

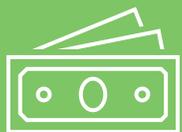


## NATURAL ENVIRONMENT

### Co-Benefits



Grows urban tree canopy and protects, connects, and expands natural ecosystems to strengthen healthy habitat and build climate resilience within the Spokane River Watershed



Improves livability measures, supports value added strategies that keep natural resource industry by-products (agriculture, forestry) in our local markets, and supports a visitor economy.



Increases positive social, mental, and physical health outcomes and protects agricultural land to support community food sovereignty and resilience.



Equitably increases tree-planting in underserved neighborhoods, improves equitable community access to green space and encourages Tribal involvement in plan development.

### SDG Alignment





## Near Nature, Near Perfect

The citizens of Spokane are caring stewards of their natural environment, protecting for future generations the beauty, amenities, and ecosystem services it provides.

Since Time Immemorial, the Spokane People have lived interconnected and interdependent of all beings including human and non-human alike. The fish from the river, the forest and prairie wildlife, and the native plants provided for all their needs. When European peoples settled the site at the Spokane Falls, they relied on the natural environment for their economy: timber, mining, agriculture and power generation.

In the 21st century, the economy has changed and relatively few citizens rely directly on the natural resources of the region for their livelihoods. Still, the quality of the natural environment bears a direct impact on the quality of life for Spokane's citizens and attracts visitors to our region.

The City of Spokane supports the goal of ensuring clean air, clean water, healthy terrestrial ecosystems, and a robust, equitably distributed tree canopy as a right of the community to best adapt to impacts of climate change. The City will prioritize protecting remaining natural areas that are connected regionally to land supporting diverse plant communities, wildlife, soils and water. The City also recognizes the critical role it plays in restoring and protecting the heart of our city, the Spokane River. These natural resources will be managed through a proactive process to ensure ecological services provide environmental resilience to climate change impacts. It will be critical to balance protection of biodiversity and natural cycles within healthy green and blue spaces along with our most precious gift, our incredible river. We will ensure smart growth strategies, including providing equitable community access to nature, as well as ensuring there is clean and flowing water that protects the biodiversity and integrity of our river for the benefit of our community.



**ᵫsúleʔx<sup>w</sup>**. Means good land, flat, open, fertile in Salish. The word breaks down to **ᵫxest**, good, **-uleʔx<sup>w</sup>**, land or area.



Natural Environment refers to vital living and non-living systems that encompass water, air, soil, plants, and wildlife. These natural resources are largely interdependent and require a certain level of health and connectivity in order to support the viability of the larger ecological community. This focus area places value on the health of these systems and attempts to ensure their optimal function. Thoughtful planning and protection of open spaces and natural areas throughout our region can improve environmental quality and resilience; these healthy ecosystems in return support a vibrant, life-sustaining home now and for future generations.



## Comprehensive Plan Alignment

### Chapter 3: Land Use

- LU 1: Citywide Land Use
- LU 6: Adequate Public Lands and Facilities
- LU 8: Urban Growth Area

### Chapter 5: Capital Facilities and Utilities

- CFU 3: Coordination
- CFU 5: Environmental Concerns

### Chapter 7: Economic Development

- ED 8: Quality of Life and the Environment

### Chapter 9: Natural Environment (most sections)

### Chapter 10: Social Health

- SH 1: Funding Mechanisms to Support Social Health
- SH 8: Food Access & Security

### Chapter 12: Parks & Recreation

- PRS 1: Preservation and Conservation
- PRS 2: Parks and Open Space System

### Chapter 14 Shorelines

▶ Action in-progress    ▶ Action complete



## Benefits of Trees

We know that trees take in carbon from the air to produce energy for their growth. In doing so, they reduce greenhouse gases which are responsible for warming the climate. More analysis is needed to fully quantify the climate benefits of Spokane's tree canopy, but we have estimates of other economic benefits trees provide. In 2012, the City of Spokane conducted an economic analysis of the City's street trees, and the results are impressive!

