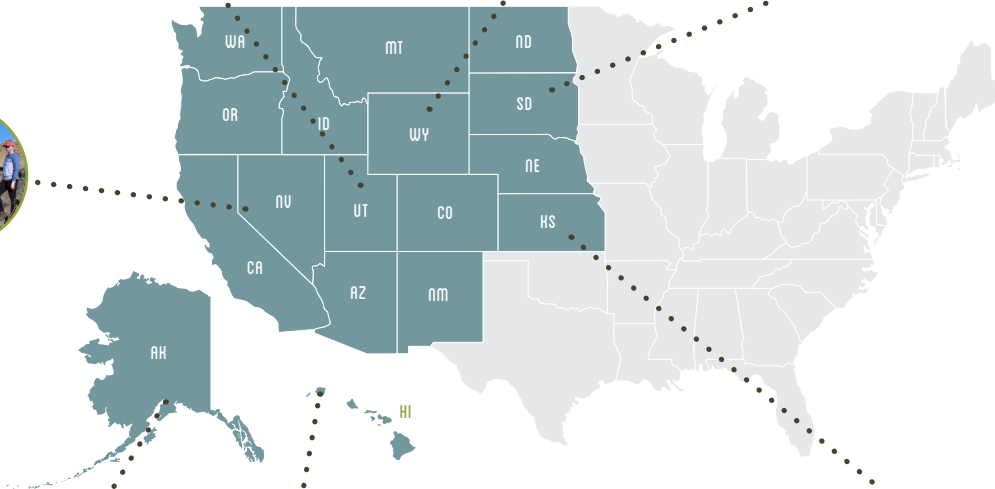




**CWSF**  
COUNCIL OF WESTERN  
STATE FORESTERS



COMMONWEALTH  
OF THE NORTHERN  
MARIANA ISLANDS

TERRITORY  
OF GUAM

FEDERATED STATES  
OF MICRONESIA

REPUBLIC OF THE  
MARSHALL ISLANDS

REPUBLIC OF PALAU

TERRITORY OF  
AMERICAN SAMOA



# COMMUNITY TREES: **A Wealth of Health**



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Council of Western State Foresters  
2255 Sheridan Blvd, Suite C-327 | Edgewater, CO 80214  
[www.westernforesters.org](http://www.westernforesters.org) | [info@westernforesters.org](mailto:info@westernforesters.org)



## OVERVIEW

# An Introduction to This Publication

2020 got off to an inauspicious start as a virus exploded into a worldwide pandemic. Schools and shops closed. Entire countries shut down, but as the U.S. went into lockdown and “Stay at Home” orders became widespread, a silver lining appeared.

Urban and community forests were suddenly more visible and more valued than ever before. As community activities came to a halt, the importance of local trees, trees that could be seen and enjoyed from windows and quick walks around the block, became clear. This publication aims to tell stories from across the western United States and Pacific Islands that highlight the mental, physical, and emotional health benefits of trees that the pandemic has made so evident.

The Council of Western State Foresters (CWSF) is a nonpartisan, nonprofit membership organization comprised of state and US-Affiliated Pacific Island foresters whose role is to protect, conserve, and enhance western

and Pacific Island forests. Part of CWSF’s work is fulfilled through a relationship with the western leadership of the USDA Forest Service. This relationship is realized through the Western Forestry Leadership Coalition (WFLC). WFLC works collaboratively to ensure sustainable management of western forests to meet the needs today and tomorrow.

As part of this work, WFLC supports a network of Urban & Community Forestry (U&CF) Coordinators in the western United States and Pacific Islands. This network is responsible for an annual publication on relevant themes related to western forestry. This year’s theme is “Community Trees: A Wealth of Health.” The stories call attention to the myriad health benefits trees provide to communities, particularly in light of COVID-19, and were provided by state forestry representatives in 2020.



# ALASKA

## Alaska Department of Natural Resources, Division of Forestry

In 2020, the Alaska Community Forestry program collaborated with the Arbor Day Foundation (ADF); the Municipality of Anchorage (MOA), Parks and Recreation Department; the Society of American Foresters (SAF), Cook Inlet Chapter; and the National Association of State Foresters (NASF) to give away 100 trees at the 2020 Alaska Virtual Run for Women (<https://www.akrkw.org/>). The trees were provided through a generous gift from International Paper.

Every June, the Alaska Run for Women (AKRFW) is held during the long, long days of early summer in Anchorage. Since 1993, the event has raised more than \$4.8 million to fight breast cancer. The AKRFW is one of the five largest all-women running events in the United States.

In 2019, the Alaska Community Forestry program arranged for a \$1,000 donation of ten crabapple trees from the Society of American Foresters, Cook Inlet Chapter for the AKRFW.

After the success of 2019, there was interest in giving away more trees. The goal: to give away 100 trees that could be picked up at the event and could easily fit into a car.

Last fall, NASF announced that in celebration of their 100th Anniversary in 2020, they would be initiating a Centennial Challenge to encourage 100-themed forestry activities. Giving away 100 trees fit right in!

Coincidentally, at about the same time, the Alaska Community Forestry program was contacted by the ADF's Community Recovery Program, who were then put in touch with the MOA Parks and Recreation Department. The ADF helped the MOA find

a sponsor in International Paper, who donated 100 trees for the 2020 AKRFW.

Then in March 2020, the AKRFW Board of Directors was faced with COVID-19. The choices: cancel the run, postpone, or see if holding a "virtual" event were possible. Virtual seemed like the best and only option, and it worked! From June 20-27, runners and walkers signed up and participated virtually. Not only did over 3,000 people take part, but there were also participants in all 50 states!

It has been quite the collaborative effort, involving AKRFW, Alaska Community Forestry, SAF, ADF, MOA Parks & Recreation, NASF, and International Paper.



**1.** AKRFW virtual runners posing with some of the famous downtown Anchorage "critters." Photo Credit: AKRFW website / Facebook. **2.** The 100 trees donated by International Paper were socially distanced distributed. Photo Credit: Jim Renkert. **3.** Alaska Women are tough. Some even run in the snow-covered mountains (when they're not skiing or climbing them)! Photo Credit: AKRFW website / Facebook.





