natural land to manage, it will take public, private, and non-profit collaboration and efforts to meet the long-term management goals of the POSMP. The City is constantly looking for new partnering opportunities to improve skills, increase capacity, or supplement funding or resources. This plan also looks to provide alignment across organizations for goals and identify needs for training and knowledge gaps.

Priority Education and Training Needs

- **Tree hazard identification**
- **Tree pruning strategies**
- **Invasive identification**
- **Value of retaining existing mature trees and protecting natural systems**
- **Maintenance guidelines for HOAs**
- **Maintenance practices for residential wildfire prevention**
- **Maintenance for stormwater facilities**
- **Benefits of using native species vs ornamentals or lawns**
- **Pest management and chemical use**
- **Soil health**

Recommended Project Approaches

System	Connectivity	Local Improvements	Status Quo → Roadblocks	
• Does it enable a path for long-term community stewardship or collaborative partnerships? • Does it establish or implement a pilot program to test practices and capture learnings.	• Does it collaborate with outside organizations or volunteers? • Does it build public-private partnerships or shared knowledge, goals, or expectations?	• Does it include public educational opportunities to learn about a resource, site, or culture? • Does it adjust practices or provide training for staff or the public on innovative or Best Management Practice methods that improve performance?	• Utilizes existing internal staff to perform a routine task. • Supplement with contractor for tasks that require specific training and/or technical skills.	• Requires resources for extra staff training.

Community Value: Natural Character

Goal: Maintain the existing natural character of Camas in ways that bolster community identity.

The natural features of Camas contribute to a sense of beauty and place that makes it a great place to live, work, play, and visit. There are many different types of features, each requiring their own care, attention, and stewardship to maintain their character and functionality.

Types of Features

- Street Trees and Medians
- Park and Open Space Tree Canopy
- Habitat and Wildlife
- Creeks and Wetlands
- Bodies of Water and Shorelines
- Trails
- Forest Understory
- Meadows
- Wooded Hillsides
- Open Lawns
- Manicured Landscapes
- Sports Facilities
- Cemetery

Recommended Project Approaches

System	Connectivity	Local Improvements	Status Quo → Roadblocks	
• Does it incorporate and honor community connection to place? • Does it prioritize natural features over built ones? • Does it help to retain or enhance city-wide natural systems?	• Does it provide consistency that aligns with native ecosystems? • Does it consider impressions from arrival and departure?	• Does it preserve or protect significant natural features beyond code? • Does it replace or improve out of character or invasive landscapes?	• No additional considerations during planning or development to exceed existing code to benefit and/or preserve ecological systems.	• Does not align with the ecological or cultural context of Camas. • Removes significant features that have community value without mitigation.

Community Value: Equitable Access

Goal: Ensure that all community members have access to Camas' parks and natural resources and the benefits they provide.

Obstacles to resources can exist in many forms. Considerations should be made to avoid or remove barriers due to mode of transportation, connectivity, physical abilities, demographics, schedule, type of recreational activity, or feeling welcome or safe. All community members and guest of Camas should be able to experience and enjoy the natural environment and associated programming in ways that align with their needs and abilities.

Access for Who?

- **Children**
- **Parents**
- **Elderly**
- **Mobility impairments**
- **Sensory impairments**
- **Racial and Cultural Diversity**
- **Mixed-age groups**

Recommended Project Approaches

System	Connectivity	Local Improvements	Status Quo → Roadblocks	
• Does it fill a major gap or provide significant connectivity in the system. • Does it preserve large areas of natural resources in neighborhood of need?	• Does it support multi-modal transportation? • Does it provide connectivity between adjacent public and private lands?	• Does it maintain or enhance existing recreational amenities, programs, or resources? • Does it preserve recreational opportunities? • Does it improve site wayfinding?	• Service to neighborhood or demographic in need will be reactive and on an as needed basis.	• Is remote and does not serve a neighborhood or demographic in need. • Cuts off access to an existing resource.

Community Value: Asset Protection + Public Safety

Goal: Protect ecosystems, human health, safety, and public and private assets through the management of natural systems to limit the effects of extreme weather, climate change, and other potential impact.

Parks and open spaces are valuable infrastructure that can help mitigate effects of disruptions or stresses to the community. Projects should understand what potential vulnerabilities exist and plan on how to address them through planning, design, and management. Resources should ultimately shift from less reactionary to more preventative efforts

Key Assets to Protect

- **Community and Human Health**
- **Trails and Recreation Amenities**
- **Urban Tree Canopy**
- **Public Facilities and Private Structures**
- **Road and Utility Infrastructure**
- **Natural Ecosystems**
- **Habitat and Wildlife**

Priority Concerns

- **Water quality**
- **Hazard trees due to ice or wind storms**
- **Disease, pests, and invasive species**
- **Facility closure due to extreme weather**
- **Wildfire**
- **Drought**
- **Climate change**

Recommended Project Approaches

System	Connectivity	Local Improvements	Status Quo	Roadblocks
• Does it significantly reduce the risk or liability of asset loss or damage due to stress or disruption? • Does it implement best practices to reduce or prevent long-term stressors, risks, or health issues?	• Does it assess the potential for risks to assets or humans across property lines? • Does it create collaboration between neighbors to address larger issues?	• Does it address a durability or wellbeing concern through routine maintenance and replacement program. • Does it eliminate a significant hazard or liability to human safety or health?	• Reactive to future disruptions, hazards or ongoing stressors to assets or people. • Reactive to addressing human safety and/or health needs.	• Takes priority. Reduces resources for other activities

Community Values: Project Approach Summary Matrix

	System	Connectivity	Local Improvements	Status Quo →	Roadblocks
Financial and Resource Allocation	• Do the goals and strategies open up opportunities for additional ongoing funding sources? • Does it reduce liability? • Can it utilize current practices or resources? • Are operational savings or ecosystem services quantified to support future assessments and tracking?	• Are off-site ecosystem services, trade-offs, or mitigation being considered? • Do the goals and strategies open up opportunities for supplemental grant funding?	• Does it reduce resource use or operational costs? • Are on-site ecosystem services included in the project goals and value discussions? • Does it reduce the need to hire outside vendors?	• Not currently funded or intentionally pursuing resources • Maintains status quo in funding for maintenance and operations • Is not intentional about valuing all ecosystem services. • Is reactive in responding to and mitigating hazards from extreme weather events and other effects of climate change.	• Increase maintenance costs or resource use. • Removes ecosystem services without mitigation.
Outreach and Education	• Does it enable a path for long-term community stewardship or collaborative partnerships? • Does it establish or implement a pilot program to test practices and capture learnings.	• Does it collaborate with outside organizations or volunteers? • Does it create new collaborations with outside organizations or volunteers? • Does it build public-private partnerships or shared knowledge, goals, or expectations?	• Does it include public educational opportunities to learn about a resource, site, or culture? • Does it adjust practices or provide training for staff or the public on innovative or Best Management Practice methods that improve performance?	• Utilizes existing staff to provide ad-hoc outreach and education to the public. • Supplement with contractor for tasks that require specific training and/or technical skills. • Partner with community and volunteer groups for invasive species removal.	• Requires resources for extra staff training. • Requires additional staff resources to provide and outreach and education program to the public.
Natural Character	• Does it incorporate and honor community connection to place? • Does it prioritize natural features over built ones? • Does it help to retain or enhance city-wide natural systems?	• Does it provide consistency that aligns with native ecosystems? • Does it consider impressions from arrival and departure?	• Does it preserve or protect significant natural features beyond code? • Does it replace or improve out of character or invasive landscapes?	• No additional considerations during planning or development to exceed existing code to benefit and/or preserve ecological systems.	• Does not align with the ecological or cultural context of Camas. • Removes significant features that have community value without mitigation.
Equitable Access	• Does it fill a major gap or provide significant connectivity in the system. • Does it preserve large areas of natural resources in neighborhood of need?	• Does it support multi-modal transportation? • Does it provide connectivity between adjacent public and private lands?	• Does it maintain or enhance existing recreational amenities, programs, or resources? • Does it preserve recreational opportunities? • Does it improve site wayfinding?	• Service to neighborhood or demographic in need will be reactive and on an as needed basis.	• Is remote and does not serve a neighborhood or demographic in need. • Cuts off access to an existing resource.
Asset Protection + Public Safety	• Does it significantly reduce the risk or liability of asset loss or damage due to stress or disruption? • Does it implement best practices to reduce or prevent long-term stressors, risks, or health issues?	• Does it assess the potential for risks to assets or humans across property lines? • Does it create collaboration between neighbors to address larger issues?	• Does it address a durability or wellbeing concern through routine maintenance and replacement program. • Does it eliminate a significant hazard or liability to human safety or health?	• Reactive to future disruptions, hazards or ongoing stressors to assets or people. • Reactive to addressing human safety and/or health needs.	• Takes priority. Reduces resources for other activities

Land Types and Minimal Expectations

There are many types of land that make up the parks and open spaces of Camas. Each type of land brings its own set of characteristics, values and management considerations.

Privately-owned properties

Privately owned properties play a key role in the parks and open space system by contributing to connectivity and management patterns within the larger landscape. Accountable management and stewardship of these lands are a crucial part of establishing a city-wide resilient system.

Publicly-owned properties

Publicly owned properties provide essential resources for conservation, recreation, and enjoyment. These properties often serve as the foundation for establishing protected areas and demonstrating best practices for management.

Homeowners associations

A homeowners association is an organization established within a residential community to manage and enforce rules and regulations. Homeowners associations manage common areas, which can include open spaces such as trails and stormwater facilities.

Minimum Maintenance Expectations: Alignment with expectations of other land types plus opportunity to partner with the City to improve overall ecosystem performance.

Private landowners

Private landowners own and manage significant portions of natural areas within or adjacent to critical areas. They are key partners in contributing to stewardship of our ecosystems.

Minimum Maintenance Expectations: Opportunity to align with the overall network and improve ecosystem performance.

Steep slopes

Hillsides having a 15 foot, or greater, vertical rise over 100 feet of horizontal run, or 15% slope

Minimum Maintenance Expectations: Human access should be limited and vegetation managed in order to minimize erosion. Development should be mindful of stability and impacts downslope, including beyond the property line.

Stormwater facilities

Stormwater facilities play a crucial role in managing runoff by capturing and treating rainwater to prevent flooding and pollution.

Minimum Maintenance Expectations: Facility inlets and outlets should be regularly cleaned of waste and sediment. Dead vegetation should be replaced in rain gardens. Grass should be mowed and saplings removed in detention ponds.

Open spaces

Open space is left primarily in its natural environment.

Minimum Maintenance Expectations: Maintenance of natural system functionality should take priority over recreational activities.

Trails

Pathways that provide access into natural areas and linkages across properties.

Minimum Maintenance Expectations: Safety hazards (including tree branches at-risk of falling) and waste should be removed. Uneven surfaces should be repaired.

Wetlands

Wetlands are transitional ecosystems that manage flood waters, create unique habitats and protect water quality. They are subjected to regulations by public agencies at the state, local, federal and tribal level.

Minimum Maintenance Expectations: Remove waste and invasive species. Prevent intrusion of contaminated water or excessive sediment.

Rights-of-way

A public right of way is land that is set aside for transportation purposes. This can include public roads, sidewalks, or medians.

Minimum Maintenance Expectations: Safety hazards (including tree branches at-risk of falling) and waste should be removed. Uneven surfaces should be repaired. Weeds should be removed or killed, and planting beds mulched. Dead plantings (especially trees) should be replaced.

Shorelines

Shorelines are linear spaces along bodies of water, managed in accordance with the state Shoreline Management Act.

Minimum Maintenance Expectations: Ensure access points are safe and devoid of hazards. Remove waste.

Parks

Parks are publicly accessible spaces that are developed to support recreational activities and programming.

Minimum Maintenance Expectations: Inspect equipment for safety. Assess and maintain trees and vegetation for health. Remove waste and repair furnishings. Maintain lawns to support recreational uses.

Recommendations

Best management practices for planning, operations, and site development were organized by system and aligned with each land type to provide guidance for moving beyond minimal expectations and towards systems-level resilience.

A systems approach

A systems approach to management involves understanding and optimizing the benefits each component can contribute to the overall community, while understanding potential trade-offs and synergies.

We are organizing the Management Plan Recommendations into these components in order to work towards giving each the attention they need to help the overall system thrive.

Best Practice Recommendations

In order to move beyond minimal expectations towards the goals of the city-wide system approach, the following recommendations are proposed to be considered for each project. Recommendations are organized by system and laid out by the template below. Utilizing these strategies can unlock the potential for more optimal management of resources that align with the 5 Camas Community Values.

HOW TO USE: Each project team should identify the applicable **Project Type** and **Land Types** that align with the project objectives and outcomes. The team should discuss and intentionally weigh the applicability of each relevant recommendation across the 7 systems as they apply to the project's goals, scope, and budget. A balance should be applied in order to equitably address the 5 Camas Community Values, and the Summary **Project Approach Matrix** should be referenced to ensure alignment.

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Best practices to unlock the most potential…		•••	•••	•••	•••	•••

Best management practices are listed here for the following **Project Types** for each system:

- **Operations & Maintenance -** Ways to manage established resources
- **Planning & Programming -** Ways to plan for future resources
- **Site Development -** Ways site design can impact management

The **Land Types** that can be managed using this practice are shown here using icons.

See Land Types page for descriptions and minimal expectations. These recommendations go beyond these expectations and work toward the community values at the site, organization, and system levels.

