CWSF
COUNCIL OF WESTERN STATE FORESTERS

forestry in all shapes & sizes

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Front Cover Photo Credits: Sacramento Tree Foundation, Town of Carrizozo, Tim McDonnell, © Ken Graham Photography.com, Nebraska Statewide Arboretum, and Heather McMillen.

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FOR MORE INFORMATION

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OVERVIEW

An Introduction to this Publication

The Council of Western State Foresters (CWSF) is a nonpartisan, nonprofit membership organization comprised of state, territorial, and commonwealth foresters whose role is to protect, conserve, and enhance western and Pacific Island forests. CWSF's membership is comprised of 17 western U.S. State Foresters and six U.S.-Affiliated Pacific Island foresters. Unlike other organizations focused on just one aspect of forestry, CWSF takes a broad and comprehensive approach to forest management and provides expertise on the many complex and interrelated factors at play in western forestry.

An important 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 our needs today and for generations to come.

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 meets regularly to discuss U&CF issues of importance.

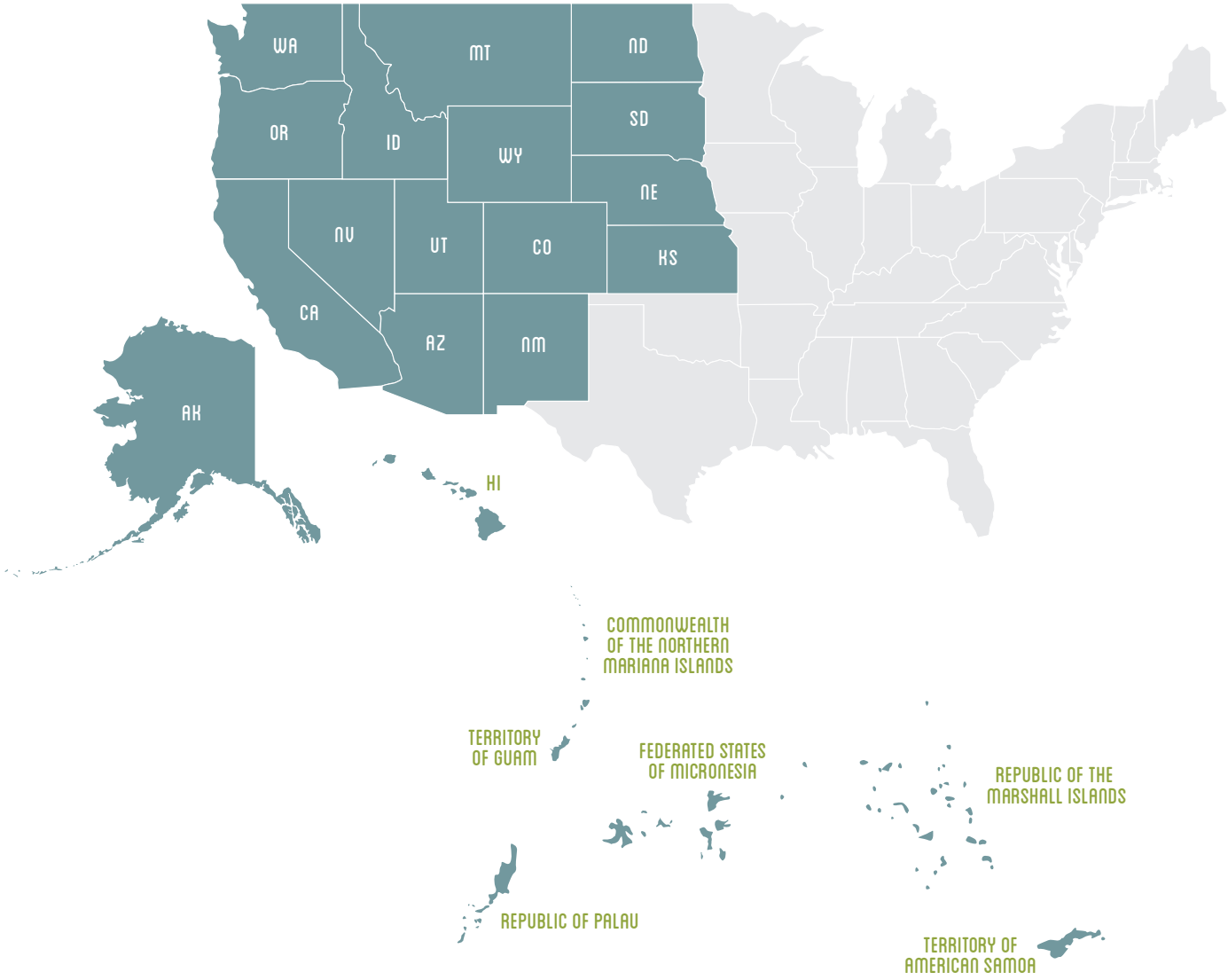
The 2019 Western U&CF meeting included reports from attendees on projects in their respective states focused on "forestry in all shapes and sizes."