# ARIZONA

## Arizona Department of Forestry and Fire Management

The Salt River is a perennial river that runs to the eastern edge of the metro Phoenix area where a dam then diverts water into canals. Downstream of the dam the river is mostly dry. The Rio Reimagined Project is shining a spotlight on this area using sustainable resource management. The project consists of eight community stakeholders, including an Indian River Community, a major utility, Arizona State University (ASU), and state and federal agencies. The project covers 55+ miles of river and 78,000 acres. The aim is to bring life back to the river and restore the communities' connection to it with ecosystem restoration, flood mitigation, and economic development. Each river community will be undertaking different projects under the Rio Reimagined umbrella. One of these projects is the West Mesa River Community (WMRC) Heat Impact project.



In the arid southwest, heat island effect is a major focus of urban forestry programming. The West Mesa River Community Heat Impact Project will make significant strides toward increasing shade and implementing vital solutions to combat extreme heat.

The project includes strategic public outreach and stakeholder engagement using the Nature's Cooling Systems process for heat action plans. Nature's Cooling System is a framework to develop

heat action plans at the neighborhood level to include local knowledge and needs. Broad goals of a Heat Action Plan include determining ways to reduce heat directly and ways to improve the ability of residents to deal with heat.

Expected outcomes from this project include community engagement through meetings and workshops, a tree inventory which will be used as a jumping off point to pilot a citizen science tree mapping app, social asset maps, the heat action plan

itself that will include design solutions, and the planting of a minimum of 100 trees.

ASU's City Exchange and Arizona Sustainability Alliance have partnered with the Arizona Department of Forestry and Fire Management to complete the WMRC Heat Impact project. Their combined experience, common sense, motivation, and ability to leverage resources make this project one to watch.



1. The Salt River is a perennial river that flows through several metropolitan areas in central Arizona and is the focus of the Rio Reimagined Project. Photo Credit: Arizona State University City Exchange. 2. Heat readings taken at a transit stop during an ASU research project highlight the significant cooling effect of tree cover. Photo Credit: © Paul Coseo. 3. Aerial over the Salt River of the Mesa Riverview Area looking SE across West Mesa River Community. Photo Credit: © Tim Roberts Photography.



A healthy urban tree canopy provides myriad environmental and health benefits. Unfortunately, low-income neighborhoods often have inadequate canopy, and their residents suffer from higher rates of chronic diseases. Expanding the tree canopy cover in low-income urban neighborhoods could help address health disparities while achieving environmental goals. Furthermore, when community members plant trees, the process itself could have an immediate effect on building social connections and cohesion that support mental and physical health. In California, tree planting as a means for achieving health improvements is being tested through Koa Family.

Koa Family is a project with University of California Davis Institute for Population Health Improvement (IPHI). The objective is to reduce risk and prevalence of obesity among low-income mothers. 100 overweight low-income mothers residing in two low-income communities are enrolled in the project. The intervention being explored is community tree planting to improve long term health. The 100 participants are in the process of planting 300 five-gallon trees in their neighborhoods. They work with an ISA Certified Arborist (Davey Resource Group) to identify planting sites, secure permissions, and arrange for maintenance. Participants receive education on tree benefits and tree planting and care. The

arborist coordinates and supervises tree planting activities.

The association between urban tree canopy and health is well documented. Koa Family offers a unique opportunity to test health effects of changing tree canopy cover via community members. IPHI administers surveys and interviews to study participants at intervals. Participants also take part in a focus group after tree planting. Data is being used to test the following hypotheses:

1. Participation in neighborhood tree planting will result in increased awareness and appreciation of neighborhood trees, as well as increased self-efficacy to make positive changes within one's community.
2. Participation in neighborhood tree planting will result in increased self-reported health and quality of life.

The tests use mixed methods. Quantitative analyses compare changes in survey responses before and after tree planting. Qualitative analyses identify the role of tree planting in catalyzing changes in health-related behaviors and well-being. i-Tree, or similar software, is used to document the trees planted and quantify their benefits.

This is a unique project to study longitudinal effects of participation in neighborhood tree planting campaigns in low-income communities. Results will contribute to better understanding of the impacts of working with community members to increase urban tree canopy where needed most.

Reference Materials:

UC Davis KOA Family Study

- [https://health.ucdavis.edu/iphi/Programs/KOA/Resources/Results\\_of\\_Formative\\_Research.pdf](https://health.ucdavis.edu/iphi/Programs/KOA/Resources/Results_of_Formative_Research.pdf)
- [https://health.ucdavis.edu/chpr/community\\_engagement/KOA%20Family/index.html](https://health.ucdavis.edu/chpr/community_engagement/KOA%20Family/index.html)
- <https://health.ucdavis.edu/iphi/Programs/KOA/index.html>



1. & 2. Planting fruit trees in a community garden as part of the KOA family project. Photo Credit: UC Davis IPHI.



## Colorado State Forest Service

In two formerly under-served neighborhoods of Denver, community organizations and the Colorado State Forest Service (CSFS) are coming together to leverage trees to improve community health.

There are two communities in Denver that have become the focal point for urban environmental health issues. These communities are Globeville and Elyria Swansea (GES). Attracted to the railroad and metal smelting industries, immigrants settled here in the late 1800s. Currently, GES is home to over 10,000 full time residents, eighty-four percent of whom are Hispanic. With the passage of time and the construction of an interstate highway system, the negative impacts to air, water, and soil quality have greatly increased.

In 2014, a study completed by the Denver Environmental Health department identified many health problems caused by poor air and water quality in the South Platte River, offensive odors, and traffic

noise. Concerned partners, working with community members, developed a list of recommendations to mitigate these negative impacts by targeting environmental quality, community safety, and mental health. Among the extensive list of mitigation options was an identified need to plant more trees to increase the total tree canopy in GES, which was only five percent, well below the eighteen percent cover that Denver leaders would like to see across the city.