Each management practice is evaluated using the **Project Approach Matrix** and the alignment with each community value**.**

System

Connections

Improvements

SQ

Status Quo

N/A

Not Applicable

See Summary Matrix for criteria.

Water

Water is essential for life. Managing water in our parks and open spaces is vital for preserving natural ecosystems, ensuring access to clean water, and providing cooling and recreational opportunities for the community.

How does water impact us?

Stormwater
Stormwater management plays a crucial role in preventing flooding, recharging groundwater and mitigating pollution.

Irrigation
Irrigation is a valuable resource that provides a consistent water supply to vegetation when rainwater is scarce.

Water Quality
Water quality directly affects the health of humans, pets, vegetation, and wildlife.

Water Access
Water can be a calming presence and provide cool relief, a place for recreation, and sense of community - especially during extreme heat events.

What are the risks and concerns?

Flood Control
Floods can result in displacement of communities, damage to infrastructure, erosion and vegetation damage, and increased costs of living.

Drought
Droughts have adverse effects on ecosystems and communities such as tree and vegetation health, water scarcity, food shortages and economic losses.

Water Costs
High water costs can lead to disparities in water access, affecting both individual well-being and community development.

What are some key strategies?

Green infrastructure
Allowing rainwater to infiltrate the ground reduces runoff, prevents flooding and filters pollutants.

Stormwater facility sediment removal
Effective drainage systems ensure the longevity of stormwater infrastructure and prevent downstream pollution.

Water conservation practices
Reduce overall water consumption and promote efficient water use through use of native plantings, reduction in lawn, and efficient irrigation systems.

Engage Water
Improve access to water for drinking, cooling down, and supporting wildlife.

Privately-owned lands

Support water management through water-saving practices and integrating green infrastructure solutions.

Publicly-owned lands

Manage lands that absorb, celebrate, and provide access to clean and safe water.

Recommendations: Water

Operations & Maintenance

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Manage sediment before it impedes infiltration capacity. Remove sediments from drains, rain gardens, etc. annually, before the rainy season.		Opportunity to collaborate with HOAs.	Promote the use of green infrastructure.	Use resources proactively instead of reacting to stormwater facility failures. Improves natural infrastructure functionality.		Reduce flooding risks.
Apply filtration bags at storm drains before major storms, especially in the autumn to prevent leaves from clogging the system.				Reduce maintenance resources needed to clean out debris.		Reduce flooding risk.
Reduce chemical fertilizer and pesticide use to protect water quality downstream.	**All**	Opportunity to collaborate with private landowners.	Maintain healthy lakes, streams, and other bodies of water. Reduces potential damage to habitat and wildlife.	Reduce costs and labor for purchasing and applying chemicals.		Reduce risk of algal blooms and other water quality hazards.
Assess existing recreational water access points for safety, accessibility, and durability issues.			Increase engagement with natural water bodies for enjoyment.	Catch issues early to avoid full replacement of infrastructure.	Ensure recreational opportunities are maintained for all.	Reduce liability and risk of injury.
Designate lawn areas to go dormant during summer months to reduce water use.		Opportunity to educate public about water conservation practices.	Requires cultural shift in expectations to support desired uses.	Save on irrigation costs as well as mowing labor costs.		
Promote city-led inspection, guidelines, and education to private landowners and HOAs on ways to manage stormwater facilities.		Opportunity to collaborate with private landowners to improve system performance.	Promote the use of green infrastructure.	Improves natural infrastructure functionality.	Promote use of natural infrastructure on both public and private land.	Reduce flooding risk.

Recommendations: Water

Planning & Programming

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Size stormwater facilities to handle 100-year (1%) storms.				Reduce recovery costs and efforts to flooded areas.		Reduce flooding risk.
Ensure that shoreline and wetland trails account for future changes to water levels.					Protect future access to shorelines and wetlands.	Reduce potential for future damage.
Utilize water access to provide opportunities for cooling during hot days.					Ensure all community members have access to cooling resources.	Support public health.
Assess critical areas within the floodplain and ensure the plantings, soil, and materials can withstand flooding events.			Improve habitat and natural resources.	Save on rebuilding costs.		Plan for future floods to protect current resources.
See Lacamas, Round, and Fallen Leaf Lakes Management Plan for further actions						

HOA Private land Steep slopes Stormwater facilities Open spaces Trails Wetlands ROW Shorelines Parks

Recommendations: Water

Site Development

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Look for opportunities to use a captured or recycled water source for irrigation use.		Opportunity to collaborate with private landowners.		Reduce irrigation costs.		Preserve water resources during extended drought.
Divert water running perpendicular to pathways from uphill sources into culverts or other durable structures.				Reduce costs of replacing paths and trails.	Increase longevity of paths and trails.	Increase safety of paths and trails.
Use drought-tolerant and/or adaptive plant species and cluster plantings by water use to reduce over-watering.		Opportunity to collaborate with private landowners.	Native planting supports habitat and wildlife.	Reduce irrigation costs.		
Celebrate the experience of rain water through ground surface treatments, artwork, and daylit water conveyance channels.		Stormwater education opportunity.	Promotes nature engagement with all ages.	Reduces the need for underground utilities.		
Ensure runoff is minimized and all stormwater is treated and infiltrated on site when possible. Consider the use of pervious surfaces.	**All**		Reduces impacts to downstream habitats.	Reduce future costs of repairing erosion impacts.		Reduces risk to adjacent property owners. Replenish local groundwater.
Plant trees adjacent to stream banks to provide shade, keep the water cool and reduce erosion into streams.			Protects habitat. Increases tree canopy cover.			Reduces erosion risks.
Protect waterways by not installing wood chip mulch below the ordinary high-water mark.						Reduce impacts to water quality.
Incorporate water sources to provide wildlife with a place to drink or cool down.		Opportunity to collaborate with private landowners to provide habitat connectivity.	Promote wildlife viewing and enhance enjoyment of natural spaces.			
Provide access to emergency water to protect non-irrigated trees and vegetation from extreme heat events.			Preserves tree canopy.	Reduce replanting costs.		Protects vegetation during extreme heat events.
Additional Best Practices found in the Rain Garden Handbook for Western Washington						

HOA Private land Steep slopes Stormwater facilities Open spaces Trails Wetlands ROW Shorelines Parks

Operations

Effective operations through stewardship and conversation can ensure optimized use of public funding, foster community engagement, promote safety and accessibility, and enhance the experience of these spaces.

How do operations impact us?

Safety
Well-maintained parks and open spaces are accessible and safe.

Enhanced experience
Visitors and community members will have a better experience in spaces that are functional, safe and well-kept.

Longevity
Taking care of assets ensures that they are still around in the future.

What are the risks and concerns?

Resource availability
Scarcity of resources limits the ability to maintain infrastructure, provide adequate programming and ensure visitor safety.

Lack of specialty knowledge
The lack of specialty knowledge can result in ineffective decision-making as well as missed opportunities for enhancement of parks and open spaces. It can also pose safety risks.

Loss of Recreational Opportunities
Inability to meet all of the maintenance tasks may lead to closures or reduced usage in parks and open spaces.

What are some key strategies?

Partnerships
Work with businesses, nonprofits and other community groups to establish project/program goals and partnerships.

Volunteer Coordinator
Hire a volunteer coordinator in order to best utilize volunteer groups to help focus on Management Plan goals.

Community engagement
Foster community engagement and connection to place in order to support long-term stewardship, a sense of ownership and investment in public spaces.

Privately-owned lands

Private landowners can partner with the City and learn from each others' operations practices, benefitting from shared knowledge and resources.

Publicly-owned lands

Public entities can provide opportunities for the community to participate in maintenance and learn about best practices.

Recommendations: Operations

Operations & Maintenance

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Consider reorganizing maintenance staff by land or system type and training or hiring champions to provide overall stewardship strategies, practices and goals.	**All**	Provide specialized knowledge to staff to align with systems approach.	Preserve and enhance the natural elements, features, and systems that contribute to the community identity.	Take a proactive approach to management and land stewardship.		System knowledge helps to identify issues early and work towards preventative measures.
Consider performing observations, evaluations, and surveys to help determine how spaces are currently used and capture ideas for potential improvements.		Engages community members to help form future efforts and priorities.	Allow management to focus on efforts that support current uses.	Allocate resources strategically.	Facilitate use of spaces by Camas residents. Help identify obstacles to desired uses.	
Hire city urban forester to provide overall stewardship, strategy, monitoring, and education to staff and the community.	**All**	Can coordinate educational opportunities for staff and community.	Support long-term health of tree canopy.			Address hazard trees and mitigate risk.
Hire a volunteer and/or HOA coordinator to organize and focus non-profit and community groups to align with POSMP goals.	**All**	Improve coordination and knowledge sharing amongst public and private groups.		Increase capacity for maintaining natural resources.		
Explore more potential funding sources that promote natural resources, parks, and open spaces as valuable, resilient infrastructure.	**All**	Align with other agencies on the value that nature can bring to communities.		Increase funding sources.		Explore resilience funding to reinforce natural infrastructure.
Partner with the Landscape Architecture Foundation and/or other institutions to create case studies or research to support ongoing monitoring and data-collection.	**All**	Bolster data-backed research and education around natural systems.		Better inform decision making and resource allocation.		

Recommendations: Operations

Planning & Programming

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Work with local businesses, nonprofits and other community groups to establish project goals, programs and partnerships.	**All**	Align with other agencies on the value that nature can bring to communities.	Align on expectations and provide consistency across the community.			
Establish agreements with HOAs and other partners for collaborative management of ecosystem services and recreational resources.	HOA, Private land		Align on expectations.	Maintain and enhance performance of ecosystem services.	Maintain and enhance trail and open space access through HOAs.	
Create ongoing channels with state and county level partners. Align and integrate ecosystem services with other City, County and State department goals, initiatives, funding sources, plans, and projects.	**All**	Align with other agencies on the value that nature can bring to communities.		Incorporate the valuation of ecosystem services into project planning across Washington.		Improve preparedness for inclement weather, fire, and other potential hazards.
Considering partnering with Camas School District as well as regional universities for citizen science programs or ongoing environmental monitoring initiatives.	**All**	Build partnerships and collect metrics that can inform decision making.		Collect data that can lead to more efficient utilization of available resources.		
Provide more volunteer orientation sessions to help familiarize them with the natural systems and expectations.	**All**	Increase hands-on experience and nature immersion to improve knowledge of natural systems.	Create opportunities for more connection to place.			
Obtain Tree City USA certification from the Arbor Day Foundation and pursue Growth Awards through innovative urban forest management efforts.	**All**	Increase awareness of efforts and progress through 3rd party organizations.				
Identify opportunities for joint training for both staff and community members to improve knowledge and best practices.	**All**			Use resource effectively though consolidating training efforts and promoting best practices.		Strengthen safety by creating shared understanding of operational and emergency procedures.
Engage tribal communities to build long-term relationships and understand best land management practices that could be incorporated into operations.	**All**	Opportunity for staff to move towards a stewardship model of land management.	Could lead to improved habitat and restoration of native ecosystems.	Could lead to increased ecosystem service perform across systems.	Is inclusive of tribal groups, practices, and knowledge.	

HOA Private land Steep slopes Stormwater facilities Open spaces Trails Wetlands ROW Shorelines Parks

Recommendations: Operations

Site Development

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Provide staff review of design projects to identify potential maintenance efficiencies or improvements.				Ensure new designs align with maintenance expectations and capacity.		

Materials and equipment

Materials and equipment selection and maintenance directly impact the functionality, durability, safety and aesthetic quality of parks and open spaces.

How do materials and equipment impact us?

Circulation and Gathering
Hardscapes allow for vehicular parking, pathways and open spaces to support programming.

Aesthetics and Character
Materials and furniture contribute to the overall character of Camas' parks and open spaces. Color selection, materiality and finish can provide consistency or a unique sense of place for each site.

Places for Recreation and Rest
Playground equipment, benches and picnic tables provide places for both active and passive recreation.

What are the risks and concerns?

Heat island effect
The heat island effect, characterized by elevated temperatures in urban areas, underscores the importance of selecting materials that minimize heat absorption.

Safety
It is critical to select materials that minimize potential hazards, reduce the risk of accidents or injuries and ensure the well-being of users.

Wear and Tear
Many materials degrade over time due to outdoor exposure to sun, water, soil, and frequent use.

What are some key strategies?

Consistent sourcing
Utilize a short list of standard furnishings, materials and colors to simplify replacement and maintenance costs and provide a consistent character across spaces.

Durability
Selecting durable materials ensures long-term functionality and minimizes the need for frequent maintenance or replacement.

Universal access
Provide universal access to program areas and for equipment options for people of all ages and abilities.

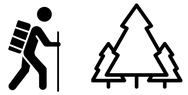
Privately-owned lands ← → **Publicly-owned lands**

Private landowners can provide durable surfaces for any publicly accessible trails or amenities.

Public lands can provide durable and accessible products to ensure long-term use for all.

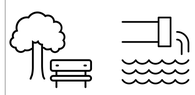
Recommendations: Materials and Equipment

Operations & Maintenance

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Continue to perform safety assessments annually to ensure that playground and other equipment is durable and safe for use.				Reduce liability risks.	Identify challenges to universal access and assess potential for universally accessible equipment.	Ensure safety of community members.
Provide recycling options next to all trash receptacles.		Support responsible habits for resource management.	Reduce impacts of landfills.			
Use materials for maintenance and repair of paving that reduce harm to environmental and human health, such as low-emitting sealants.		Set example of best practices.	Reduce risk of habitat contamination.			Protect health and safety of staff and end-users.
Pave existing highly-used soft-surface trails in popular areas.				Reduce liability from degradation.	Improve accessibility.	Provide long-term durability.