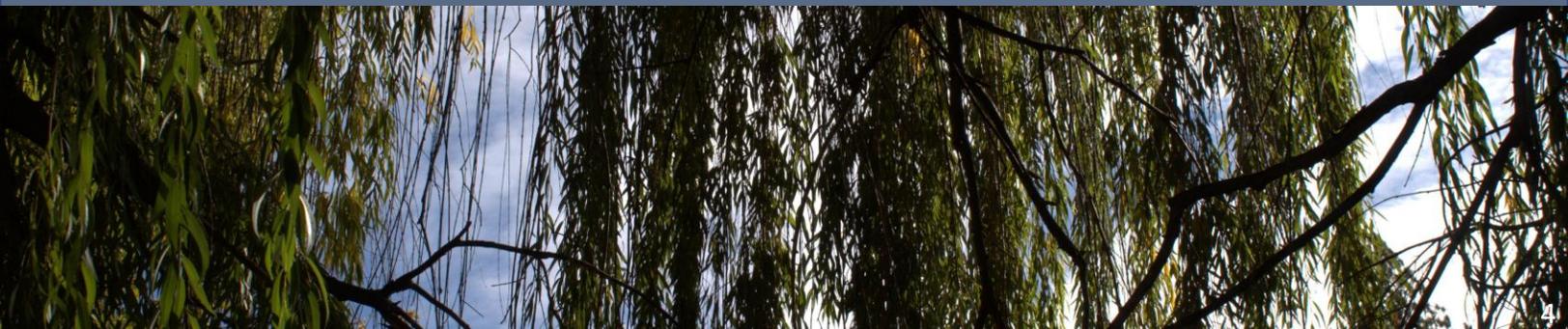
The following are figures for 76,533 street trees inventoried and analyzed for value and benefits in the City of Spokane. The information is an especially useful tool to evaluate the condition of our tree population and provide factual foundation for policy and management decisions. These 76,533 street trees provided the following benefits in 2012:<sup>15</sup>

- \$714,302 is saved annually in reduced heating and cooling costs.
- \$75,778 is saved annually in reduction of atmospheric CO<sub>2</sub>.
- \$113,296 is saved annually in air quality improvements.
- \$290,602 is saved annually in stormwater mitigation by rain interception and storage.
- The beauty of Spokane's urban forest attracts tourists and businesses, lowers crime rates, increases marketability and property values at a value of \$2,850,251 annually.

You can calculate the benefits of trees on your property or the right-of-way by using the National Tree Benefit Calculator.<sup>16</sup>

Trees give us many benefits that are equally important but are not easily converted to dollar savings. A few examples are listed below.

- By shading soil and pavement surfaces, trees mitigate the urban heat island effect of hotter summers.
- Tree foliage filters particulate matter from the air, reducing the incidence of respiratory illnesses.
- Research has shown pavement shaded by trees lasts 10 years longer than exposed pavement, saving street maintenance costs.
- People are more likely to shop in business districts with treescaping and tend to spend more.<sup>17</sup>
- Patients with even just a view of greenery like parks, gardens, and/or trees heal faster.<sup>18</sup>
- Trees provide critical wildlife habitat for feeding, nesting and migration.
- Dense plantings of trees and shrubs can reduce traffic noise by 6-15 decibels.



# NATURAL ENVIRONMENT

GOAL 1. Establish partnerships with community organizations and agencies to leverage funding and invite community input

## Strategy 1. Work with regional partners to align natural resource management

### Priority Actions

▶ NE 1.1	Work collaboratively with regional partners to support existing efforts to update the Critical Areas Report by 2022
NE 1.2	Support statewide inventory of at-risk species and ecosystems
NE 1.3	Assess regional wildfire risks and develop plans to mitigate risks in native forests in and around the City (by 2023)
NE 1.4	Support Spokane County Noxious Weed Board efforts to identify and control noxious weeds
NE 1.5	Collaborate with research community to incorporate appropriate species and management methods for future climate into City plans
NE 1.6	Work collaboratively with regional partners to support and fund an economic impacts study of our regional farms and prime agricultural soils