As a result, three distinct groups are currently focused on increasing the canopy cover in GES. The Nature Conservancy has one of their Denver-based staff reaching out to the

community and has sponsored spring and fall planting events. The Park People, a non-profit tree advocacy group, will be working with like-minded organizations to promote tree planting. Denver City forestry has a diverse list of sixteen shade trees and five ornamentals available for planting along the public right-of-way. City staff will prepare the planting site, assist with planting, and will water the trees for the first year. Additionally, CSFS is providing technical assistance to the tree planning effort.



1. Volunteers assist with tree plantings in the communities of Globeville and Elyria Swansea. 2. Community and volunteer tree planting event in Fall 2019. 3. Community members come together to lend a helping hand. Photo Credit: The Nature Conservancy.



Colorado State Forest Service  
 Urban and Community Forestry  
<https://csfs.colostate.edu/forest-management/community-urban-forestry>





## Guam Department of Agriculture, Forestry & Soil Resources Division

Natural resource decline from population growth and subsequent urbanization is a growing concern for Guam and island partners. Without expertise to manage, monitor, and mitigate these changes, the natural landscape and the environmental, social, and economic benefits of resources will be impaired. Developing a core team of individuals that are trained as arborists will increase local capacity to understand these patterns of change and work to ensure a sustainable urban social-ecological system. Logistically, offering classroom training is difficult and expensive. By making the curriculum more readily available, at any time and self-paced, it will help educate and maintain the knowledge relating to tree care management for the community.

For forestry personnel and tree care managers throughout the Pacific, there are very limited opportunities for tree care management learning, training, and acquiring Continuing Education Units (CEUs). Attending trainings and conferences in the US mainland is very expensive, many Pacific Islands have limited to no internet access, and when webinars are available, many times they are scheduled in the ‘wee hours of the morning’.

This project proposes to develop the methodology for the modules that will be delivered online using Moodle as the Course Management System (CMS). The course materials are based on training materials developed by the International Society of Arboriculture (ISA), specifically referencing the ANSI A300 Standards and the ISA Best Management Practices for

the modules. Upon going through the ISA training series, it was noticed that not all applications and items are relevant to the Pacific. Rather it was developed to be relevant to the US mainland’s trees and conditions. Therefore, these modules will be tailored to better relate to island needs without losing any of the main content.

The course materials include assessment activities, such as quizzes and exams, for assessing the learning outcomes with a certificate of completion after each training module. Having this training available online makes it possible to prepare more tree care specialists for arborist certification. Most importantly, it will allow Certified Arborists to maintain their certification by acquiring up to 30 CEUs. Since the materials are delivered online, the curriculum can

now be shared with partners throughout the Pacific region.

Closing the gap through which forestry professionals in the Pacific are able to gain tree care management knowledge as well as being able to maintain their Arborist Certifications through completing modules and gaining CEUs means being able to maintain and increase capacity throughout the Pacific, which in turn will mean a ‘Wealth of Health’ for island communities in the future.



**This online training will allow Certified Arborists to maintain their certification by acquiring up to 30 CEUs.**



**1. & 2.** Step 1: Attach the included power supply cord onto the Raspberry Pi and PLUG the other end into a power source. **3.** Step 2: A flickering green light and constant red light should appear on the device indicating that it’s powering on and booting up. Now you’re ready to log on to Wi-Fi settings, look for ‘Moodlebox’ to PLAY. It’s that simple! Photo Credit: Dr. James McConnell.



# HAWAII

## Hawai'i Department of Land and Natural Resources, Division of Forestry and Wildlife

The Hawai'i Urban & Community Forestry Program, Kaulunani, supports community efforts to enhance relationships with trees as a means to improve health. In Hawai'i, Polynesian-introduced fruit producing trees nourish cultural and physical vitality as well as sustainable island communities. Partners, Mālama Kauai and Sustainable Molokai, carried out a successful tree distribution program focused on health, resiliency, and social justice.

“Canoe Plant Tree Giveaways for the Health & Resiliency of the Lāhui” increased local food security, consumption, and production, as well as built community capacity for Kānaka Maoli (Indigenous) communities on the islands of Kaua'i and Moloka'i. Through providing access to, and education about, canoe plant trees (i.e., those transported by Polynesian voyagers in their canoes), the program strengthens community and environmental health, well-being, resiliency, and food security. In the unprecedented times of COVID-19, Mālama Kauai and Sustainable Molokai adapted their tree distribution and outreach events by having drive-through tree distributions and the dissemination of printed educational materials.

The trees from this program will produce millions of pounds of nutritious food in their maturity: 'Ulu (Breadfruit), Ōhi'a'ai (Mountain Apple), and Noni (Indian Mulberry).

'Ulu sustained the Hawaiian population for over a millennia, and its starchy, protein and nutrient-rich fruit continues to be enjoyed firm and unripe (tasting like a potato) to soft and ripe (tasting like a ripe banana). According to the Hawai'i Department of

Agriculture, the 'ulu is high in complex carbohydrates, low in fat, and cholesterol and gluten free.

Noni is widely known for its health benefits and as a functional food. In Hawai'i, its fruit has long been used to prepare health tonics and as topical treatments for wounds. Its bark also makes a beautiful dye.

Ōhi'a'ai is valued for its medicinal properties as well as its delicious red fruit. Its bark has been used to aid sore throat and, when combined with salt, can be used to tend wounds. The fruit is low in calories (15 calories per fruit), high in water content, and high in vitamin C, not to mention ono (delicious)!



**E Ulu ē!**  
(To growth and life!)



**1.** Sust'ainable Moloka'i staff transplant 'Ulu (breadfruit) in preparation for the seedling distribution in Ho'olehua, in May 2020. Photo Credit: Sust'ainable Moloka'i. **2.** Kaua'i resident picks up an 'Ōhi'a'ai (mountain apple) from Malama Kauai's socially distanced mobile seedling distribution in Anahola, September 2020. Photo Credit: Malama Kauai.





# IDAHO

## Idaho Department of Lands

Idaho's Urban and Community Forestry program works with municipalities and partner agencies to leverage the benefits urban canopies provide to the physical and mental health of residents. Idaho Department of Lands (IDL) works with the Treasure Valley Canopy Network to promote the health and wellness benefits of Idaho's urban and community forests.