Recommendations: Materials and Equipment

Planning & Programming

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Provide universal access to program areas and equipment options for people of all ages and abilities.		Expand reach and impact of programming and educational signage.	Allow all community members to appreciate natural features and habitats of Camas.		Ensure that everyone can enjoy outside activities equitably.	
Design facilities to handle extreme events with minimal effects on continued functionality.		Promote disaster preparedness of community members.				Preserve building functionality overtime. Facilities could act as a resource for community members in an emergency event.

HOA  Private land  Steep slopes  Stormwater facilities  Open spaces  Trails  Wetlands  ROW  Shorelines  Parks 

Recommendations: Materials and Equipment

Site Development

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Use contrasting material at stair nosing to promote visibility.						Increase safety of stairs.
Use durable materials that can handle UV exposure and flowing and standing water.				Reduce replacement costs.		Increase resistance to wear and tear.
Consider the use of high albedo materials to reduce heat absorption. Manage potential glare impacts.						Reduce urban heat island effect.
Select exterior luminaires that reduce light pollution.			Preserve connection to the night sky and reduce impacts to habitat.	Reduce energy costs for illumination.		
Select nature-based play equipment, seating, and climbing areas.			Aligns with the natural character of developed playgrounds and parks.			
Utilize a short list of standard furnishings, materials and colors.			Provide a consistent character across spaces.	Simplify replacement and maintenance costs		

HOA Private land Steep slopes Stormwater facilities Open spaces Trails Wetlands ROW Shorelines Parks

Access and amenities

It is critical to ensure that people of all ages and abilities can access and enjoy the variety of parks and open spaces that Camas has to offer.

How do access and amenities impact us?

Equity
Managing parks and open spaces to ensure everyone can access and enjoy them creates inclusive spaces that benefit the entire community.

Program
Amenities provide essential infrastructure and resources to support visitor experience. This creates spaces where people can recreate and gather.

Wayfinding
Wayfinding bolsters sense of place by guiding visitors through the parks and open spaces, and facilitates meaningful interactions with natural and cultural elements.

What are the risks and concerns?

Safety
Inadequate or poorly maintained facilities can compromise visitor safety and lead to underutilization of the place.

Exclusion
Lack of access creates barriers that prevent community members from fully participating in recreational activities, limiting their ability to enjoy and benefit from parks and open spaces.

Lack of amenities
Inadequate amenities such as lack of seating or restroom facilities may deter visitors from diverse backgrounds, increasing disparities in access to parks and open spaces.

What are some key strategies?

Avoid hazards
Lay out pathways to avoid hazards and sensitive or protected areas, and reduce bike and pedestrian conflicts with vehicles.

Universal access
Incorporate universally accessible pathways, amenities, and access to the extent practicable.

Education
Provide educational, wayfinding, and interpretive signage. Use multiple languages to address potential language barriers.

Privately-owned lands ← → **Publicly-owned lands**

Private landowners can build partnerships to contribute and connect to the city-wide network of open spaces.

Public lands can ensure amenities accomodate the needs of all community members.

Recommendations: Access and Amenities

Operations & Maintenance

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Add or improve amenity spaces for gathering, playing or resting.		Increase community engagement.	Strengthen opportunities for connecting with natural spaces.		Prioritize in areas that lack similar amenity or feature.	Promote social and physical health.
Provide a higher level of maintenance to trailheads and main entrances to enhance visibility as well as visitor sense of safety.					Enhance visitor experience and attract new visitors.	Reduce crime and vandalism.
Utilize best management practices and caution when performing maintenance tasks that use excavation in areas with high probability of cultural, archeological, or historical resources.		Preserve and protect cultural resources.		Reduce project delays and costs.	Respect process and history of indigenous cultures.	
Improve ADA accessible pathways and access into parks and open spaces.		Increase community engagement.			Make parks and open spaces accessible to all by accommodating all levels of mobility.	Decrease risk of accidents and hazards.

Recommendations: Access and Amenities

Planning & Programming

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Provide low-impact access to natural areas and wetlands.		Opportunity for visitors to understand the value and purpose of natural resources.	Opportunity to experience wildlife and natural systems.		Diversify recreational opportunities.	Preserve critical areas from impacts of human use.
Identify public lands or facilities to act as community gathering and resource distribution in an emergency.		Increase community awareness and preparedness.		Increase eligibility for resilience-based grants.	Provides resources in an emergency where it is needed most.	Enhance emergency preparedness and increase community resilience
Incorporate universally accessible pathways, amenities and access to all program areas.					Expand user base and access.	Reduce liability risk.
Consider trail connectivity enhancements when planning subdivisions.			Provide increased opportunities for experience nature.		Increased recreational opportunities. Expand network connectivity.	
Consider multimodal transportation access when planning parks and trails.					Increased recreational opportunities.	Promote physical activity and public health.
Ensure that some amenities remain accessible year-round.		Increase community engagement.	Support experiences of natural systems in different seasons.	Maximize utilization of amenities and increase of rental revenue.	Opportunities to enjoy spaces all year.	
Develop a difficulty scale for trails and provide maps and/or signage to indicate appropriate skill levels - consider surface material, slope, and elevation gains.		Provide clarity on expectations and current conditions.			Ensure users are matched to the appropriate activities.	Protect health and safety of users.
Develop a consistent signage standard for use on public and private trails that define rules, etiquette, and trail conditions.		Ensure city-wide consistency on expectations, behavior, and management.	Provide consistent conditions and alignment on goals.			Protect health and safety of users.
Develop trail grade standards for both public and private lands that provide consistency of width, material, maintenance, and other supporting features.		Ensure city-wide consistency on expectations and management.	Provide consistent character and alignment on goals.		Ensure all trails are equitable and safe.	Protect health and safety of users.

Recommendations: Access and Amenities

Site Development

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Locate parking to minimize intrusion into open spaces and avoid pedestrian conflicts.			Maximize utilization of open space.	Reduced maintenance and infrastructure costs.	Provide safe and efficient access to recreation opportunities.	Increase pedestrian safety.
Provide educational and interpretive signage.		Promote stewardship and community engagement.	Share value of preserving natural systems and features.		Enhance visitor experience.	
Look for small opportunities to provide comfort or interest along trails - seating, potable water, fitness equipment, shade, etc.			Create moments to appreciate natural surroundings.		Increase utilization of parks and open spaces.	Improve public health and wellness.
Provide clear visibility and wayfinding at key intersections.		Provide orientation and promote options.			Enhance visitor experience.	Provide effective emergency response.
Place signs in and around open spaces and critical areas, clearly identifying permitted and restricted uses.		Clarifies intent of public spaces and balance between human uses and natural functions.	Protects sensitive areas and natural features.	Reduce costs for enforcement and repair of misused assets.	Enhance visitor experience.	Prevent property damage and liability claims.

HOA  Private land  Steep slopes  Stormwater facilities  Open spaces  Trails  Wetlands  ROW  Shorelines  Parks 

Soil

Implementing appropriate soil management practices is essential for supporting vegetation growth, regulating water infiltration and drainage, and influencing ecosystem health and resilience.

How does soil impact us?

Water infiltration and quality
Soils that can absorb and filter water help to mitigate flooding, reduce erosion, and support healthy ecosystems.

Tree and vegetation health and stability
By supporting nutrient cycling, supporting microorganisms, and providing space for root growth, soils are a critical part of plant health.

Carbon storage
Healthy soils are typically able to sequrester and store more carbon than the vegetation they support.

What are the risks and concerns?

Erosion
Erosion can degrade landscapes, disrupt pathways and trails, harm vegetation, increase sedimentation in water bodies and compromise ecosystem health and recreational opportunities.

Soil loss and Contamination
Loss of healthy topsoil through removal or pollution can harm plant health and soil microorganisms.

Compaction
Compacted soils have a decreased ability to infiltrate water. They also impact ecosystem health by limiting root growth of plants, especially when surrounded by hardscape and heavy foot traffic.

What are some key strategies?

Soil protection zones
Protect soil areas during construction and operations to reduce compaction or contamination.

Increase soil volumes for trees
Provide trees with adequate space for root growth to ensure long term health and stability.

Plantings
Use dense plantings to discourage walking through planting areas and reduce compaction. Amend soils as needed to ensure long-term health.

Privately-owned lands

Private landowners can restore soils after disturbance to provide long-term plant health.

Publicly-owned lands

Public lands can protect soils by limiting access through sensitive conditions.

Recommendations: Soil

Operations & Maintenance

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Consider natural and/or constructed bank stabilization techniques in conjunction with any crossing projects.			Preserve and protect natural resources.	Increase asset longevity and reduce replacement costs.	Enhance recreational opportunities and user experience.	Risk and liability reduction.
Establish soil protection zones during construction projects to minimize compaction of adjacent areas.			Preserve and protect natural resources.	Reduce soil restoration costs.		Minimize erosion and sedimentation risk.
Use a single access route to work zones and minimize trips through the access route in order to decrease soil compaction and erosion.			Preserve and protect natural resources.	Reduce restoration and maintenance costs.		Minimize erosion and sedimentation risk.
Limit access routes across steep slopes and install access routes parallel to slope contours and perpendicular to water flow.			Preserve and protect natural resources.	Reduce restoration and maintenance costs.		Minimize erosion and sedimentation risk.
Limit crew size in wet areas and establish a project staging area outside of the wet areas.			Enhance wetland and water quality.	Increase crew efficiency and productivity.		Protect critical areas and worker safety.
Identify and address potential hazards or erosion concerns, especially after large storm events.				Reduced replacement and maintenance costs.		Protect infrastructure and property.
Increase soil areas of existing street trees through hardscape removal.			Protect character of large mature trees.	Preserve ecosystem services from tree canopy in urban areas.		Protect critical urban tree canopy.

HOA Private land Steep slopes Stormwater facilities Open spaces Trails Wetlands ROW Shorelines Parks

Recommendations: Soil

Planning & Programming

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Prioritize the location of stormwater treatment facilities away from structures, at site low points, and where infiltration is likely to be effective.				Reduced stormwater management costs.		Reduce stabilization risks.
Use a phased approach to weed removal and restoration to minimize exposed soils and erosion.	**All**		Preserve aesthetic appeal of the space. Prevent return of invasive species.	Reduced stormwater management costs.		Mitigate erosion risks.
Find alignments that allow for <5% slopes for pathways through open spaces. Incorporate switchbacks when needed.					Provide accessible circulation.	Reduce bank destabilization risks.
Limit development and disturbance on steep slopes greater than 15%. Consider protecting them as publicly-owned critical areas.		Ensure land owners understand the potential risks and downstream impacts involved when building on steep slopes.	Preserve sensitive habitat areas.			Reduce bank destabilization risks.

Recommendations: Soil

Site Development

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Maximize vegetated ground coverage as early as possible to reduce erosion impacts.			Preserve natural resources.	Cost savings on erosion control measures.		Protect infrastructure and property.
Use dense plantings, tree grates, other barriers, and/or signage to discourage walking through planting areas to avoid compaction, especially in high traffic areas.			Maintain attractive and well-preserved landscapes.	Reduce replanting and maintenance costs.		Protect long-term health of trees in urban spaces.
Utilize proper soil amendments to improve health and increase water storage. Perform a soil analysis as needed.		Develop an understand of soil health in public spaces.	Maintain healthy vegetation.	Reduced irrigation and maintenance costs.		Resist drought.
Allow for adequate soil volumes to support trees adjacent to hardscape paving. Allow for 8’ wide planting areas for large trees unless other measures are taken to provide the needed soil volumes and protection (see references).			Maintain mature tree canopy.	Reduce replacement costs.		Protect long-term health of trees in urban spaces.

Vegetation and habitat

Proper vegetation management provides vital habitat, reduces risks, and contributes to the overall quality of Camas' natural aesthetic.

How does vegetation impact us?

Biodiversity
Plants support biodiversity by providing suitable conditions for a variety of organisms to thrive and serving as habitat for wildlife. Biodiverse ecosystems are more resilient and provide support for human health and wellbeing.

Ecosystem services
Healthy plant communities purify the air, water and soil, stabilize soils and regulate temperature.

Aesthetic appeal
Vegetation provides colors, textures and shapes throughout the landscape. Plants provide shade and can support recreational activity such as hiking, nature appreciation and birdwatching.

What are the risks and concerns?

Fire management
Vulnerability to wildfires increases the risk of harm to infrastructure, human communities and wildlife.

Invasive species
Invasive species compete with native plants and disrupt ecosystem processes. They also result in increased management costs to control their spread and mitigate ecological impacts.

Improper pesticide use
Improper pesticide use harms non-target organisms, can contaminate soil and water resources and have negative impacts to human health.

What are some key strategies?

Preserve and re-establish key plant communities
Prioritize native and adaptive plant species that enhance ecosystem resilience and biodiversity. Protect and create key forest structures that are important habitat features for multiple wildlife strategies.

Integrated pest management
Utilize established integrated pest management plans and prioritize no-chemical pest control options when appropriate. Prioritize careful removal of invasives.

Support pollinators
Integrate native pollinator restoration to the greatest extent possible. Convert passive turf areas to native naturescaping.

Privately-owned lands

Private landowners can shift plant species selection to more native palettes and minimize the use of chemical inputs. They can be aware of and implement fire management best practices around their homes and businesses.