This publication highlights the many different types of forests present in the West and the different scales that western states operate on. Throughout the publication, the stories will help to call attention to the diverse challenges and opportunities across the western states.

These examples were provided by state forestry representatives in 2019.

AT-A-GLANCE

CWSF Membership Breakdown



ALASKA

Alaska Department of Natural Resources, Division of Forestry

In August 2018, the Alaska Department of Natural Resources Division of Forestry (DOF) received an invitation from the Municipality of Anchorage and the University of Alaska to participate in the development of the Anchorage Climate Action Plan (CAP). DOF program staff provided technical assistance to the CAP team in the fall of 2018 as part of the Urban Forest and Watersheds working group. Staff input helped develop overall objectives, numerous action items, and potential project partners for the protection and enhancement of Anchorage's urban forests and watersheds. Some of the recommended actions included hiring a municipal forester through the Anchorage Fire Department, developing an urban forest management plan, regular updates to the Anchorage tree canopy cover, and conducting a priority planting analysis. The Anchorage Climate Action Plan[1] was adopted by the Municipal Assembly on May 21, 2019.

Anchorage's forestlands, waterways, wetlands, and soils are important tools for mitigating the impacts of climate change. These natural assets sequester carbon, improve air quality, provide clean water, and regulate temperatures.

Forests and watersheds provide benefits to residents and visitors of Anchorage, as well as important habitat for Alaska's fish and wildlife. Anchorage is comprised of multiple diverse watersheds that span the land-use gradient from urban to natural.

Anchorage is a winter city where ice skating at Westchester Lagoon is a popular recreational activity for all ages. *Photo Credit: Johanna Grasso*

The urban forest in Anchorage supports diverse wildlife habitat. These three moose are at Fairview Lions Park, just blocks from downtown. *Photo Credit: Johanna Grasso*

Trees in yards, parks, and shared right of ways make up the urban forest. Trees provide clean air, shade, protection from the elements, habitat, food, and peace of mind. Urban forests and contact with nature have documented benefits to mental health and well-being.

However, the urban forest, and the benefits that come along with a healthy tree canopy, are not evenly distributed throughout Anchorage. Many neighborhoods in Anchorage along the highway corridor have substantially fewer trees and, as a result, do not benefit from the ecosystem services offered by urban forests such as cooling, beautification, increased property values, privacy, wildlife habitat, and sense of place.

Anchorage watersheds support year-round recreation including running, walking, biking, cross-country skiing, wildlife viewing, and fishing. Many of Anchorage's 250 miles of trails run through these watersheds, connecting neighborhoods, parks, and open spaces. Several Anchorage watersheds support urban salmon runs, a unique feature that benefits residents and attracts visitors.