In 2013, a USDA Forest Service Landscape Scale Restoration (LSR) grant funded an IDL Treasure Valley Urban Tree Canopy Assessment<sup>1</sup> (TV UTC Assessment) in partnership with The Keystone Concept and Plan-It Geo. This innovative and collaborative project produced tree canopy data and an i-Tree Eco assessment for nine communities within the Treasure Valley, Idaho's largest metropolitan area. The grant initially intended to spur strategic tree planting to mitigate air quality issues. This assessment resulted in the creation of the Treasure Valley Canopy Network (Network). The Network is now a self-sustained regional non-profit that brings together public, private and non-profit organizations to effectively manage the region's urban forest.

In collaboration with regional and national partners, the Network has built programs that are: reducing peak season energy use, investigating the impacts of urban heat on human health, recycling urban wood,

mitigating carbon impacts, and more.

In the arena of public and human health, the Network partners with local healthcare providers on a Walk With a Doc program and integrates tree canopy data into community health planning efforts. While the Walk With a Doc program slowed due to the impacts of COVID-19, urban tree canopy data is being integrated into local Health Impact Assessments (HIA). One example is a recent City of Boise Community Development Analysis<sup>2</sup>, completed by Ecosystem Sciences in partnership with Vitruvian Planning. By integrating tree canopy data with socioeconomic and health specific data, this analysis provides housing and community planning recommendations to guide the city's strategies for housing and development.

The Network continues to grow around its focus on the built environment's impact on human health. In Fall of 2020 the Network

will launch, in partnership with the city of Boise, the City of Trees Challenge. The plan is to plant over 100,000 trees to improve quality of life, human health and equity, and the impacts of climate in the region.

<sup>1</sup> [https://static1.squarespace.com/static/53486aaae4b0bcce3075974/t/5f2d48093ee91f1309a5ef30/1596803089856/2013\\_Treasure\\_Valley\\_UTC\\_Project\\_Report-Final-appendices\\_%28101013%29\\_sm.pdf](https://static1.squarespace.com/static/53486aaae4b0bcce3075974/t/5f2d48093ee91f1309a5ef30/1596803089856/2013_Treasure_Valley_UTC_Project_Report-Final-appendices_%28101013%29_sm.pdf)

<sup>2</sup> [https://www.cityofboise.org/media/10283/boise\\_community\\_needs\\_assessment.pdf](https://www.cityofboise.org/media/10283/boise_community_needs_assessment.pdf)

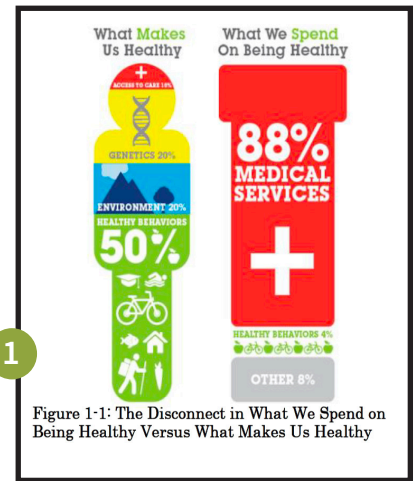


Figure 1-1: The Disconnect in What We Spend on Being Healthy Versus What Makes Us Healthy



**1.** City of Boise Community Development Analysis includes a focus on creating healthy communities through strategies that include enhancing tree canopy. Photo Credit: Vitruvian Planning, Ecosystem Sciences & PHR Consulting. **2.** Boise's City Forester, Mike Andrews, speaks with a local homeowner about her tree in Boise's North End neighborhood. Photo Credit: Guy Hand. **3.** Boise's Urban Heat Map informs multiple community health planning strategies. Photo Credit: Treasure Valley Canopy Network & Capa Heat Watch, LLC.

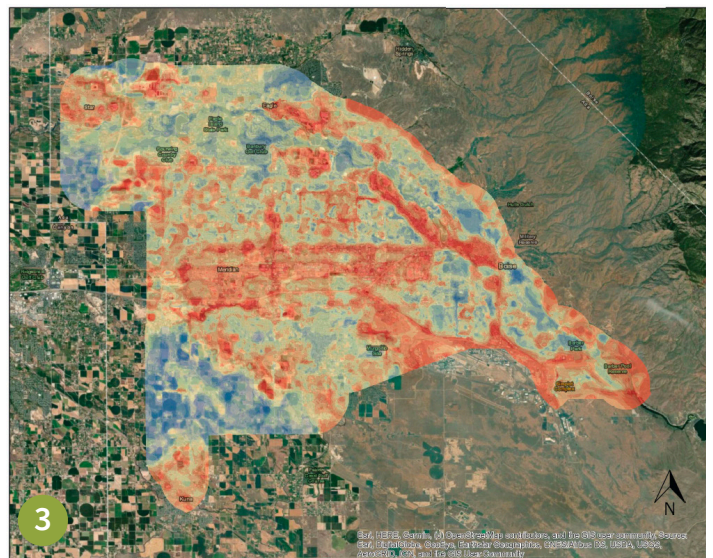


Figure 8: Boise 7-8PM Area-Wide Temperature (°F)



Idaho Department of Lands  
Urban and Community Forestry Program  
<https://www.idl.idaho.gov/forestry/urban-and-community-forestry/>



# KANSAS

## Kansas Forest Service

Funded by a Landscape Scale Restoration grant, a recent urban tree canopy study in the city of Wichita reveals the numerous benefits and value of tree planting to the environment and communities.

The Kansas Forest Service (KFS) Community Forestry Program recently completed an Urban Tree Canopy (UTC) study in partnership with the city of Wichita. It will be utilized as baseline data, encourage canopy increases, and promote the health and environmental benefits that tree canopy cover provides. The KFS portion was funded through the USDA Forest Service Landscape Scale Restoration grants program. The results of the UTC study show the City of Wichita has 23% tree canopy cover, 34% possible planting area in vegetation, and 33% unsuitable area for planting. The ecosystem benefits are myriad. Wichita's trees store approximately 2,850,187 tons of carbon, valued at \$100,840,211, and each year the tree canopy absorbs and sequesters approximately 101,428 tons of carbon dioxide, valued at \$3,588,533. The existing tree canopy in Wichita removes 2,997,351 tons of air pollution annually, valued at \$107,384,528. Wichita's existing tree canopy provides \$4,678,271 in stormwater runoff benefits. Dividing the UTC study by council districts found the canopy cover is well distributed throughout the city.