Publicly-owned lands

Public lands can establish and protect large-scale and connected native and adaptive plant communities to provide long-term habitat opportunities.

Recommendations: Vegetation and Habitat

Operations & Maintenance

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Protect and create key forest structures (standing dead trees/snags, downed logs, old trees, open gaps) that are important habitat features for biodiversity.			Enhance natural character and provide homes for wildlife.	Decrease maintenance costs of removing forest structures.	Enhance recreation opportunities such as birdwatching.	Work with arborists and other specialists to ensure safety.
Develop an integrated pest management plan and prioritize non-chemical pest control options as appropriate. Include regular tree inspection for pests and disease to reduce spread.	**All**			Reduce pesticide costs and staff time.		Increase resilience of ecosystems and landscapes.
Ban the use of neonicotinoids.	**All**	Communicate the value of protecting pollinator health.	Protect wildlife health.	Reduce pesticide costs and staff time.		Protect public health and water quality.
Take precautions to avoid spreading noxious weeds or invasive species between work/restoration sites. Designate "haul and drag" routes for removing plant material to minimize disturbance.	**All**			Reduce future invasive species removal costs.		
Consider using a mulching mower and leaving plant material in place over winter.		Share strategies for different ways to provide habitat.	Provide winter habitat to support biodiversity.	Enhance the health of turf and reduce maintenance costs.		
Provide educational material for fire mitigation maintenance practices including minimizing fire fuels, species to avoid, spacing, materiality, and defensible space zones		Educate Camas residents about wildfire resilience.	Balance expectations around safety and vegetation density.			Increase resilience to wildfires, and reduce fire spread potential across natural areas.
Provide training or educational materials on invasive species identification, monitoring, and removal.	**All**	Educate Camas residents about invasive species management.	Reduce competition with native plant species	Weed removal reduces competition for water with desired vegetation, reducing water use.		Protect health and functionality of native ecosystems.
When manually removing noxious weeds or invasive species from areas near waterways, prevent sediment and vegetative debris from entering the waterway.			Enhance aesthetic appeal of recreation areas.	Reduce future invasive species removal costs downstream.		Protect native habitat.

HOA Private land Steep slopes Stormwater facilities Open spaces Trails Wetlands ROW Shorelines Parks

Recommendations: Vegetation and Habitat

Planning & Programming

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Partner with local nurseries to find alignmentment with native plant lists, prohibited species, and plant availability.	**All**	Builds partners to support native and adaptive plant goals	Supports wildlife.		Increases availability of native plant species.	
Preserve and enhance large, connected patches of undeveloped native vegetation.			Preserve key habitat patches and corridors. Retain urban tree canopy.		Increase access to recreational opportunities.	Mitigate flood risk. Improve air and water quality. Reduce urban heat island effect.
Use succession planning to identify species that will thrive in Camas as the climate changes.	**All**	Identify climate-adaptive plantings to encourage use.	Ensure natural character of Camas persists for future generations.	Reduce long-term maintenance costs.		Reduce tree mortality, fall hazards, and wildfire fuels.
Perform a needs assessment based on surrounding neighborhood densities and service area to determine how much open lawn space is needed in developed parks to support the community.		Work with residents to understand use needs and balance of natural spaces.	Right size turf use to allow space for native plant communities.	Reduce the need for lawn care and water use for under-utilized turf.	Ensure communities have amenities that supplement home uses.	
Integrate native pollinator restoration into urban design and municipal open space plans.		Share value of support pollinators.	Increase aesthetic value of space. Encourage wildlife.	Reduce maintenance costs from water use.		

HOA Private land Steep slopes Stormwater facilities Open spaces Trails Wetlands ROW Shorelines Parks

Recommendations: Vegetation and Habitat

Site Development

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Support crime prevention through environmental design by planting trees with high canopy, preserving view corridors, and utilizing vegetation with transparency.			Balance expectations around safety and vegetation density.		Increase use of existing spaces.	Increase public safety.
Use plant stock from multiple seed zones for a given species to increase genetic diversity and enhance long-term survival.	**All**			Reduce long-term arborist and maintenance costs for removal and replacement.		Biodiversity provides resilience to pests and changing climate conditions.
Convert existing underutilized lawn area to native naturescaping (i.e. meadow or forest understory).		Share potential value for wildlife habitat.	Increase habitat and wildlife value.	Reduce maintenance costs.		
Provide interpretive signage for native/adaptive plantings or restoration areas.	**All**	Educate visitors about ecological best practices. Encourage native plant use on private property.				
Provide appropriate plant materials to shade stormwater facilities and other shallow water bodies to reduce temperature impacts downstream.			Preserve quality habitat in and around water bodies.	Reduce cost of downstream interventions to reduce stream temperature.	Enhanced recreational opportunities.	Mitigate urban heat island effects.
Integrate native flowering plants and habitat structure into vegetated stormwater infrastructure.			Increase aesthetic value of natural areas. Improve habitat.			
Increase turf diversity by seeding passive turf areas with drought-tolerant flowering perennials.			Increase aesthetic value of space.	Reduce water use.		

Tree Canopy

The tree canopy is the keystone to the natural character of Camas while also providing essential ecosystem services to benefit the community.

How do trees impact us?

Shade and cooling
Trees help to mitigate the urban heat island effect and enhance comfort by providing shade and cooling.

Air and Water purification
Trees absorb pollutants and carbon dioxide, improving air and water quality as well as human health.

Natural character
Trees are a major contributor to the natural character of Camas and its location within the Pacific Northwest.

What are the risks and concerns?

Fall hazards
Unhealthy or storm-damaged trees may fall unexpectedly, potentially causing damage or injury.

Development
While new construction is needed to accommodate the growth of the Camas community, it sometimes comes at the cost of land clearing and canopy loss.

Disease, Pests, and Die off
Disease, pests, or extreme climate events can weaken the health of trees and reduce their resilience to other environmental stresses.

What are some key strategies?

Revise planning regulations
Adjust planning codes and work with private landowners and public property to at least maintain the amount of tree canopy city-wide as land continues to develop.

Training and education
Provide training and education for staff and the public on forestry and tree health.

Adaptive tree palette
Develop a plant palette and succession plan strategy to establish a diverse canopy that reduces vulnerabilities to climate change.

Privately-owned lands

Private landowners can preserve large clusters of mature trees and work with best practices to maintain their health and reduce hazards.

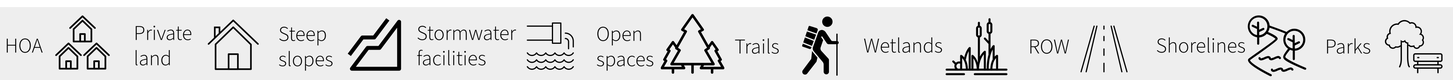
Publicly-owned lands

Public lands can provide opportunities to expand canopy coverage, transition to adaptive species, and improve the health of right of way trees.

Recommendations: Tree Canopy

Operations & Maintenance

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Remove or prune hazard or dead trees or branches where they pose a risk to safety or property damage.	**All**		Maintain tree canopy health.	Reduce liability.		Protect people and property from damage.
Ensure newly installed trees have a minimal watering period of two years to ensure establishment	**All**		Ensure succession and healthy establishment.	Reduce replacement costs.		
Replace trees adjacent to hardscapes when they get removed or die off. Consider removing some hardscape around tree well.			Retain Camas' identity as a tree-friendly city.	Preserve critical urban ecosystem services over time.		Ensure long-term resistance to natural hazards from canopy coverage.
Provide training for staff and public on forestry and tree health. Include protocols and procedures for public tree risk assessments, pruning, risk mitigation, and emergency preparedness and response.	**All**	Educate Camas residents and staff to promote tree health.	Maintain tree canopy health.	Increase maintenance capacity through partnerships.	Increase access to knowledge to be applied locally.	Identify issues before they become hazards.
Remove invasive species and provide training for the public on how to identify and remove invasive species.	**All**	Educate Camas residents about invasive species management.	Create healthier environment for native plants to survive.			
Utilize climate-adaptive species for new or replacement plantings.	**All**		Ensure long-term succession of healthy ecosystems.	Decrease long-term replacement costs.		Resist die-off from extreme weather and climate change.
Prioritize protection, maintenance, and restoration of at-risk species or plant communities.	**All**	Opportunity to partner with nonprofits or community stewardship groups.	Preserve most valuable ecosystems and habitat.			Ensures longevity for vulnerable resources.
Establish a free tree planting program to increase canopy coverage and promote community engagement.		Partner with nonprofit for funding and outreach.			Support tree canopy coverage in at-risk communities.	
Complete a comprehensive tree inventory of public trees and maintain and update data over time.		Support public education with data-backed assessments.	Identify trends to help preserve existing canopy.	Use data to track long-term health and influence decision making.	Identify gaps in canopy.	Identify trends and issues holistically.
Partner with HOAs to generate tree inventories to track health and adaptability over time.		Support public education with data-backed assessments.	Identify trends to help preserve existing canopy.	Use data to track long-term health and influence decision making.	Identify gaps in canopy.	Identify trends and issues holistically.



Recommendations: Tree Canopy

Planning & Programming

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Work with local nurseries to adjust supplies to meet future needs and remove invasives or problem species.	All	Increase public awareness about problem species. Look for opportunities to subsidize through partnerships.	Shift market to align with native natural character.		Increase availability of native trees for more land owners.	Reduce ecosystem impacts from invasives.
Introduce tree infill planting on public lands.			Offset canopy loss.	Mitigate ecosystem services lost from development.		
Align trails, pathways, and amenities to avoid impacting mature trees and other sensitive habitat.	All		Preserve key specimen trees that promote connection to place.	Reduce damage and replacement costs.		Protect existing resources.
Work with schools to identify opportunities for additional canopy cover or educational opportunities.			Promote natural identity in public areas		Provide canopy in public areas	
Require ecosystem service mitigation for reduction in tree canopy for new development.		Promote value that nature provides to built environment.	Relocate key natural features when lost.	Require compensation for loss of infrastructure	Retain natural systems on private lands.	Reduce stress on remaining natural infrastructure.
Develop succession plans to establish a species, age, and structurally diverse canopy that reduces vulnerabilities to climate change.	All		Ensure long-term succession of healthy ecosystems.	Decrease long-term replacement costs.		Resist die-off from extreme weather and climate change.
Reduce the required DBH size for preservation/significant tree designation. Pair with a heritage tree program that includes both public and private specimen.	All		Maintain a diversity of canopy ages and mature tree coverage.	Preserve ecosystem services performed by largest existing trees.		
Establish a tree canopy project preservation goal beyond code requirements for any project where existing canopy is above the city average			Offset canopy loss and preserves mature canopy coverage.	Reduce ecosystem services lost from development.		
Prioritize new tree plantings in areas that have low existing canopy coverage and a high possible planting area percentage.	All		Expand natural character across Camas.		Improve access to benefits of tree canopy.	Reduce heat island effect.

Recommendations: Tree Canopy

Site Development

Management practice	Land types	Outreach and Education	Natural Character	Financial and Resource Allocation	Equitable Access	Asset Protection + Public Safety
Introduce a minimum tree well size/width for when trees are planted adjacent to paved surfaces.			Maintain mature tree canopy over time.	Reduce replacement costs.		Ensure longevity of trees in urban areas.
Ensure pathways, gathering, and resting areas are shaded to reduce surface and air temperatures.			Provide enjoyment of natural areas in multiple seasons.		Support recreation for a variety of user needs.	Protect public health and safety.
Plant trees quickly after site disturbance, such as construction or invasive removal.	**All**		Reduce chance of invasive establishment.	Reduce erosion impacts and rework.		
Implement a species diversity requirement for new plantings.	**All**		Biodiversity supports wildlife.			Resist pests, disease, and climate vulnerability.
When feasible, use a soil cell system to provide more growing space for trees.			Maintain mature tree canopy over time.	Reduce replacement costs.		Ensure longevity of trees in urban areas.

HOA Private land Steep slopes Stormwater facilities Open spaces Trails Wetlands ROW Shorelines Parks

Monitoring and Performance Metric Recommendations

What are realistic and implementable ways of measuring progress and success?

One of the goals of this plan was to establish a data-driven process to help make more-informed decisions. While decisions cannot be made on numbers alone, there are some ways to help better inform the process to understand how progress is being made towards the goals, priorities and values in the POSMP.