Many changes to the urban forests and watersheds have already been observed in Anchorage. These changes often have ripple effects throughout the ecosystem with consequences for many species. For example, as the treeline in Anchorage moves up in elevation, it will begin to replace alpine tundra. As this happens, less light is reflected from snow cover and more heat is absorbed, creating a feedback loop that facilitates rapid snowmelt and exacerbates issues associated with changing runoff.

Higher temperatures also contribute to increased wildfire risk. Additionally, changes in climate make forests and waterways more hospitable to invasive species. Invasive species have the potential to compete with and displace native species and impact habitat for wildlife and fish.

View of the University of Alaska Anchorage (UAA) and the Chugach Mountains. UAA is celebrating 11 years as a Tree Campus USA. *Photo Credit: © Ken Graham Photography.com*

1 http://www.muni.org/Departments/Mayor/AWARE/ResilientAnchorage/Documents/2019%20Anchorage%20Climate%20Action%20Plan_ADOPTED.pdf

FOR MORE INFORMATION

Alaska Department of Natural Resources, Division of Forestry
Community Forestry Program
http://forestry.alaska.gov/community

ARIZONA

Arizona Department of Forestry and Fire Management

The Arizona Department of Forestry and Fire Management (DFFM) Urban and Community Forestry (U&CF) and Forest Health programs work in many different forest types on a multitude of topics and at a variety of scales. DFFM participates in Aerial Detection Surveys to assess the condition on millions of acres of forest each year as well as conduct insect trapping on individual trees in municipal parks to monitor known pest populations and get in front of new ones. DFFM provides education, outreach, and technical assistance to homeowners, large and small cities, and at large conferences. The DFFM grant programs provide financial assistance for projects ranging from tree plantings in small towns to landscape restoration and invasive species removal. The resources, programs, and people of DFFM impact forestry in Arizona at almost every level: healthcare, education, equity, management, public awareness, planning, and long-term forest resilience.

To raise public awareness about trees and forests, DFFM has several outreach, education, and technical assistance programs. One example is the Magnificent Trees Program that recognizes outstanding examples of tree species throughout Arizona. The public is invited to nominate trees in different categories: Champion Trees, Witness Trees, and Heritage Trees. To be a Champion, a tree has to measure as the largest of its species on record. Witness Trees are those that are proven to have been in their same location since before Arizona Statehood while Heritage Trees are celebrated for their cultural significance. The Magnificent Trees program serves to connect the public to the amazing trees in Arizona. In 2018, this program was expanded to include a Tree Registry and a conservation education activity for youth.

DFFM also offers several grants[1] including Community Challenge Grants, Tree Resource Enhancement and Engagement (T.R.E.E.) grants, and Western Bark Beetle Initiative grants. These grants support projects ranging from tree plantings of all sizes to landscape restoration to educational programs and trainings. In 2018, one of the Community Challenge grantees was awarded the Crescordia Award for Environmental Excellence for designing and implementing a desert food forest. The project introduced residents and visitors to the Sonoran Desert's array of over 100 water-wise edible plants and showed them how those plants, with their alternating fruiting seasons, can produce year-round food for both people and wildlife.

DFFM Forest Health programs work with partners to detect, monitor, and respond to insects and diseases that threaten Arizona forests. In addition to flying millions of acres every year to collect data on forest condition, DFFM performs trapping to get in front of emerging threats. For example, the Mediterranean Pine Engraver (MPE), which is native to Eurasia from Spain to China, was first identified in North America near Fresno, California in 2004. In May 2018, DFFM began monitoring traps in Phoenix for this threat. In the first year, traps were set at five locations and got over 300 individuals at one site alone. In 2019, trapping efforts were expanded to 16 locations. In one month of trapping, over 2,500 individuals were detected across most of the sites. Another example is the emergence of an Aleppo Pine Blight, which was first brought to DFFM attention in January 2018. Samples taken for fungal analysis by DFFM and USDA Forest Service identified a common pine feeding mite as a possible cause. Blighted trees have shown to re-flush new needles each spring. Research and analysis will continue.