After the 2011-12 drought, the city of Wichita removed over 55,000 street trees and continues to remove two to three thousand per year. This is an unprecedented loss to the canopy cover in Wichita. The study provides the data to encourage canopy increases on the 34% possible planting areas currently

in vegetation. It further provides the health and environmental benefits of the existing canopy and will be utilized to promote further canopy increases to improve the health and wellness of both the citizens and the tree canopy in Wichita. KFS also continues to promote the overall social, environmental, economic, and ecological benefits of trees and canopy cover.



1. Riverside Park in Downtown Wichita. 2. Westward Wichita tree canopy. 3. Delano District, Wichita. Photo Credit: Tim McDonnell.



The tree canopy in Wichita, KS removes 2,997,351 tons of air pollution annually.





The Natural Areas Conservancy (NAC) is a non-profit organization with a mission to promote and ensure healthy forested natural areas in U.S. cities by advancing science, management, partnerships, and communications within and across cities. Centered in New York City, the NAC extended their reach nationally by conducting a survey of natural area management and associated issues.<sup>1</sup> Working with 12 cities selected from this group, they encouraged focus on natural areas management and provided a process to write case studies of lessons learned. These were presented at an in-person meeting in October 2019 and published in the journal *Cities and the Environment*.<sup>2</sup> Billings, MT was selected as one of the participating cities as a result of their work on effectively restoring and managing Riverfront Park and increased collaboration with area educational institutions on account of this program.

One of the premises upon which the Forests in Cities initiative rests is having easy access to nature while living in an urban setting in order to ease stressors that derive from urban living. Accessible natural areas provide a place to unwind, reflect, and experience the restorative benefits nature has been shown to provide.<sup>3</sup> While not asking for “proof” that natural areas improve the human psyche in stressful situations, the COVID-19 pandemic provided exactly that. An informal poll of urban foresters across Montana’s cities all reported significantly increased natural area use, especially throughout the period of the pandemic during which Montanans, except for essential workers, were directed to stay at home. It was also noted that this increase in use of natural areas resulted in more people exploring spaces in their

immediate outdoors, which resulted in greater awareness of urban and community forestry systems.

Billings has a long history of having publicly owned natural areas within city limits but a relatively short history of actively managing them. The recently expanded management creates more opportunities for recreation and multiple-use efforts. Several of Billings’ natural areas are well-known as birding hot spots that attract birders from across the nation. Some are ideal for mountain biking, running, hiking, dog walking, and one was even set up as an artist’s promontory. The emerging natural areas management program has limited funding and relies primarily on volunteer help to sustain and restore natural area conditions. COVID-19 has temporarily put a damper on both,

even while proving that accessible nature is important. The natural areas program will come back with a new and improved normal, when recovery comes.

<sup>1</sup>Pregitzer et al. 2019. Untapped common ground: The care of forested natural areas in American cities. Natural Areas Conservancy. NY, NY. 46 p.  
<sup>2</sup> <https://digitalcommons.lmu.edu/cate/vol13/iss1/>  
<sup>3</sup> U.S. Department of Agriculture, Forest Service. 2018. Urban nature for human health and well-being: A research summary for communicating the health benefits of urban trees and green space. FS-1096. Washington, DC. 24 p.



**1.** View of west Billings from Phipps Park Natural Area, Billings, MT. Photo Credit: Steve McConnell. **2.** Pond and wetland area, Riverfront Park, Billings, MT. Photo Credit: Steve McConnell. **3.** Phipps Park Natural Area trail at sunset, Billings, MT. Photo Credit: Steve McConnell. **4.** Billings team at Forests and Cities event in New York City (Pictured from L to R: Steve McConnell, Billings City Forester; Megan Poulette, Rocky Mountain College; Heather Bilden, Montana Audubon Center.) Photo Credit: Sophie Plitt.





# NEBRASKA

## Nebraska Forest Service

Community forests provide a multitude of economic, ecological, and health benefits for all Nebraskans. When blighted areas in the state can be transitioned to areas with healthy & resilient forests, the public reaps the overall benefits. Over the years, the Nebraska Forest Service (NFS), along with the Nebraska Statewide Arboretum (a state non-profit), have supported many people and projects helping transform these blighted areas into a wealth of health.

Scottsbluff, Nebraska is a community of 14,700 people in the far western part of the state, with annual rainfall averages around 15 inches. Approximately eight years ago, the city planner wanted to solve several problems including stormwater pollution, heat islands, blighted parking lots, and overall downtown aesthetics. With the use of grant dollars, and in partnership with the public works department, the first bioswale was installed. For example, pavement was removed from a parking lot with the goals of reducing runoff from the paved surfaces, capturing the rainfall, and utilizing the captured rainfall to help water trees and associated planting material.

Over the years, this community has continued to revitalize parking lots—over eight in total—along with blighted roadsides. What was once a very gray

downtown is now green and full of life, hosting pollinators like bees and butterflies. Trees have served an integral part of each of these projects. More recently, the city removed pavement along the main street to allow for tree planting and improve the overall aesthetics of their downtown community.

Schuyler, Nebraska is a small community of 6,330 people in northeastern Nebraska. Thirty years ago, the original site of what is now the Jim Kluck Memorial Arboretum, was a polluted and abandoned railroad line that was turned into a beautiful green space. At that time, the community created a green space featuring trees appropriate for the area. This Nebraska community has continued their effort by recently completing a huge project,

that will improve the connectivity and accessibility of this green space. While trees were helping improve the environmental health of the area, many residents could not access the site. Now a wide, paved walking trail provides a space for all to enjoy. People from the adjacent local senior center spend time walking and gathering. These efforts will continue to live on as there is a renewed group of tree stewards committed to pruning, watering, planting, and fostering this site.