## Strategy 2. Establish funding for management of City lands

### Priority Actions

▶ NE 2.1	Increase City budget for Natural Resources Management and Environmental Programs
▶ NE 2.2	Partner with community organizations and agencies that will leverage City funding budget and capacity, and maximize partner funding opportunities
NE 2.3	Conduct feasibility assessment for creation of a climate justice fund that ensures investment in projects that will directly benefit underserved segments of the community
NE 2.4	Partner with organizations and agencies to promote equitable access to City natural areas and the Spokane River



hec čłcil is Salish for trees, forests. It means many things standing up.

# NATURAL ENVIRONMENT

## GOAL 2. Build awareness and engage the community in Natural Resources stewardship

### Strategy 3. Support volunteer opportunities to engage citizens in environmental sustainability projects

#### Priority Actions

NE 3.1	Support a Conservation Ambassador Program (or similar program) to train volunteers to take sustainability and climate action messaging out to the community
NE 3.2	Develop a Green Corps Program (or similar program) to generate citizen volunteers trained to implement planting, monitoring and maintenance phases of PLANT Ordinance
▶ NE 3.3	Expand on current efforts to create pollinator gardens programs to establish habitat for our local pollinators, and provide education to the public about the critical role they play in the ecosystem
NE 3.4	Create opportunities within K-12 education, colleges, and universities for students to contribute input and service work to City natural resources programs and projects
NE 3.5	Assess opportunities for citizen science work to contribute to a database that can be accessed to better understand ecosystem health and management needs within natural areas
▶ NE 3.6	Build public awareness around existing environmental sustainability programs

### Strategy 4. Promote City programs and projects that align with sustainability goals

#### Priority Actions

▶ NE 4.1	Expand incentive programs like SpokaneScape that encourage residents to replace lawn with mulch and native, drought-tolerant plant species in connection with Water Resources strategy 6
NE 4.2	Create signage for City Parks turf conversion projects, pollinator gardens and native landscaping
NE 4.3	Increase visibility and accessibility of sustainability programs on City website and establish an effective social media campaign (by 2022)
▶ NE 4.4	Partner with Department of Natural Resources to create climate-informed and fire-adapted community strategies around urban canopy, particularly near urban-wildland interface

### Strategy 5. Establish funding for education and outreach programs that promote natural resources stewardship

#### Priority Actions

NE 5.1	Partner with community organizations and agencies already implementing work that supports City natural resource management goals to build strong multi-agency grant opportunities
NE 5.2	Develop and encourage the use of curricula in local schools to build a stewardship ethic and climate science understanding in young people
NE 5.3	Expand opportunities for voluntary contributions in utility bills to collect funds for urban forestry and other City programs
NE 5.4	Partner with BIPOC-led organizations to build awareness and promote natural resource stewardship across broad populations within the city.

# NATURAL ENVIRONMENT

## GOAL 3. Increase urban tree canopy and climate-adapted plant landscapes within the built environment

### Strategy 6. Expand urban tree canopy to capture more carbon and moderate neighborhood microclimate

#### Priority Actions

▶ NE 6.1	Create a Master Planting Plan (by 2022) to increase City's urban canopy from the current level of 23% to 40% cover by 2030; use an equity framework to prioritize low-canopy and low-income neighborhoods
NE 6.2	Review and revise the approved street tree list (following adoption of Master Planting Plan) and update tree list regularly to provide more information on drought and heat tolerance; water requirements; and resistance and resilience to disease, pests, and storm damage
NE 6.3	Retrofit residential streets where possible to provide adequate street strips for planting
NE 6.4	Identify long-term funding and strategies for tree monitoring and maintenance phases, including supplemental watering and pruning, to increase survivability
NE 6.5	Implement policy that incentivizes private property owners, public property owners, and developers to establish additional trees and consider alternatives to removing established trees