Blighted Pine. *Photo Credit: Steve McKelvey, DFFM*

Working with schools to inspire the next generation of tree stewards. *Photo Credit: Cori Dolan, DFFM*

DFFM also takes an active role in emerging national programs, such as the Arbor Day Foundation's Tree Campus USA K-12 Program.[2] Working with schools in AZ, DFFM provides valuable information to the Arbor Day Foundation on their new national recognition program. Tree Campus K–12 inspires the next generation of tree stewards through experiences that bring the benefits of trees to life both inside and outside the classroom.

Finally, DFFM continues to provide resources and support to municipalities, homeowner associations, schools, and other groups that see the value in proper tree care. A recent example includes the Shade Tree Planting Prioritization Map[3] which strategically assesses Arizona's urban forest communities to inform planning and identify Arizona's underserved cities and communities based on state-wide, best available, and relevant socio-economic and environmental data. This map has been used by the city of Phoenix to identify a low-income, low-canopy area and implement tree plantings. DFFM also hopes to partner with private companies and organizations like the Arbor Day Foundation to use the map to plant trees where they are needed most.

1 https://dffm.az.gov/grants
2 https://www.arborday.org/programs/tree-campus-k-12/
3 https://dffm.az.gov/2017-shade-tree-planting-prioritization

FOR MORE INFORMATION

Arizona Department of Forestry and Fire Management
Urban and Community Forestry: https://dffm.az.gov/forestry-community-forestry/urban-community-forestry
Forest Health: https://dffm.az.gov/forestry-community-forestry/forest-health

CALIFORNIA

California Department of Forestry and Fire Protection

California Department of Forestry and Fire Protection (CAL FIRE) Urban and Community Forestry is tasked in state law (Urban Forestry Act of 1978) with developing better ways to utilize urban forest resources. The best use is urban wood utilization, which also meets the state's goals of greenhouse gas (GHG) reduction and diversion of green waste from landfills. The Urban Wood Rescue Program at Sacramento Tree Foundation[1] serves communities throughout the metropolitan region. The Cutting Edge phase of this program targets underserved communities for participation in job training and internships. Targeting will begin within neighborhoods close to the yard identified as the most disadvantaged. Through partnership with at-risk youth training organization Green Tech Education & Employment[2], the program will identify and train people throughout Sacramento, while better utilizing trees that are removed in the region, keeping them out of landfills, and reducing greenhouse gas emissions by 3,478 metric tonnes. The new Urban Wood Rescue yard at The Depot Park in Sacramento sits within a disadvantaged community (86%)[3].

Sacramento Tree Foundation workers moving cants at the Urban Wood Rescue Yard. *Photo Credit: Sacramento Tree Foundation*

Considered the "City of Trees," Sacramento has a rich history of planting, caring for, and celebrating the community's tree canopy. The City has benefited from growing one of the best urban forests in the world and has received environmental, economic, health, and psychosocial community benefits. However, until recently, the dead and diseased trees, which have given so much to the community throughout their lives, were simply tossed away. In fact, the vast majority of public and private trees removed in the urban area were discarded in landfills, with small percentages converted to mulch, fireplace wood, or utilized as biofuel for cogeneration power plants. These sub-optimal practices eroded each tree's lifetime positive impact by releasing GHG back into the atmosphere. Urban wood recovery in the greater Sacramento region was an issue seemingly without a solution.

After spending more than 35 years contributing to the City's efforts to grow the best regional urban forest in the nation, the Sacramento Tree Foundation recognized that maximizing a tree's benefits after its natural life ended was the missing piece in optimizing the benefits and services of the urban forest. Through a $498,303.30 grant received from CAL FIRE's 2015 Greenhouse Gas Reduction Funding, Urban Wood Rescue was born. Initial grant funds were spent out by December 2018. The goals of this fledgling program are to: 1) reduce the urban wood waste stream and the resulting carbon emissions by diverting select logs to a milling and drying operation; 2) transform the waste stream into usable products, unique works of art, and basic lumber; and 3) develop a sustainable business model to grow and continue this program long into the future.