1. Jim Kluck Memorial Arboretum. 2. Scottsbluff Downtown Planting. Photo Credit: NFS.

Nebraska Forest Service  
Community Forestry and Sustainable Landscapes Program  
<https://nfs.unl.edu/>

The intent of the Carson City Chamber Leadership Institute Tree Project is to educate Carson City students, citizens, and volunteers about trees; how to select, plant, and raise them for the high desert growing and soil conditions at the Carson Tahoe Hospital Serenity Trail site, while providing an aesthetically pleasing and healthy outdoor experience. As this project matures and due to its proximity to the Carson Tahoe Cancer Center, Nevada Division of Forestry (NDF) is hopeful this will also become a healing space for cancer patients.

The Carson City Chamber Leadership Institute Tree Project planted 25 trees and hosted a related ceremony targeted for Arbor Day/Earth Day the week of April 20 through 26, 2020. However, due to COVID-19, only the work was completed in April. Irrigation was set up, planting holes were prepared, trees planted, and protective fencing was established. On July 8, 2020, a ribbon cutting was held at the Carson Tahoe Health Serenity Trail with special emphasis on the contributions that trees make aesthetically, socially, environmentally, and historically.

After volunteers planted, mulched, and caged the newly planted trees, The Greenhouse Project (located on site) staff members are monitoring and caring for

the new landscaping at the Carson Tahoe Serenity Trail, including management of the watering and monitoring of the health of the trees. The Greenhouse Project in Carson City built and now maintains a hoop house and related garden plot along and adjoining the Carson Tahoe Hospital Serenity Trail. In 2019, the Carson City Chamber of Commerce Leadership Institute led the development and installation of the first Nevada Bee USA Hotel adjoining the trail. Also, there is a Carson City maintained Foothill Trailhead that adjoins the property.

With continued technical and financial support from the NDF U&CF Program, this project will grow and provide the community and the Carson Tahoe Cancer

Center with a location for relaxation, rejuvenation, and a wealth of health.

Partners and collaborators for this project include: Carson City Chamber of Commerce, Carson City Cooperative Extension Staff, Carson City Government, Carson City Parks and Recreation Department Staff, Carson Tahoe Health, and NDF.



1. Volunteers planting trees and installing irrigation. 2. Site Map. 3. Volunteers planting trees and installing irrigation. Photo Credit: Lisa Taylor.



North Dakotans plant trees for beauty and for protection from the natural elements. The North Dakota Forest Service offers grant programs for tree planting and program development projects, guiding communities to build a forestry program that often leads to certification as a Tree City USA. Trees offer comfort and hope when people need it most.

In a state known for wide open spaces, finding solace and refuge in the canopy of trees became a premium activity for North Dakotans in the world of 2020. Individuals crave the healing absence of digital keyboards and virtual meetings. Families are retreating to backyards, parks, and campgrounds to soak in the sights and sounds of nature.

In the small community of Belfield, near the state's western border, a vacant lot was converted to a green space to honor local veterans. From families and friends to veterans themselves, Veteran's Park offers a place to pause and reflect. Trees help us heal.

While Mother Nature can offer solace, North Dakotans are also witness to her destruction. In August, the city of Northwood experienced an F-4 tornado that destroyed most of the city, including the school – an event that happened the night before the fall school season was scheduled to begin. In New Rockford,

a fierce July wind storm took down a thousand community trees, including many in the city's beloved cemetery. Devastation in both of these communities was followed one year later by tree planting celebrations of recovery and resilience. Planting trees gives us hope.

Tree City USA program participants look forward to the celebration of Arbor Day every year. In McVille, the celebration is marked with a tree planting at McVille Dam Recreation Area to pay tribute to someone who has generously contributed his or her time to the community's forestry program. The city park in Pekin grows with Memorial Trees for deceased community members. Trees help us remember.

While the Arbor Day Foundation has waived the Arbor Day requirement for 2020, the city of Dickinson distributed 2200 bur oak seedlings to students, and encouraged families to celebrate Arbor Day together. The city commemorated Arbor Day by planting a bur oak at Roosevelt

School, noting this 1907 Arbor Day quote from President Theodore Roosevelt: "A people without children would face a hopeless future; a country without trees is almost as helpless." Trees are powerful symbols of hope.



**1.** The simple act of planting a bur oak tree brings a smile to this young boy. Photo Credit: Sarah Smith Warren Photography. **2.** Once a vacant lot, the Veterans Memorial in Belfield offers a green space for reflection. Photo Credit: Beth Hill, NDFS. **3.** A storm in New Rockford destroyed hundreds of trees. Healing begins when people help one another recover from loss; replanting comes next. Photo Credit: Gerri Makay, NDFS.





Sometimes, there is a sacred or memorial aspect to trees that can contribute to community health, especially during a worldwide pandemic. To mark the 75th anniversary of the close of World War II, people in 30 communities around Oregon planted approximately 45 special Peace Trees in 2019 and 2020. The young trees were grown from the seeds of trees that miraculously survived the atom bombing of Hiroshima on August 6, 1945. Today, Oregon has one of the largest collections of Hiroshima Peace Trees of any state or nation outside Japan.

In addition to the environmental benefits tree canopy provides in cities, trees also play an important role in bringing a community together to reflect on the more meaningful aspects of life.

To mark the 75th anniversary of the close of World War II, and the bombing of Hiroshima on August 6, 1945, 30 Oregon communities have planted special Peace Trees across the state. The seedling ginkgo and Asian persimmon trees were grown from seed collected from trees that survived the atomic bombing of Hiroshima (called “Hibakujumoku” in Japanese).

One of those deeply touched by the war is Hideko Tamura-Snider. As a 10-year-old, she lost her mother in the atomic bombing of Hiroshima. Tamura-Snider is a founder of the One Sunny Day Initiative (OSDI), based in Medford, Oregon, where she now lives. Tamura-Snider secured from Green

Legacy Hiroshima seeds the group had collected from trees that had survived the atom bomb.