### Strategy 7. Establish diverse, future-climate-adapted landscaping within the built environment

#### Priority Actions

▶ NE 7.1	Establish policy to require inclusion of regionally native and climate-adapted plants in future planting projects on City owned properties
▶ NE 7.2	Reduce water and chemical inputs on City-maintained land, promoting water and wildlife conservation
NE 7.3	Incentivize establishment of native, climate-adapted plant landscaping for private landowners and developers, and enlist help from landscape designers and plant nurseries to promote City strategies

*At The Lands Council, we have a vision to increase our city-wide urban tree canopy using an environmental justice and equity lens. Our canopy efforts will be focused on areas at the intersection of low-income and low canopy coverage in an effort to bridge that canopy gap and offer the ecosystem benefits that trees provide to all residents.*

--Chelsea Updegrave, Director of Development & Communications at The Lands Council



# NATURAL ENVIRONMENT

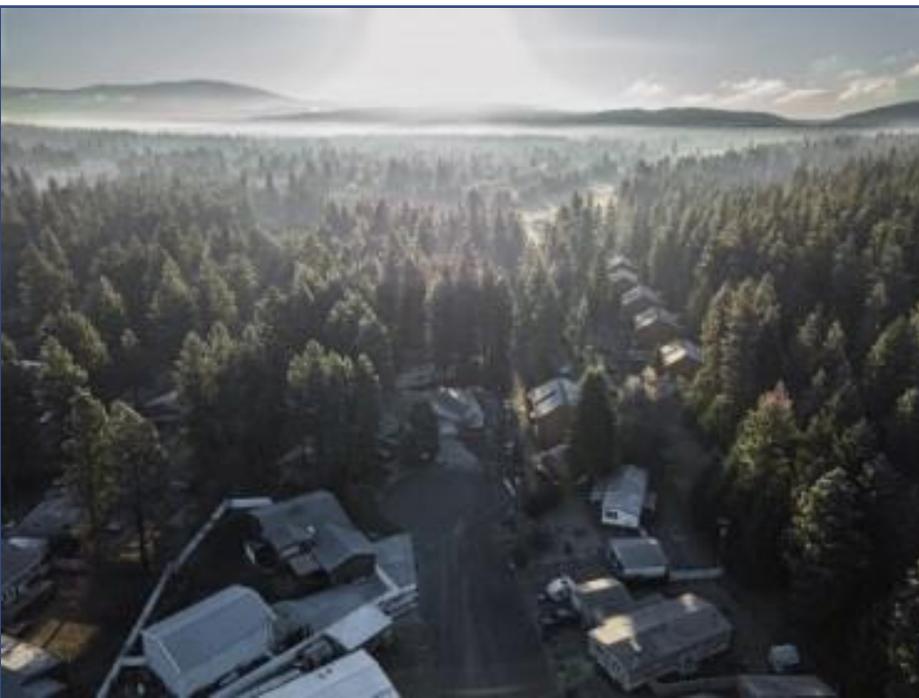
## GOAL 4. Protect and build climate resilience in natural spaces within Spokane

### Strategy 8. Strengthen & support regional land conservation

Priority Actions	
NE 8.1	Support regional conservation and restoration of natural areas and corridors
NE 8.2	Prioritize evaluating biodiversity within City Natural Areas so that at-risk species and habitats are protected through focused management actions
NE 8.3	Identify and restore damaged riparian areas and prioritize the protection of habitat along streams and rivers (by 2030)
NE 8.5	Partner with regional agencies, nonprofits, colleges, universities, and local businesses to explore ways in which Spokane can support the national 30 by 30 initiative that aims to protect 30 percent of our land and 30 percent of our ocean areas by 2030 <sup>19</sup>