With additional 2018 grant funding of $730,131.60, implementation of this phase will result in a GHG net benefit increase of 3478 MT CO2e, specifically through a new initiative called the Carbon Partners Program. The Carbon Partners component of the Urban Wood Rescue's Cutting Edge phase will increase the program's ability to store and sequester carbon by growing the expertise of and collaboration between urban wood recovery entrepreneurs. This will increase the number of partners participating in urban wood recovery/reuse and carbon tracking, garner more public interest and involvement in reusing and purchasing urban wood products through job training and internship opportunities, and give rise to a tree replacement and maintenance program for removed trees. Anticipated outcomes for the Cutting Edge phase of the program include 2,000 logs processed by partners (in addition to 5,000 logs processed in-house), which is based on real-world information gathered over the past six months from local operators. (*Please note that the business as usual GHG net benefit from wood processing is not included in this application since that would be redundant. The tree planting GHG benefit is included.*)

Log displayed at Urban Wood Rescue Yard in south Sacramento, CA. *Photo Credit: Sacramento Tree Foundation*

The project has real time tracking of logs received and processed and is recorded using SmartSheet. This data is also collected for accounting purposes (in-kind donation receipts as well as for cost basis analysis). iTree Planting will be used to report GHG benefits, which will be extended through the replacement of the removed trees (333 trees will be replanted). Tree species and location assumptions for tree planting is based on Sacramento Tree Foundation's 35 years of experience in urban tree planting campaigns. GPS coordinates and other growth information will be recorded for each tree and compiled in the Sacramento Tree Foundation GIS system. The trees will be monitored for health and growth rate during the three-year establishment period, and reports will be produced annually. The project uses both the urban wood utilization GHG methodology and the tree planting GHG methodology of the California Air Resources Board to achieve the expected GHG emissions reductions. It is believed that after the current grant funding, the program will be self-sustaining.

1 https://www.urbanwoodrescue.com/
2 www.greentechedu.org
3 https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30

FOR MORE INFORMATION

California Department of Forestry and Fire Protection (CAL FIRE)
Urban and Community Forestry Program
https://www.fire.ca.gov/programs/resource-management/resource-protection-improvement/urban-community-forestry/

COLORADO

Colorado State Forest Service

The Institute for Environmental Services (IES), a Denver based nonprofit founded in 2004, has been working with the Colorado State Forest Service (CSFS), Colorado Tree Coalition (CTC), and the city of Wheat Ridge Parks and Recreation Department since 2013. Utilizing the CTC grant program with funding help from the USDA Forest Service, IES and its partners have planted and maintained hundreds of trees and shrubs and invested over 2,000 volunteer hours in the Wheat Ridge Greenbelt (Greenbelt) open space. The success of this multi-year effort is grounded in the science and educational vision of IES urban forestry projects. Working with Kullerstrand Elementary School, students in grades K-6 with learning challenges attend classroom workshops and planting days each spring. Students learn about the benefits of trees, how to properly plant trees, and how to work safely with hand tools. They tackle nature journals, plant life cycle, mapping, and other ecology topics. During the planting days, the students take charge in planting native trees and shrubs to restore the Greenbelt ecology. They learn about the ecology of the Greenbelt and the health and environmental benefits provided by trees.

By planting native trees, shrubs, and perennial plants, IES projects address environmental improvements in the Wheat Ridge Greenbelt, an important urban greenway used daily for transportation and recreation, that support a healthy riparian ecosystem. The trees help stabilize soils, reduce erosion, and reduce stormwater runoff to Clear Creek, which improves water quality. The increased canopy cover reduces the impact of the urban heat island effect by increasing shade. The Greenbelt trail improvements encourage more outdoor use by the Wheat Ridge and surrounding community and provide a space for children to explore nature.