In the spring of 2017, Tamura-Snider gave the seeds to Oregon Community Trees (OCT) board member Michael Oxendine in Ashland to germinate. Oxendine successfully sprouted the seeds but with no facilities to care for the seedlings, he appealed to OCT and the Oregon Department of Forestry (ODF) Urban and Community Forestry Assistance program to find homes for them.

ODF arranged for the seedling trees to be cared for by Corvallis Parks and Recreation staff under the watchful eye of the department’s Jennifer Killian. ODF then offered the seedlings to the public at no cost, with priority given to Trees Cities USA and Tree Campuses USA in Oregon. The interest in these trees

has been affirming. This spring, despite the pandemic restrictions, most of the seedlings have been planted in parks, arboretums, and schools in 30 cities and towns across 16 Oregon counties, from the coast to northeast Oregon and from the Columbia Gorge to near the California border. Most communities will be waiting until the pandemic abates to hold the commemorative ceremonies these trees have inspired.

Resources:

- <https://www.oregon.gov/odf/ForestBenefits/Pages/Hiroshima-peace-trees.aspx>
- <https://storymaps.arcgis.com/stories/0825d4cb4d804adf426efac9246c4>



**1.** Hideko Tamura-Snider with Oregon Community Trees board member, Mike Oxendine (left), and ODF’s Jim Gersbach (right). Photo Credit: Southern Oregon University landscape staff. **2.** Hiroshima peace tree planting La Grande planting day May 2, 2020. Photo Credit: Teresa Gustafson, La Grande City Forester.

# SOUTH DAKOTA

## South Dakota Department of Agriculture, Division of Resource Conservation and Forestry

The South Dakota Department of Agriculture Division of Resource Conservation and Forestry (Department) provides special project funding through the Community Forestry Challenge Grant. In recent years, this grant has made it possible to add informational tree and nature signs to the Kuhnert Arboretum in Aberdeen and the Bramble Park Zoo in Watertown.

If there is anything to be learned from the recent quarantine, it is the importance of green space for the health of body and mind. In South Dakota communities, the Department's grant funds continue to add trees and special enrichment to those green spaces. It just so happens that in recent years, the Kuhnert Arboretum and the Bramble Park Zoo have utilized grant funds to add educational signs to their facilities. These places provide a place for children and adults alike to get fresh air and decompress from the stress of everyday life. The Kuhnert Arboretum also boasts an outdoor playground for kids to run off their energy. The Department realizes just how important these recreational areas are and this past spring has really put things into perspective. Without normal social outlets, many people have turned to gardening and spending their time among the trees and green space.

The informational signs range from tree identification signs to general nature information. It is truly interesting to see the informational signs incorporated with the zoo animals and their environment as well as the general information signs placed throughout the arboretum. Grant funds were awarded twice to both the Kuhnert Arboretum and the Bramble Park Zoo for signage projects. In the near future, the Department will add QR codes on the signs so that people can use their phones to easily look up information on certain trees. These small innovations get people more interested in spending time outside, and they become more aware of how their environment enriches their everyday lives.

Without normal social outlets,  
many people have turned to  
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time among the trees and  
green space.



1. Kuhnert Arboretum bee sign. Photo Credit: Aaron Kiesz. 2. Kuhnert Arboretum path during sunset. Photo Credit: Aaron Kiesz. 3. Tree Sign at the Bramble Park Zoo. Photo Caption: Dan Miller. 4. Kuhnert Arboretum nature sign. Photo Credit: Aaron Kiesz.

## Utah Division of Forestry, Fire & State Lands

In an increasingly developed and technology-laden world, elementary school students are becoming more separated from nature. An outdoor classroom allows students to work and discover in an outdoor setting that fosters curiosity about and awareness of forestry and the natural environment. This opportunity to spend time outdoors is especially important in light of COVID-19 as it's easier to practice social distancing in an open-air setting.

The Utah Division of Forestry, Fire and State Lands teamed up with Riverton Elementary School in Riverton, Utah, and awarded them a Community Forestry Partnership Grant for an outdoor classroom. The elementary school has a grove of mostly native trees and shrubs that was planted around 20 years ago. Initial work on the project consisted of establishing trails and clearings in this grove, providing access to study areas as well as locations for students and their teachers to gather for discussions. Additional tree plantings and pruning are also taking place which will upgrade and beautify the outdoor classroom area.

Another component of the project included purchasing portable bucket seats and filling them with materials such as magnifying glasses, identification field guides, trowels, scales, thermometers, and other equipment to allow students to investigate, observe, measure, and ultimately discover the natural environment.

The school is collaborating with the Utah Society of Environmental Education to develop lesson plans and incorporate ideas using Project Learning Tree to provide structure and enhance outdoor learning opportunities.

Teachers were trained on how to use the outdoor classroom at the end of August. In September, this unique grove will be teaming with curious students. Teachers, students, parents, and local businesses are all involved with the long-term maintenance and sustainability of the project. It will be thrilling to realize the impact of this project as it reaches fruition at the end of the school year.

Outdoor classrooms allow students to work and discover in a setting that fosters curiosity and awareness of forestry and the natural environment.



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1. Volunteers establishing trails. 2. Volunteers pruning trees. 3. Volunteers establishing clearings. Photo Credit: Jeran Farley.



It is estimated that local governments across the country spend an estimated \$1.7 billion each year to remove trees killed by non-native insect pests.<sup>1</sup> Climatic stressors, such as rising temperatures, drought, and shifting precipitation patterns are expected to increase both tree stress and pest vulnerabilities. Considering the many positive contributions that trees make to public health,<sup>2</sup> it is imperative that local governments be prepared to detect, report, and assist in the eradication of invasive insect pests. To this end, the Washington State Department of Natural Resources' Urban & Community Forestry Program formed a partnership with the Washington Invasive Species Council to launch the Urban Forest Pest Readiness Project (UFPRP).

The UFPRP kicked off in 2018 with funding from the USDA's Animal and Plant Health Inspection Service, Office of Plant Protection and Quarantine. This first round of funding paid for a series of stakeholder workshops to shape the development of the Urban Forest Pest Readiness Playbook,<sup>3</sup> a scorecard-like tool that allows local governments to conduct self-assessments of pest readiness. The playbook also includes actions that local jurisdictions can take to address invasive pest threats. The purpose of the playbook is to close readiness and response gaps between municipalities and state and federal pest response agencies.