Recommended metrics to incorporate into Operational practices:

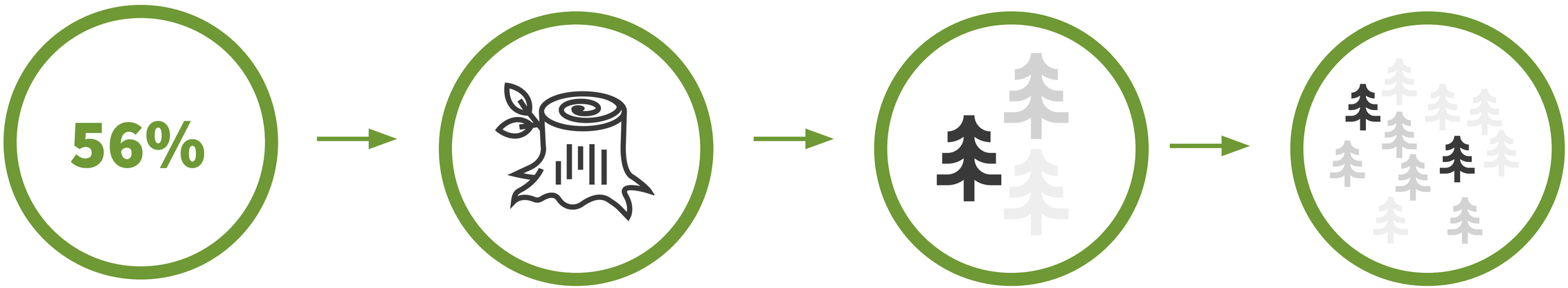
- Coordination with Comprehensive Plan and future PROS Plan updates
- Annual tracking and review of staff hour allocations by task and land type
- Annual tracking and review of water use
- Annual tracking and review of contract worker expenses
- Annual tracking and review of volunteer hours by project type or system (i.e. invasive removal)
- Perform city-wide canopy assessment every 10 years
- Maintain and expand tree inventory database
  - Completion of public tree canopy inventory
  - Coordination with HOA's and private land owners to perform tree canopy inventory
- Implement per-capita or per-acre spending targets and tracking metrics to ensure adequate funding levels for maintaining high-quality parks and recreation amenities that meet the needs of the community in Camas.
- Require master plans and site development projects to propose site-base performance metrics to align with POSMP goals and prioritization criteria
  - Based on different land uses and ecosystem types
- Regular assessments of planted tree species should be conducted to identify any issues and take necessary corrective measures. This could involve adjusting watering schedules, providing additional care during extreme weather events, and replanting trees that fail to thrive.
  - Camas could establish a dedicated team or partner with existing organizations to monitor and manage the program. Utilizing technology like remote sensing and data analysis tools can aid in effectively tracking the health and progress of the planted trees. By continuously adapting to the changing environment, Camas can ensure the sustainability and success of its tree planting program, contributing to a greener and more resilient future for the City.

Planning Recommendations

In order to achieve alignment with the goals of this plan, updates to planning, code, and ordinance documents are recommended. These will help supplement the management practices on public land with adjustments to private development practices.

Planning Recommendation Path

The current city-wide tree canopy coverage is ~38%. As the population of Camas continues to grow, development could have significant impacts. If no changes to current regulations or practices are made, tree canopy losses will accumulate over time. Understanding existing code and development patterns reveals several opportunities to adjust planning approaches and change the trajectory.



About half of canopy is on private lands

While the City can do their best to maintain and enhance canopy on public lands, it will take efforts on the private side to make sure city-wide canopy retains its value and benefits to the community.

Canopy on private lands is being lost

For example, residential lots had a net loss of tree canopy of **99 acres** from 2011-2021 (or a 5.8% loss in canopy area in those zones).

Tree ordinance requirements are not preserving existing canopy

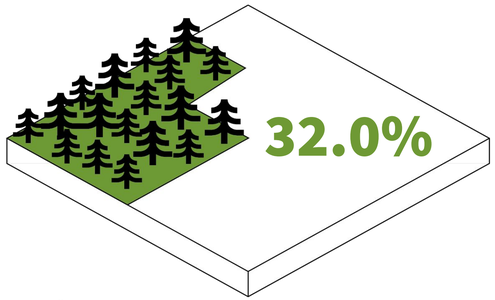
The current tree ordinance only replaces/preserves a portion of lost existing canopy because it allows the removal of large trees, while mitigating some losses with much smaller new trees (see next page).

These losses will be compounded over time

As development on private land continues and canopy is lost, the canopy will see an immediate reduction in coverage and value. It will take decades for mitigation of removed trees with smaller trees to regain their benefit as mature trees.

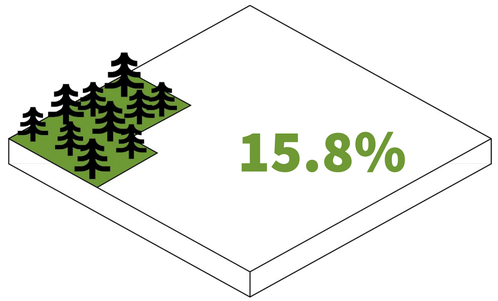
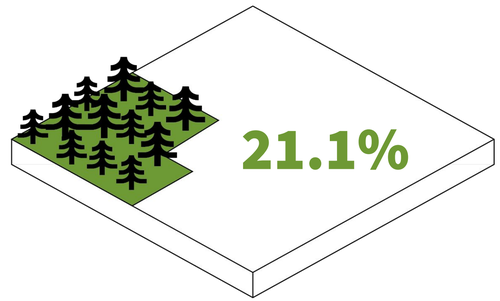
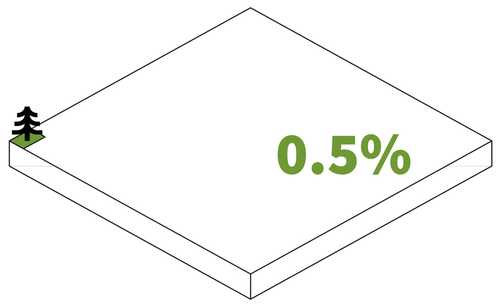
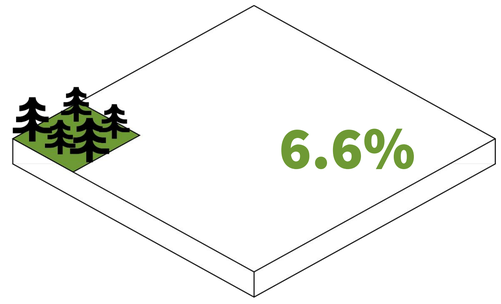
Tree Density Requirements

Comparing existing conditions to tree code minimal requirements, there is potential for significant immediate tree canopy loss as lands develop. Mitigation with new trees will increase canopy over decades if species are adaptive and well maintained, but immediate ecosystem services are mostly lost with removal of existing mature trees.



City-wide Average Canopy Coverage of Existing Residential Zones (40 - 80 tree units per acre)

Many existing, undeveloped, private properties are at or above the city average for canopy coverage. If those developments stick to the code minimum, the chart to the right shows the best- and worst- case scenarios for immediate canopy coverage after development.

	Potential Development (per acre)	
	Standard tree code (20 units)	**North Shore tree code (30 units)**
Best-case immediate scenario	 **Maximum Immediate Canopy Coverage - Preserve a few large existing trees**	 **Maximum Immediate Canopy Coverage - Preserve a few large existing trees**
Worst-case immediate scenario	 **Minimum Immediate Canopy Coverage - (20) New 2” Trees**	 **Minimum Immediate Canopy Coverage - Half new 2” trees, half preserve existing**

Planning Recommendations: Tree Ordinance

Issues, Lack of Clarity or Misalignments with POSMP Goals	Recommendations	Notes
Tree Unit quantities do not relate to canopy area	Adjust tree units to reflect tree canopy area in addition to DBH	Adjust to give higher tree unit value to larger trees. This would only be effective if the total tree unit requirement is raised proportionately.
Tree Unit requirements are not defined for public parks	Define tree density requirement specifically for parks and open spaces. Units should be greater than other developed areas and align with canopy goals.	
Tree Unit requirements lower than existing conditions could result in significant canopy reduction over time	Increase total Tree Unit requirements to reflect canopy goals.	Could provide overlay zones in the Comp Plan for areas with existing higher coverage.
Preservation of significant trees is confusing and loosely defined and at only a higher DBH	Redefine significant tree size and require a higher tree unit replacement for damaged or removed significant trees. Develop a Heritage Tree Program that restricts all removal above a certain size for certain species. Require all properties (not just North Shore) to include the preservation of existing trees as a portion of the total Tree Unit requirement.	Replacement could be a 1:1 for DBH removed. If larger trees are used for replacement (not a requirement), extra care should be given to them for establishment as they are typically more challenging to keep alive.
Preservation or mitigation of native / adaptive species is not recommended or required	Give more value to native and adaptive species and/or prohibited/non-adaptive trees get a value of 0.	This could come in the form of a higher tree unit value or be part of a Heritage Tree program that values mature native trees.
No value or guidance is given regarding tree removal or preservation strategies for stability	Provide guidance and recommendation language on preservation and removal of clusters of trees.	The goal is to preserve clusters as-is to keep stability of the root system. If a tree needs to be removed in a cluster, it is recommended to leave the stump if possible.
Planter widths are given, but there is no guidance on soil volumes in Rights of Way. Many trees are planted in spaces that are too small to promote long-term health	Provide guidance and requirements on minimum soil volumes in Rights of Way	Require 8’ wide widths for all large trees unless other measures are taken to provide adequate soil volumes, stability, and protection.

Planning Recommendations: Plant Materials

Issues, Lack of Clarity, or Misalignments with POSMP Goals	Recommendations
Current Plant Materials List identifies species name, size, form, and some character descriptions (deciduous for some trees but not others). Some additional info would be helpful to align with code and POSMP goal expectations to help in decision making and long-term success.	Include more info for each species to help guide plant selection to meet planning development code and POSMP goals. Add the following columns for recommended plantings: • Evergreen • Drought-tolerance • Native • Sun exposure • Fire resistance/hazard • Climate change heat and hardiness vulnerability rating (per Urban Tree Canopy Vulnerability Report)
Private residents or developers may have a difficult time selecting the right tree species from a long list of options.	A tree selection tool could be developed that streamlines species that meet site-specific criteria in order to simplify decision making and ensure proper adherence to the criteria. Care should be taken to still promote diversity in selection.
Some species listed are projected to not adapt to climate change	Consider moving some or all of the non-adaptive, non-native species to prohibited list.
The shrubs, grasses, and groundcovers lists contain many non-native species and few native ones	Expand shrubs, grasses, and groundcovers lists to include native species and their benefits.
Some tree species listed will have a difficult time growing and staying healthy in the planter width allocated for them without many other supportive measures.	Revise planter widths for tree species as appropriate.

Planning Recommendations: Development Code

Issues, Lack of Clarity, or Misalignments with POSMP Goals	Recommendations
18.13.050 B provides a good list of the benefits of trees, but reads like tree species should be selected specifically for these functions.	Existing development code could be revised to clarify direction versus benefits, and be supported by additional information on species to help with selection. Clarify if evergreen requirement is for trees, vegetation, or both and how percentage requirements are counted (i.e. % species, % plants, % area coverage).
Parking lot are significant contributors to urban heat island effect and stormwater runoff.	18.13.060 H - Consider increasing planting and tree requirements to achieve a higher percent coverage. Reduce number of spaces between landscape dividers.
Desired ecosystem service mitigation may not be feasible on sites where building density is needed to support community needs.	18.13.052 C - Set up mitigation banks for invasive removal, wetland restoration, or tree planting if unable to meet requirements on-site.
It is common practice to use a small variety of trees in the right of way and in large developments. This can lead to vulnerability to pests and disease and does not align with habitat goals.	Include direction, requirements, or incentives for utilizing a variety of native tree species in rights of way or large development.

18.13.050 Standards for landscape, tree and vegetation plans.

A. The property owner shall be responsible for any future damage to a street, curb, or sidewalk caused by landscaping.

B. Landscaping and trees shall be selected and located to deter sound, filter air contaminants, curtail erosion, minimize stormwater run-off, contribute to living privacy, reduce the visual impacts of large buildings and paved areas, screen, and emphasize or separate outdoor spaces of different uses or character.

C. Landscape, Tree and Vegetation Plan must include a combination of trees, shrubs, and ground cover to achieve the purposes of this chapter.

1. Required landscaping shall be comprised of a minimum of sixty percent native vegetation (or adapted to northwest climate), or drought-tolerant vegetation, and fifty percent evergreen.

Existing code language

17.19.030F Tract, block and lot standards: Landscaping

2. The city council finds that the existing mature landscaping of trees, and shrubs provide oxygen, filter the air, contribute to soil conservation and control erosion, as well as provide the residents with aesthetic and historic benefits. For these reasons,the city encourages the retention of existing trees that are not already protected as significant trees under the Camas Municipal Code. Generally, the city may allow the tree requirements under subsection (F)(1) of this section to be reduced at the request of the developer, by a ratio of two new trees in favor of one existing tree, provided such trees have been identified on approved construction plans.

Existing code language

Planning Recommendations: Comprehensive Plan

Section	Recommendations
Natural Environment Element Overview	Revise Natural Environment element language to include the concept of natural systems as valuable infrastructure.
NE-1.1: Consider the immediate and long-term environmental impacts of policy and regulatory decisions.	Incorporate the use of ecosystem services as a reference point for these discussions and evaluations.
1.4.4 Natural Environment	Develop tree preservation overlay zones for priority canopy areas to be maintained ● Increase tree unit requirement ● Require preservation or steep mitigation for trees above **X** DBH
1.4.4 Natural Environment	Develop an urban forestry program that works to implement the best practice recommendations that are a part of this POSMP in order works towards system-wide stewardship and resilience.
3.4.2 Critical Areas	Consider designating large areas of connected tree canopy as critical areas to be preserved.
3.4.3 Shorelines	Consider adding a goal that addresses providing the community with safe and accessible ways to engage with shorelines that balances recreation with ecological needs.
3.4.4 Landscape Enhancement and Tree Preservation	Include heat island reduction, improved air quality, and stormwater management as additional added values for protecting the urban tree canopy.
3.4.4 Landscape Enhancement and Tree Preservation	Identify public lands that can act as mitigation banks to counteract canopy loss over time. Spread throughout the city to make sure replacement is within ½ mile of development site ● Prioritize more urban conditions to maximize ecosystem service value ● Provide incentives for private land to preserve existing or mitigate losses
4.4.4 Design and Low-Impact Development	Consider adding a goal that addresses tree canopy coverage, health, and replacement.
5.7.3 Park Impact Fees	Consider the Level of Service needed as large areas of land develop and population density increases (i.e. North Shore)
5.7.3 Park Impact Fees	Assess specialized amenities and programming as a system and consider repurposing land based on density and walkability vs driving - i.e. ball fields (specialized use) vs parks (universal use) near dense housing

Community Outreach

The planning process included outreach and education events in order to capture community feedback and raise awareness of the plan.