The IES environmental education program provides an opportunity for local students to learn about the benefits of trees to their health while engaging in much needed outdoor activity. IES creates ecological workshops that focus on the importance of environmental stewardship, the benefits of trees for community health, and how working outdoors can be fun and beneficial. This program helps emotionally disadvantaged students to develop social skills with their peers through tree planting. For the Summer Sun day campers, the Tree Ambassadors program focuses on tree growth and the benefits of trees to local wildlife and to the community. The Tree Ambassador program provides a regular opportunity for campers to work outside and improve their local community. Both components of the project teach local students about the benefits of outdoor recreation, community service, and nature in their communities. Comments from Kullerstrand Elementary School student participants demonstrate the project's real impact.

IES Wheat Ridge Kullerstrand students and Tree Steward. *Photo Credit: Carol Lyons*

IES Wheat Ridge Summer Sun Camp Tree Ambassadors. *Photo Credit: Carol Lyons*

"Planting trees is very important because it helps us breathe." - Josiah
"I like planting and I just want to help our community." - Shaun
"I like the plants they look pretty and green, and I feel like they keep me safe." - Jaiden

The IES Wheat Ridge partnership supports the Wheat Ridge Parks and Recreation program to provide substantive opportunities in the community for recreation and outdoor access. Through the IES projects, an estimated 60 local children work outdoors every year to improve their local parks and open space. Twenty local adult volunteer Tree Stewards help water, weed, and care for the new plants as they establish and begin growing at the sites. The Stewards' and students' investment in improving the Greenbelt provides an incentive to visit the open space to showcase their hard work to friends and family. These opportunities give participants a sense of ownership of their local parks and a stake in their continued protection and improvement.

IES Wheat Ridge student planting day. *Photo Credit: Carol Lyons*

IES Wheat Ridge Greenbelt Kullerstrand students nature walk. *Photo Credit: Carol Lyons*

FOR MORE INFORMATION

Colorado State Forest Service
Urban and Community Forestry
https://csfs.colostate.edu/forest-management/community-urban-forestry
Institute for Environmental Solutions, The Tree Project, www.i4es.org

HAWAIʻI

Hawaiʻi Department of Land and Natural Resources, Division of Forestry and Wildlife

Hawaiʻi has 48 different forests and woodland types.[1] These are home to more than 10,000 native species, 90% of which are found no where else. Of these, Hawaiʻi dryland forests are among the most endangered ecosystems in the world with only about 5% remaining today. Kaulunani, the Hawaiʻi Urban & Community Forestry Program, supports a range of forest types and community projects. This story features a number of dryland forests and community-based restoration on Hawaiʻi Island.

More than 25% of endangered plant species[2] in Hawaiʻi are found in dryland forests.[3] So while these system are incredibly valuable, they are not necessarily well recognized. Hawaiʻi's dryland forests are like islands in a sea of non-native and invaded forests, pasture, and lava fields, a Hawaiian concept known as kīpuka---variation or change of form, especially an oasis within a lava bed where they may be vegetation.

Dr. Richard Stevens, project leader and Humanities Lecturer at the Pālamanui campus, regales the Council with stories about the ancient Wiliwili trees. *Photo Credit: Heather McMillen*

Kaulunani, the Urban & Community Forestry Program of Hawaiʻi, has been supporting community efforts to heighten awareness, appreciation, and aloha (love, compassion) for dryland forests. Program funding supports the Waikoloa Dryland Forest and their Wiliwili Festival, which focuses on an iconic native Erythryina (*Erythrina sandwicensis*). Wiliwili means to repeatedly twist, much like the tree's bark and seed pods that twist to show the tree's stunning red seeds.