In 2019, the project received additional funding from the USDA Forest Service. These funds are being used to develop a statewide geodatabase to house municipal tree inventory data, to convert existing

tree inventory datasets for entry in the statewide database, and to create a mobile application for collecting new tree inventory data. Taken together, these data will allow project collaborators to assess pest vulnerabilities at local, regional, and statewide scales.

The UFPRP was fortunate to receive a third round of funding from the USDA Forest Service in 2020. These dollars were co-awarded to the states of Washington and Oregon to support additional tree inventory data collection on both sides of the border between the two states. Once data collection is complete, additional analyses will assess pest vulnerabilities within and between the two states, further strengthening awareness of pest threats and cohesion between local, state, and federal pest response agencies.

To date, the UFPRP has been extremely well-received by local, state, and federal stakeholders, thus validating the need for such a project. The team of project partners continues to implement the work described herein and seeks new opportunities to expand the project, thereby further protecting the health of forests, trees, and people.

For more information, visit the Urban Forest Pest Readiness project website.<sup>4</sup>

<sup>1</sup> <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0024587>

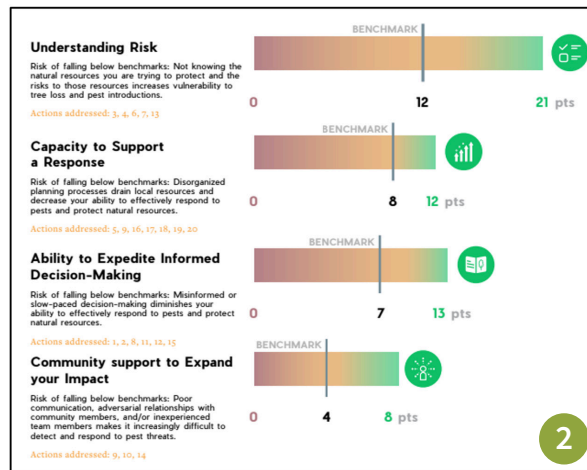
<sup>2</sup> <http://depts.washington.edu/hhwb/>

<sup>3</sup> <https://invasivespecies.wa.gov/wp-content/uploads/2020/01/UrbanForestPestReadinessPlaybook.pdf>

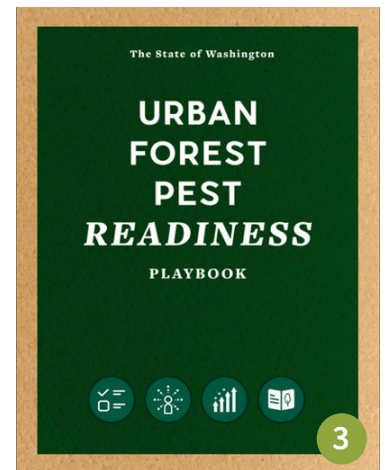
<sup>4</sup> <https://invasivespecies.wa.gov/projects/pest-ready/>



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1. An ash tree is inspected for evidence of Emerald Ash Borer, an exotic invasive insect pest. Photo Credit: Daria Gosztyla. 2. The playbook sets benchmarks to help public land managers assess invasive pest readiness. Photo Credit: WA DNR. 3. The playbook was developed through a partnership between the Washington State Department of Natural Resources and the Washington Invasive Species Council. Photo Credit: WA DNR.

## Wyoming State Forestry Division

Each year, Wyoming State Forestry Division's (WSFD) Community Forestry program offers the Community Forestry Partnership Cost-Share Grants program for tree planting and/or program development. This year, eleven tree planting grants were awarded. In spite of the world-wide novel coronavirus (COVID-19), many of these tree planting projects were successfully completed, offering Wyoming communities the health benefits of trees in their communities and beyond.

A healthy forest is dependent on the diversity of the canopy; diversity in the form of species richness, size class, and age. Many of Wyoming's community forests consist primarily of over-mature cottonwoods, spruce, and ash trees. More now than ever, planting trees offers a wealth of health all around.

During a Wyoming Community Tree Managers Focus Group meeting, attendees were polled and results showed that most municipal forestry employees were deemed essential and therefore remained employed throughout the COVID-19 pandemic. WSFD's Community Forestry Partnership Cost-Share Grants awarded funds for tree planting projects to 11 communities and tree planting non-profits. Despite restrictions, budget cuts, and staff reductions, at least two of these tree planting projects will not

be completed this year but will have the opportunity to apply for funding again in the future. Most of the tree planting projects have been or will be successfully completed by the end of the summer 2020, with over 600 new trees in the ground. Planting that many trees takes time and effort.

Utilizing volunteers is an important component of WSFD tree planting grant projects. While some projects were delayed indefinitely due to the pandemic, others were able to adapt to allow for safety and social distancing. Through volunteerism, participants gain health benefits by participating, investing time and effort in community and civic enhancement, connecting with nature, building social relationships, and engaging in physical activity. All of these elements build a community

foundation, sense of accomplishment, empowerment, and stimulate mental and physical health and wellness.

Through the power house of volunteer work, the continued support and capacity building of tree planting programs and non-profits, and promotion of tree diversity and species richness, WSFD continues the upward trend of increasing healthy, resilient, sustainable, urban and community forest canopy cover in Wyoming, and offering a wealth of health for the whole world.

**WSFD's Community Forestry Partnership Cost-Share Grants awarded funds to 11 communities and tree planting non-profits.**



**1.** Buffalo's Clear Creek Middle School 8th grade class selected 12 trees that will do well in their school's climate and soil conditions. The school's Beautification Team and Clear Creek Conservation District was awarded a WSFD Community Forestry Partnership Cost-share tree planting grant to purchase trees for this project. Photo Credit: Jen Skaggs. **2.** City of Green River tree planting project funded in part by a Community Forestry Partnership Cost-Share Grant. Photo Credit: Steve Core. **3.** Local Scout Troop 26 volunteering for City of Powell's Homesteader Roots spring tree planting event. Photo Credit: Mark Davis.

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