### Strategy 9. Prevent negative impacts to natural resources and build climate resilience

Priority Actions	
▶ NE 9.1	Adopt land management practices that protect and improve ecosystem health (soil, plant and animal habitat) on City owned property
NE 9.2	Address and prevent potential impacts to natural resources during planning phases of land development rather than relying on mitigation as a post-development strategy
NE 9.3	Evaluate overall health of natural areas on a regular, established cycle to identify ecosystem transition and disease and pest outbreaks; develop management strategies to address risks
NE 9.4	Support regional partnerships to manage forest in order to reduce wildfire risk, including forest drought mitigation planning
NE 9.5	Review chapter 9 (Natural Environment) of the Comprehensive Plan to ensure alignment to the SAP and recommend revisions as needed



*How we treat our land, how we build upon it, how we act toward our air and water, in the long run, will tell what kind of people we really are.*

-- Laurance S. Rockefeller

# NATURAL ENVIRONMENT

## Urban Fire Prevention

The wildland-urban interface (WUI) is where homes are built near or among lands prone to wildland fire. These areas have become more desirable for homeowners for their privacy, natural beauty, and access to recreational opportunities like our parks and trails. Developers and builders are accommodating this desire by building neighborhoods inside these areas. As a result, the Spokane Fire Department (SFD) must fight fire and protect homes and infrastructure within these wildland-urban interface areas.

To help adapt to this need, the SFD participated in a 2014 workgroup that developed a Wildland Fire Protection 10-Year Strategic Plan that collaborates with the State Department of Natural Resources and Federal Partners. The plan encourages several critical initiatives within the SFD described below.



Photo Credit: Dean Percy

The current SFD Wildland-Urban Interface (WUI) programs integrate the State of Washington's Wildland Fire Protection 10-Year Strategic Plan with the SFD's Strategic Positioning Plan. This integration allows SFD resources to be assigned into divisional work plans and elevates the threat from WUI fires to prioritize the organization's efforts. In addition, the SFD participates and supports the Community Wildfire Protection Plan Program and provides access for DNR's Community Assistance Grants for property owners. In 2020, and as an unexpected outcome from the Pandemic, SFD joined DNR in the [Fuel Management Mapping System](#) that integrates SFD's Intterra System to better plan for and respond to wildland fire incidents throughout our protection area. Intterra allows real-time access to critical wildland fire data in the hands of responders and incident decision-makers. Also, in 2020, the SFD and Parks collaborated to create three pilot programs to reduce horizontal and vertical continuity in fuels to limit fire propagation. Traditional techniques such as pruning, thinning, mastication, and prescribed burning were very expensive or politically challenging. With the support of the City Council, the departments developed a goat grazing program. After thorough research, the deployment of goats has emerged as the most effective, nearly carbon-neutral, cost-effective, nontoxic, and nonpolluting method of thinning fuel. In the 2022 budget, the SFD will be adding a cost-neutral Wildland Fire Planning position to its budget. The purpose of the role is to manage the existing programs and to accomplish future improvements to the City's resilience and safety from the threat of WUI incidents.

- Spokane Fire Department's Chief Brian Schaeffer



Photo Credit: Dean Percy

## **Existing Natural Resource Planning and Management Initiatives<sup>20</sup>**

There are many organizations at both the regional and state level working on protecting our natural environment

### **Forests:**

Washington State Department of Natural Resources

- Washington Forest Action Plan (2020)
- 20-Year Forest Strategic Plan (2020)

### **Wildlife:**

- Washington Department of Fish and Wildlife Landscape Planning for Washington's Wildlife

### **Plant Communities:**

- Spokane County Noxious Weed Board: Identifying and Controlling Noxious Weeds in Spokane County

### **Sensitive Species & Habitats (Critical Areas):**

- Spokane County: Protection of Critical Areas ([link](#))
- Washington Department of Fish and Wildlife: Priority Habitats and Species ([link](#))
- City of Spokane Critical Areas Report (1994) [link](#)

### **Wildfire:**

- DNR Wildland Fire Protection 10-year Strategic Plan [link](#)
- Firewise Program (Spokane County Conservation District in collaboration with Department of Natural Resources)

### **Climate Resilience:**

- Washington State Department of Natural Resources; Plan for Climate Resilience (2020)
- The Lands Council & City of Spokane Spocanopy Initiative