Wiliwili populations declined greatly due to a gall wasp, but since the introduction of a biocontrol agent and the dedicated efforts of staff and volunteers, there is growth again. At the Hawaiʻi Community College Pālamanui campus, Kaulunani supports the outplanting and restoration of a dryland forest. Pālamanui, is a placename that refers to a great, sacred enclosure made from lama (*Diospyros sandwichensis*), a tree that is associated with protection and healing. These trees have great mana (spiritual power) as well as ecological function and are seen as both cultural and ecological keystone species.

Another dryland forest restoration site supported by the program is upslope from the Veterans' Cemetery in Kona where alaheʻe (*Psydrax odoratum*), is a dominant species. When translated, alaheʻe actually refers to the plant's slippery or wandering fragrance, which the Kaulunani Advisory Council, experienced fully as they toured the restoration site.

The Council also joined intermediate school students from Oʻahu in outplanting dryland forest species at Puʻu Waʻawaʻa Forest Reserve in North Kona.

Alaheʻe (*Psydrax odoratum*) filling the dryland forest with its fragrance. *Photo Credit: Heather McMillen*

Students outplant dryforest seedlings with the Council in Puʻu Waʻawaʻ Forest Reserve. *Photo Credit: Heather McMillen*

All of these efforts raise community awareness as well as health among forest remnants with the goal of connecting these forests so they are no longer kīpuka but corridors of dryland forest spreading out across the landscape.

1 https://www.nature.org/media/hawaii/the-last-stand-hawaiian-forest.pdf
2 https://dlnr.hawaii.gov/dofaw/rules/endangered-plants/
3 http://www.drylandforest.org/

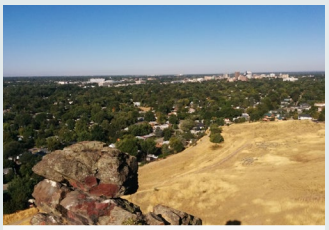
FOR MORE INFORMATION

Hawaiʻi Department of Land and Natural Resources, Division of Forestry and Wildlife
Kaulunani Urban & Community Forestry Program
http://dlnr.hawaii.gov/forestry/lap/kaulunani/

IDAHO

Idaho Department of Lands

The state of Idaho is a wildly diverse state, both in geography and climate. There are vast tracts of forested land, high mountain desert, and agricultural land. Idaho has 21.5 million acres or 85,557 square miles of forested land, 10th in the nation. There are 202 incorporated cities in the State. The largest Tree City USA is Boise (41 years), whose population is 227,000. The smallest Tree City is Samaria (13 years) with a population of just 182. Idaho's highest city, Stanley, sits at 6,253 feet in elevation and enjoys 66 non-consecutive, frost free days. The lowest city, Lewiston, boasts Idaho's only seaport.



Boise's canopy, the City of Trees. *Photo Credit: Brian Jorgensen*

Varied Idaho landscapes and ecological settings provide diverse urban forest programs and tree species. Cities in northern Idaho have an abundance of native firs and pines within the urban canopy. Foresters in Coeur d'Alene and Post Falls maintain native conifers and encourage the planting of an array of deciduous species to harden the canopy against the possibility of emerald ash borer (EAB) and other pests.

Cities in southern Idaho, such as Boise and Twin Falls, are located within the Northern Great Basin and their urban canopies are dominated by non-native deciduous trees such as elm, maple, and ash. Like many communities in the Intermountain West, Colorado blue spruce is a popular choice for homeowners in southern Idaho. Cities and municipalities in central Idaho, such as Moscow and Lewiston, focus on planting trees that thrive within the Palouse region.