Public Participation & Education Strategy

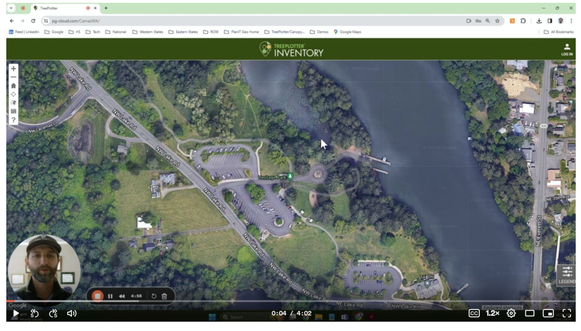
The POSMP builds off of previous planning efforts in Camas around parks, open spaces, and recreation. Community feedback and priorities from efforts like the PROS plan were reviewed, summarized, and built upon to lead to the 5 Camas Community Values that provided a framework for this plan. The POSMP provides a pathway on how to prioritize and implement those values. Drafts of the plan and its strategies were reviewed with the Camas Parks and Recreation Commission 2/28/24 and 7/31/24) and City Council (5/6/24 and 8/5/24) to ensure alignment with other city goals and collect feedback.

Education, training, and public feedback was a key part of the plan development process. A project website was set up to keep the community informed about the process and engagement opportunities.

Camas Parks and Open Space Management Plan | Engage Camas

The team hosted an open house to share progress of the plan, answer questions, and collect feedback on the overall approach. There were interactive sessions that explained the system-based approach to management and gathered ideas around impacts, risks, and strategies to inform the best practices recommendations. Feedback was collected on the 5 Community Values in order to inform the project approach matrix. An online survey was set up and posted on the project website to duplicate these activities and a recording of the presentation was included to provide the background context.

Finally, a public tree inventory session* was co-hosted by the City of Camas, PlanIT Geo, and Washington Department of Natural Resources (DNR). It was held the day after the open house on Earth Day weekend to align with other community events. On-site training was provided on how to use the the inventory tool as well as education on tree health and maintenance. Plan IT Geo's arborists verified the data in order to include it in the city-wide inventory database for future use.



Camas Volunteer Inventory Training Video
provided to the community before the event through the website to prepare for the inventory.

*The original plan was to work with local students to provide education and a sample inventory. Due to the local teachers strike at the onset of the project, student availability and class curriculum didn't align with the time of year to perform the inventory. It was decided to open it up to the public later on in the project timeline.

This flyer was used to advertise the public events, as well as social media, and local newsletter postings.

Camas Parks and Open Space Management Plan

Community Open House

April 19th, 2024

Agenda

Presentation (30 minutes)

- Project overview and goals
- Tree Canopy Analysis
- Financial and Operations Assessment
- A Systems Approach, Valuing Nature
- Resource Prioritization

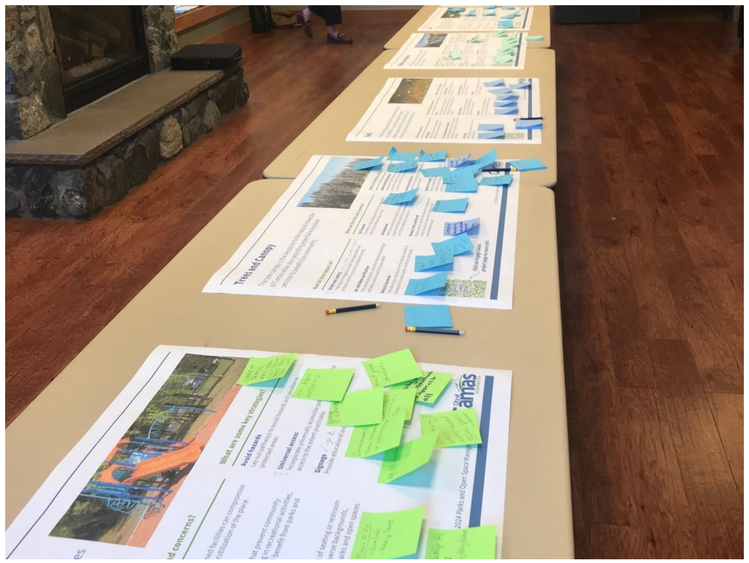
Activity #1 - Poster feedback (30 minutes)

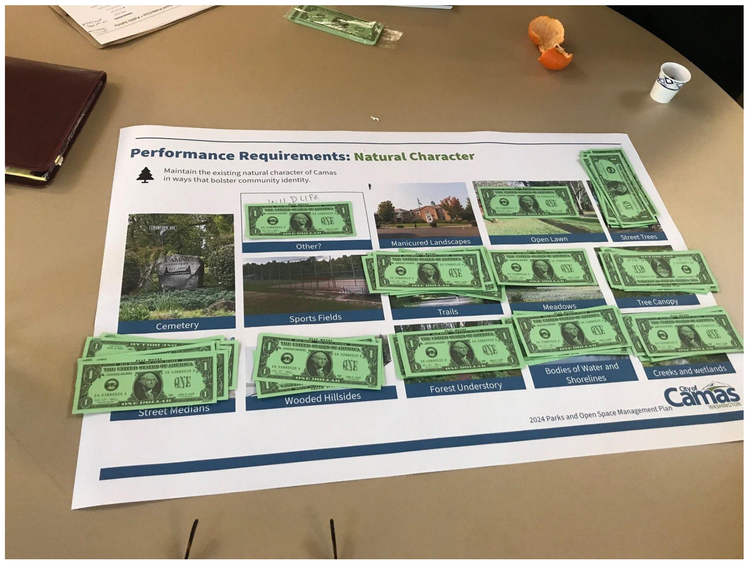
Activity #2 - Table discussions (30 minutes)

Community Feedback

Community Open House

An open house was held at Lacamas Lodge on April 19, 2024. Participants provided feedback on the systems through discussions and through annotating posters. Group activities were used to obtain feedback on the performance requirements identified for the Parks and Open Space management plan.





Online survey feedback

An online survey was provided through Engage Camas. The survey was open until May 5, 2024. There were 9 survey responses. The survey questions explored the following:

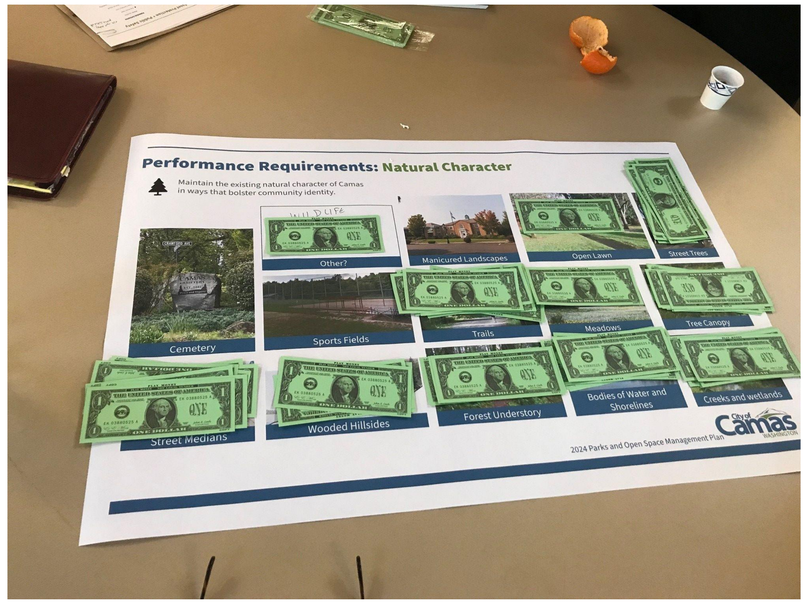
- **Outreach & Education:** What are potential gaps in knowledge that require training for land management practices for public and/or private landowners?
- **Natural Character:** What does natural character mean to you and which features contribute most to the identity of Camas?
- **Equitable Access:** What are the biggest obstacles to access natural resources and park amenities?
- **Financial & Resource Allocation:** How else does nature benefit you and the community?
- **Asset Protection & Public Safety:** What are your priority natural impacts, human activity, and safety concerns that (will) have impacts on Camas?

- **Systems Approach:** Is there anything missing or other ideas to consider as it relates to the following systems?
  - Water
  - Operations
  - Materials & Equipment
  - Access & Amenities
  - Soil
  - Vegetation & Habitat
  - Trees & Canopy

Open House Feedback Summary

Key Takeaways:

- This will be a large change initiative for the city and community.
- Camas' natural resources, parks, and open space are a **valuable asset** and serve as **key infrastructure** to the city.
- Clear incentives, restrictions, and guidelines should be put in place for basic maintenance tasks, tree preservation, and appropriate planting practices.
- Program, amenities, and assets should be looked at from a system-wide perspective and located based on diversity of uses, population density, and adjacencies to other land uses and natural resources.
- There's a lot of potential in the volunteer organizations and HOA residents if organized and educated properly
- There was a long-term desire to progress from reactive maintenance to systemic stewardship.



Community Feedback: Performance Requirements

Online survey feedback

The ecosystem services graphic above identifies the many ways our parks and open space system provides benefits and value to our community. How else does nature benefit you and the community?

- Opportunities to learn more about nature
- Social/emotional wellbeing and resilience to stress, particularly stress from climate change
- Enhanced community connection
- Physical health
- Access to nature and developing sense of place
- Environmental benefits: carbon storage, cooling
- Economic benefits: tourism destination, attract investment

Community Feedback: Performance Requirements

Online survey feedback

What does natural character mean to you and which features contribute most to the identity of Camas?

- 5 mentions: Trails, Tree Canopy
- 4 mentions: Bodies of Water and Shorelines, Creeks and Wetlands
- 3 mentions: Forest Understory, Meadows, Street Trees
- Other comments:
  - Buildings and other urban features seen as elements that detract from the natural character of Camas.
  - Bike paths contribute to natural character of Camas, as do wooded hillsides that are not built upon.

Community Feedback: Performance Requirements

Online survey feedback

What are your priority natural impacts, human activity, and safety concerns that (will) have impacts on Camas?

- Water quality was mentioned frequently in the survey results. Safe and clean household water was mentioned as a concern. Toxic bacteria in Lacamas Lake was also specifically mentioned as a concern.
- Wildfire was mentioned frequently in the survey results. Respondents noted that climate change brings increasing threat of wildfire, and that there is a need for education and management of fuels.
- Invasive species and their threats to tree health and native vegetation were mentioned. Blackberries were specifically mentioned as an invasive species of concern.
- Several respondents were concerned about the impacts of development; specifically, that development might come at a cost of investment in existing assets. There were additional concerns about the potential strains on existing infrastructure and natural ecosystems that might occur as a result of future development.
- Loss of outdoor programming and wilderness education was shared as a concern by several respondents.
- Climate change was mentioned as a major threat, including impacts such as extreme changes in heat and water availability.
- Tree canopy loss was also a concern mentioned repeatedly in the survey responses.

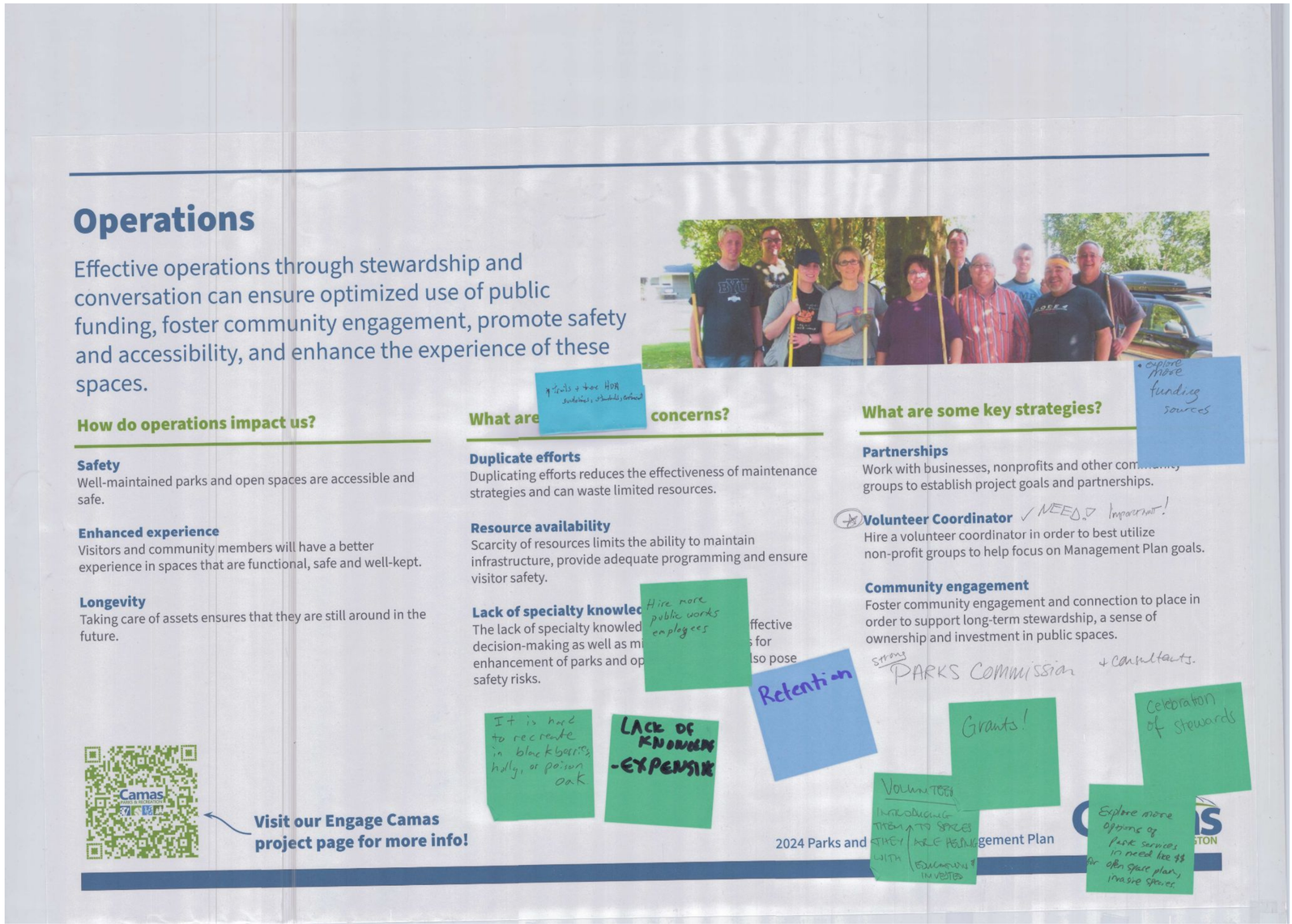
Community Feedback: Systems

Online survey feedback

Managing water in our parks and open spaces is vital for preserving natural ecosystems, ensuring access to clean water, and providing cooling and recreational opportunities for the community. Is there anything missing or other ideas to consider as it relates to water?

- Access to clean and safe water is critical.
- Increase outreach to homeowners and private landowners to educate them about best practices for managing water quality. Work with them to address water quality issues upstream of stormwater infrastructure.
- Consider reducing irrigation as well as reducing lawns.
- What long-term measures is Camas taking to enhance climate resilience, beyond just focusing on climate mitigation?
- Lacamas Lake water quality is a concern.
- Could a user fee at lakes and boat ramps provide fiscal support for maintaining water quality?

Community Feedback: Systems



Online survey feedback

Effective operations through stewardship and conversation can ensure optimized use of public funding, foster community engagement, promote safety and accessibility, and enhance the experience of these spaces. Is there anything missing or other ideas to consider as it relates to operations?

- Continue efforts to engage Camas citizens in stewardship events and parks cleanups - these have been successful so far.
- Consider partnerships with universities as well as local K-12 schools.
- Lots of support for a volunteer coordinator position. Are there other opportunities to support community volunteer efforts?
- Funding is a concern when it comes to implementing operational changes through the Parks and Open Space Management Plan.

Community Feedback: Systems

Materials and equipment

Materials and equipment selection and maintenance directly impact the functionality, durability, safety, and aesthetic quality of parks and open spaces.

How do materials and equipment impact us?

Circulation and Gathering
Hardscapes allow for vehicular parking, pathways and open spaces to support programming.

Aesthetics and Character
Materials and furniture contribute to the overall character of Camas' parks and open spaces. Color selection, materiality and finish can provide consistency or a unique sense of place for each site.

local sourcing?

Places for Recreation and Rest
Playground equipment, benches and picnic tables provide places for both active and passive recreation.

ACTIVE & PASSIVE RECREATION - DEFINE

What are the risks and concerns?

Heat island effect
The heat island effect, characterized by elevated temperatures in urban areas, underscores the importance of selecting materials that minimize heat absorption.

Safety
It is critical to selec[...]nimize potential hazards, reduce the [...]r injuries and ensure the well-being of us[...]

INCREASE LEVELS OF RISK FOR DIFFERENT ~~LEVEL~~ SKILL LEVELS - THINK SKIING - GREEN/BLUE BLACK

Durability
Selecting durable materials ensures long-term functionality and minimizes the need for frequent maintenance or replacement.

What are some key strategies?

Consistent sourcing
Utilize a short list of standard furnishings, materials and colors to simplify replacement and maintenance costs and provide a consistent character across spaces.

Permeability —
Pervious materials allow water to infiltrate the surface and reduce flooding and erosion.

Universal access
Provide universal access to program areas and for equipment options for people of all age[...]nd abiliti[...]

-- logical connectivity

LONGEVITY OF TRAILS - PREVENT EROSION RESILIENCE

Visit our Engage Camas project page for more info!

2024 Parks and Open Space Management Plan

Online survey feedback

Materials and equipment selection and maintenance directly impact the functionality, durability, safety, and aesthetic quality of parks and open spaces. Is there anything missing or other ideas to consider as it relates to materials and equipment?

- Prioritize access when selecting materials. Camas has a large aging population, so this will continue to be a critical consideration.
- Retain natural character to the greatest extent possible, balancing this with needs for equitable access. Incorporate naturescaping and sustainable materials.
- Consider paving high-use trails to decrease degradation and enhance access in the long term.
- Maintain existing materials and equipment to a sufficiently high standard.

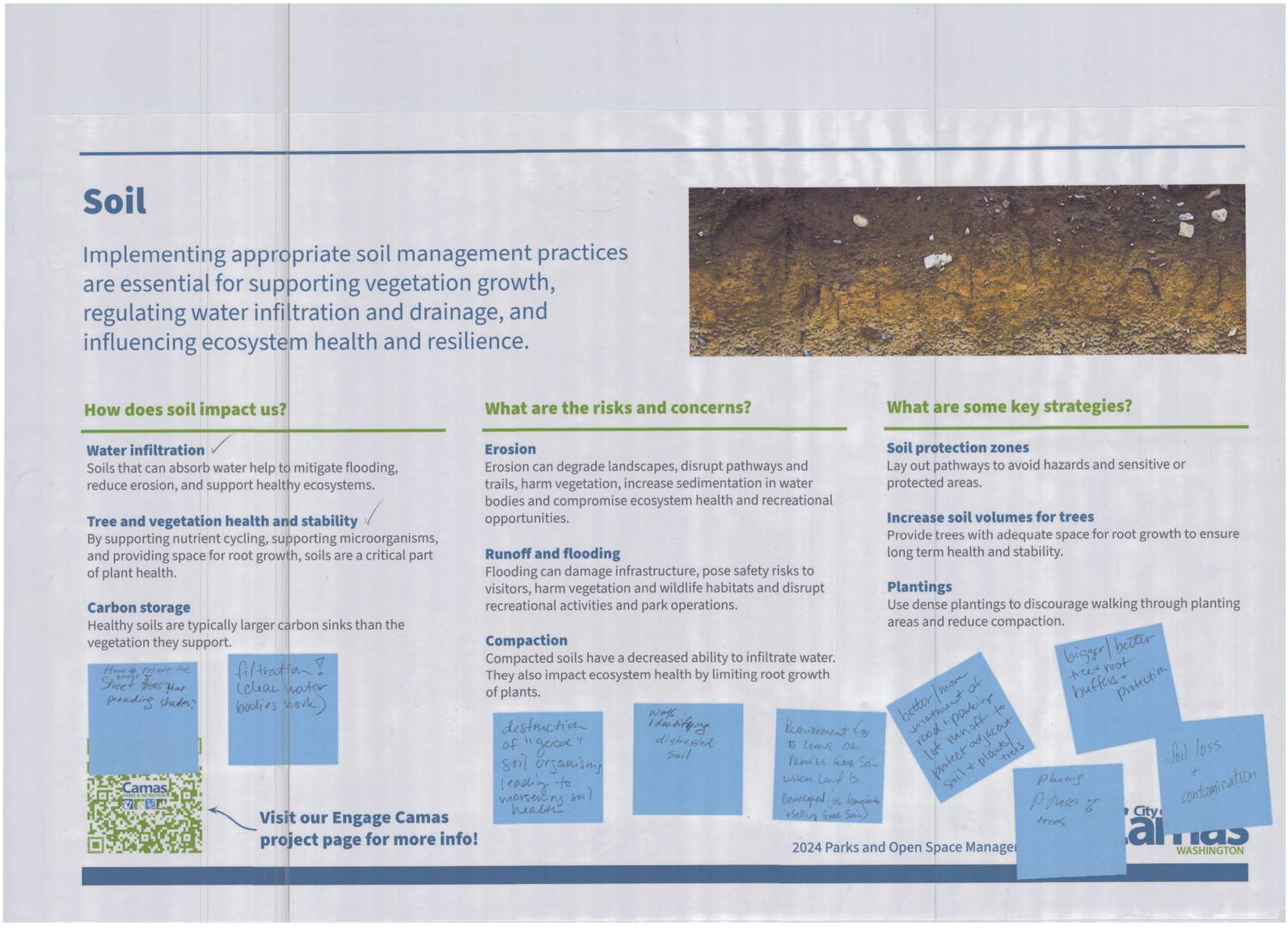
Community Feedback: Systems

Online survey feedback

It is critical to ensure that people of all ages and abilities can access and enjoy the variety of parks and open spaces that Camas has to offer. Is there anything missing or other ideas to consider as it relates to access and amenities?

- Providing more information on amenity options as well as their costs and benefits would increase buy-in from the community.
- Safety and vandalism are concerns.
- Consider signage options that can be used by individuals with vision limitations.
- Explore ways that signage can be integrated into the existing natural character, as well as ways that signage can complement opportunities for education and outreach.
- Improve connections and wayfinding through the City.
- Incorporate universal access into parks and amenities.
- Ensure that people of all backgrounds can feel welcome in parks and open spaces.

Community Feedback: Systems

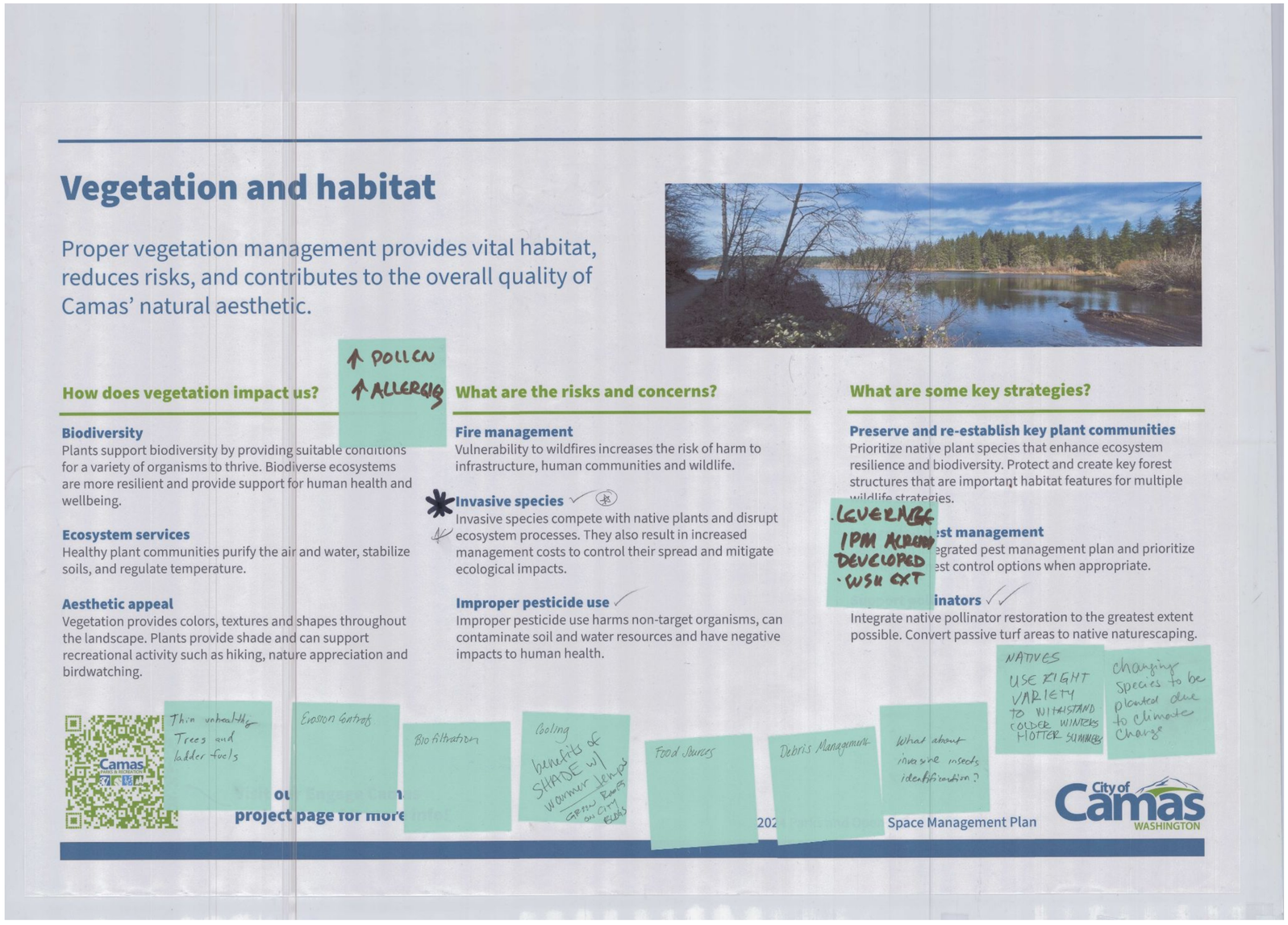


Online survey feedback

Implementing appropriate soil management practices are essential for supporting vegetation growth, regulating water infiltration and drainage, and influencing ecosystem health and resilience. Is there anything missing or other ideas to consider as it relates to soil?

- Enhanced wayfinding and signage could help keep people and trails and reduce compaction in sensitive areas.
- Consider long-term resilience when selecting and placing plantings.
- Enhance planting vaults for street trees.
- Support composting. This could include a City compost facility as well as infrastructure for residents in apartment complexes and new developments who wish to compost.

Community Feedback: Systems

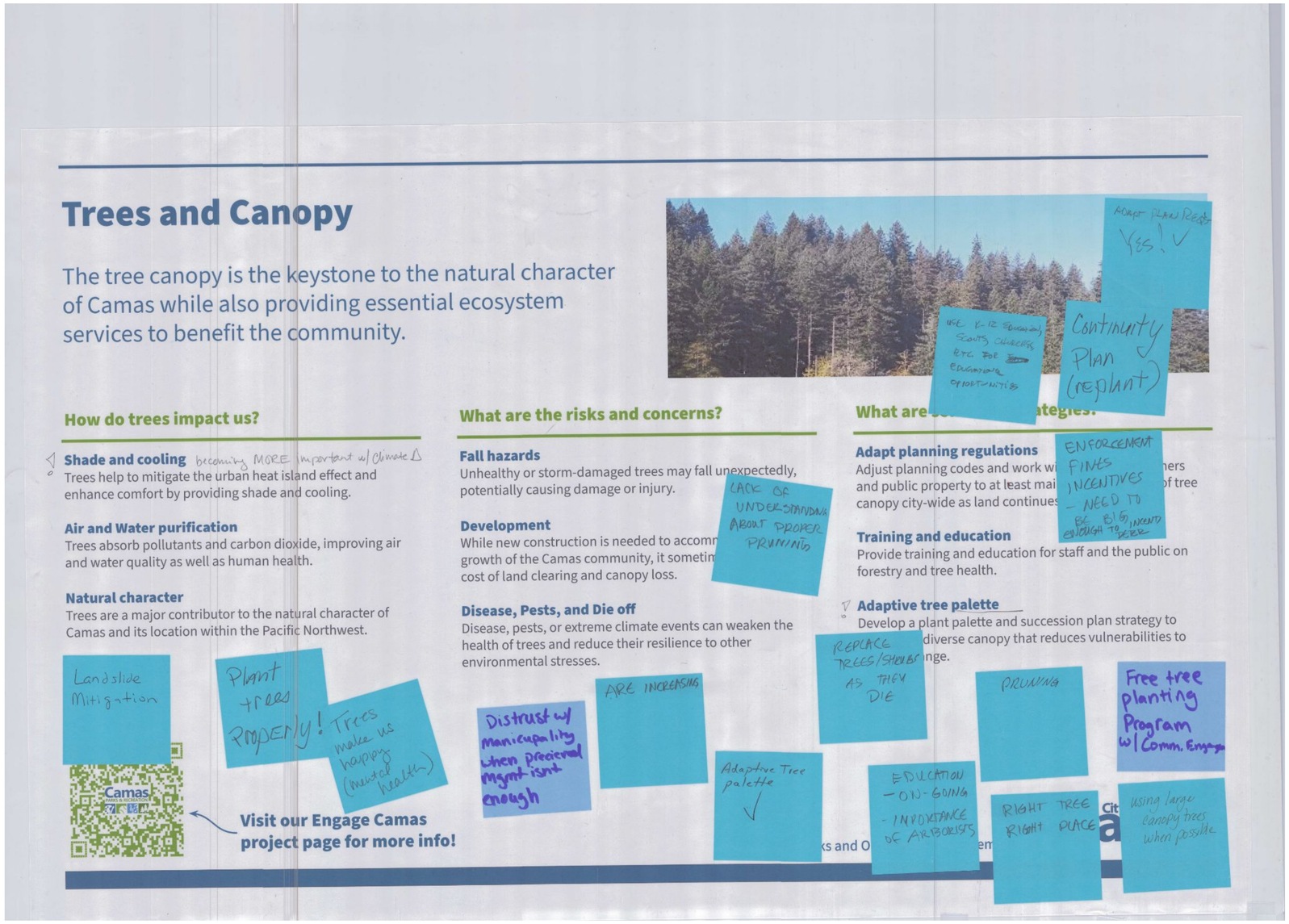


Online survey feedback

Proper vegetation management provides vital habitat, reduces risks, and contributes to the overall quality of Camas' natural aesthetic. Is there anything missing or other ideas to consider as it relates to vegetation and habitat?

- Emphasize wildfire prevention and management practices.
- Consider changing maintenance practices such as reducing mowing frequency or leaving areas unmowed.
- When selecting plants, account for the impacts of climate change - "native species" may need to be redefined.
- What efforts are being made to reintroduce native plants that have been previously displaced?
- Establish a maintenance schedule that allows for proactive management of vegetation.

Community Feedback: Systems



Online survey feedback

The tree canopy is the keystone to the natural character of Camas while also providing essential ecosystem services to benefit the community. Is there anything missing or other ideas to consider as it relates to trees and canopy?

- Wildfire is a major threat to trees and canopy.
- How will environmental justice be incorporated into how the City manages trees and canopy?
- Seek guidance of foresters or forest management experts to balance selective thinning of trees with the need to preserve biodiversity.
- Canopy is a huge part of what makes Camas a wonderful place.
- Provide clearer guidance to private landowners about managing trees and use tree permits to avoid unnecessary removal of trees.
- Use planning and code to shift development away from sites that require land clearing and to prioritize retention of existing mature trees.
- Young trees used in mitigation plantings cannot replace the many benefits of mature trees.
- Trees in sidewalk strips have been removed by homeowners because of their impacts on the sidewalk. Permeable sidewalks and more planning for trees could address this problem.

References and Resources

Other

- SITES Rating System
- Landscape Planning for Washington's Wildlife (WDFW)

Trees

- Tree shift prediction tool (Washington Post)
- Climate Resilience Guide for Small Forest Landowners in Western Washington
- Portland's Tree Damage, through the Eyes of an Arborist

Access and Safety

- 7 Principles of Universal Design, Centre for Excellence in Universal Design
- ADA Accessibility Standards, US Access Board
- Best Management Practices for Crime Prevention Through Environmental Design in Natural Landscapes, Green Seattle Partnership
- Crime Prevention Through Environmental Design (CPTED)
- Public Playground Safety Handbook, U.S. Consumer Product Safety Commission
- Standards, Illuminating Engineering Society Standards

Operations and Management Plans

- Green Seattle work crew specifications
- Storm Mitigation Planning - Green Infrastructure Center
- Urban Forest Management Plan - City of Wilsonville, OR
- Urban Forest Management Plan - Renton, WA
- Community Forest Storm Mitigation Planning Template - USFS

Soil

- Urban Soil Management for Climate Resilience
- Specifying Soil Volumes to Meet the Water Needs of Mature Urban Street Trees and Trees in Containers
- Soil for Urban Tree Planting

Table 1: Stewardship calendar

STEWARDSHIP CALENDAR	1 JAN	2 FEB	3 MAR	4 APRIL	5 MAY	6 JUNE	7 JULY	8 AUG	9 SEPT	10 OCT	11 NOV	12 Dec	NOTES
planting considerations:													
primary planting season	go	go	go	go	go	stop	stop	stop	stop	stop	stop	stop	optimal planting is when plants are dormant during the rainy season
wetland planting season	stop	stop	stop	stop	proceed with care	go	go	go	go	stop	stop	stop	applies to soils that dry out during part of year
wetland planting season	stop	stop	stop	stop	stop	proceed with care	proceed with care	go	go	go	go	stop	applies to soils that are saturated year-round
wildlife considerations:													
primary bird nesting season	go	go	go	go	go	stop	stop	stop	stop	stop	stop	go	includes majority of songbird species; some birds nest later into end of August
early bird nesting season	go	go	proceed with care	proceed with care	proceed with care	stop	stop	stop	stop	go	go	go	includes larger species such as herons, geese, raptors, and hummingbirds
duck nesting season	go	go	go	stop	stop	stop	stop	go	go	go	go	go	avoid shoreline/adjacent areas
amphibian reproduction	stop	stop	stop	stop	stop	stop	go	go	go	go	go	stop	applies to sites with 10 cm standing open water, avoid 25 feet from waters edge
professional crew considerations:													
steep slope work	stop	stop	stop	stop	proceed with care	go	go	go	go	proceed with care	stop	stop	do not carry out activities that have potential for soil disturbance in winter without BMPs in place
knotweed herbicide treatment	stop	stop	stop	stop	stop	stop	stop	go	go	proceed with care	stop	stop	early or late applications may be acceptable to avoid impacts to pollinators
ivy herbicide treatment	stop	stop	stop	proceed with care	proceed with care	proceed with care	proceed with care	go	go	stop	stop	stop	early applications may be acceptable, but not as effective for long-term control
blackberry herbicide treatment	stop	stop	stop	proceed with care	proceed with care	proceed with care	proceed with care	go	go	stop	stop	stop	do not make applications to fruiting vegetation

Legend: go; proceed with care; stop

Source: Green Seattle work crew specifications

Vegetation and Habitat

- Landscape Plants, Oregon State University
- Great Plant Picks, Elisabeth C. Miller Botanical
- Gardening in Washington State, Washington State University Extension Master Gardeners
- Noxious Weeds Program, USDA Animal and Plant Health Inspection Service
- Washington State Noxious Weed Control Board
- Noxious Weeds, Washington State Department of Agriculture
- The Native Pollinator Habitat Restoration Guide (EarthCorps)
- Integrated Pest Management, Washington State University
- Urban Forest Pest Readiness Playbook - Washington

Fire Management

- Preparing Homes for Wildfire, National Fire Protection Association
- Fire Adapted Ashland, City of Ashland

Steep Slopes

- Steep Slopes, Integrated Transportation and Community Planning

Planning Recommendations: Tree Ordinance

Below is a list of regional cities and their established tree codes for comparison and reference when considering updates to the Camas Tree Ordinance:

Municipality	Significant Deciduous	Significant Evergreen	Landmark Tree	Heritage Tree	Additional Considerations	Permits and Mitigation Required
Camas, WA	≥ 12” DBH	≥ 8” DBH	N/A	N/A	Priority to retain significant trees over 36” dbh	Replacement trees must be 2” DBH for deciduous trees and 4’ tall for evergreen.
Bainbridge Island, WA	≥ 12” DBH	≥ 10” DBH	Trees at least 100 years old or DBH varies depending on species.	N/A	Any tree 8” DBH and above within the Mixed use town center and any tree within a critical area or critical area buffer.	Replacement of landmark trees required at 50% of DBH removed, or planting 3 trees for each landmark tree removed, or pay into tree fund.
Bend, OR	≥ 6” DBH	≥ 10” DBH	N/A	N/A	Removal of trees ≥4” DBH in the Waterway Overlay Zone is prohibited Code updates in progress that would: • Require preservation of 20% of priority trees (≥ 20” DBH) • Or preserve 25% of total DBH site. Includes all trees ≥ 6” DBH on site.	City may require replace trees of equal DBH to trees removed.
Covington, WA	≥ 12” DBH	≥ 6” DBH	≥ 22” DBH	≥ 32” DBH	Any tree 6” DBH or more that is located within critical area or shoreline jurisdiction; Does not include hazard or nuisance tree.	Significant and landmark trees replaced at a 2:1 ratio. Heritage trees replaced at 3:1 ratio (per tree, not per DBH).
Lakewood, WA	≥ 9” DBH	≥ 9” DBH	N/A	N/A	≥ 4” DBH for Oregon White Oaks	On-site replacement at 2:1 for dbh inches removed. Options for replacement based on canopy coverage and CO2 reductions.
Olympia, WA	N/A - Tree Unit System		City Designated	N/A	Tree units for existing trees are based on DBH.	Developing properties require tree density of 30 tree units/acre. Developed properties required 3 tree unit of replacement for every one tree unit removed.
Portland, OR	≥ 12” DBH	≥ 12” DBH	N/A	Designated	“Significant” terminology not used. Private trees 12” DBH and greater, city trees 3” or more in diameter, and street trees of any size regulated when not associated with development.	Permit required for removal. May require public notice and comment period.
Salem, OR	≥ 30” DBH	≥ 30” DBH	N/A	Council Designated	≥ 20” DBH for Oregon White Oaks	Heritage trees not to be removed unless deemed necessary. Typically most other removals require a 2:1 replacement ratio (per tree, not per DBH).
Seattle, WA	Tier System: Categories trees ≥ 6” DBH			Designated	N/A	Replacement determined by Director. Requires tracking for first 5 years after installation.
Shoreline, WA	≥ 6” DBH	≥6” DBH	N/A	N/A	All trees inside of Critical Areas are subject to review.	Permit required for removal of trees greater than 6” DBH. Removals tracked in 36 month period. At least 25% of trees must be retained on a property. Replacement required and depends on size of tree removed.
Tacoma, WA	N/A	N/A	N/A	Designated	N/A	Heritage trees to only be removed if hazard.
Vancouver, WA	N/A - Tree Unit System			≥ 36” DBH	Tree units for existing trees are based on DBH.	All replacement trees count as 1 tree unit, regardless of size.