Boise Tree Steward volunteers. *Photo Credit: Debbie Cook, Boise Community Forestry*

Due to the diversity in Idaho, and the different levels of urban and community forestry (UCF) programs, distinct tactics of program implementation are required to achieve desired program outcomes. The process used to achieve program outcomes in individual communities requires a tailored approach that is sensitive to the needs of the community. Many communities have established community forestry programs, while others are just beginning. Informed community forestry resource managers recognize the benefits of trees and canopy as functional infrastructure and the need to maintain this resource to maximize long-term value. The Idaho Community Forestry program's assistance efforts emphasize strategic capacity building, inventories, planning, planting, maintenance, and funding to address critical issues-air and water quality, stormwater management, energy conservation, recreation, community forest health, and more.

Treasure Valley in southwestern Idaho contains much of the state's urban population, about 650,000 people. Issues in the Treasure Valley include heat island effect mitigation, water conservation, and tree canopy increase. Idaho's UCF program assisted in the establishment of the Treasure Valley Canopy Network. This network is comprised of public and private sector professionals who recognize and work to enhance the value that an urban forest provides.

Boise, the largest city in the Treasure Valley, offers programs intended to provide quality living space and attractive business districts. Known as the "City of Trees," Boise has established "Tree Walks," a series of self-guided walks for citizens to learn about the trees in Boise's parks. "ReLeaf Boise" and "NeighborWoods" are annual planting programs where volunteers help plant trees on public right of ways and front yards near streets. The planting of trees in these programs happens every April. The number of 1 ¼" caliper trees available is limited but there is no charge. Tree-lined streets contribute to property values and the quality of life in Boise.

Volunteers planting trees in Samaria, Idaho, population 182. *Photo Credit: Karalee Waldron*

In Samaria, programs are in place to increase tree diversity and canopy cover. A partnership has been established with Nucor, a large steel mill near the town. Nucor has planted 32 trees this year, with the help of volunteers. This gives Nucor Carbon Credits and helps a small community with a limited budget improve their park and streets.

Volunteers are key to the establishment of a successful UCF program. They serve on Tree Boards, work to plan and implement projects, prune and maintain trees in parks, plan Arbor Day celebrations, and influence elected officials to fund and support tree programs. Whether in the smallest or largest city, or any in between, people willing to serve the communities in which they live make the community livable.

FOR MORE INFORMATION

Idaho Department of Lands
Idaho Community Forestry Program
https://www.idl.idaho.gov/forestry/community-forestry/

KANSAS

Kansas Forest Service

The Kansas Community Forestry Program provides technical assistance to both the large metropolitan areas with full time staff as well as the small rural communities which do not typically have dedicated full time staff. Programs predominantly utilize the USDA Forest Service (Forest Service) Landscape Scale Restoration (LSR) grants for the larger metro areas and utilize Kansas Forest Service (KFS) base Forest Service funding to offer support and educational services to the smaller rural communities. Kansas currently has 25 first class cities, 98 second class cities, and 503 third class cities with a total population of 2.9 million people. Kansas is currently home to 96 Tree City USA communities, with populations ranging from Wichita with 365,000 to Formoso with 110.

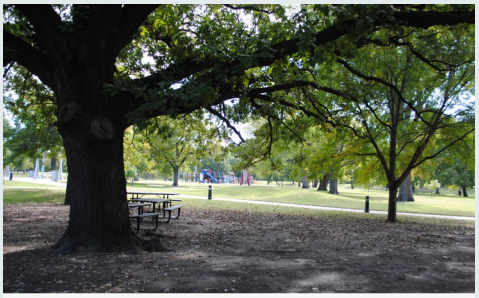
While most of the larger communities in Kansas do possess full time professional forestry staff and do not typically require direct technical support from the state, KFS does provide large scale projects to assist in management decisions of urban tree resources. Through the LSR grant system, the KFS Community Forestry Program has provided large scale assessment projects in Kansas metro areas and priority landscapes. These major assessments include: 1) Assessing Urban Forest Effects and Values of the Greater Kansas City Region, 2) Assessing Urban Forest Effects and Values for Douglas County, Kansas, 3) An Urban Canopy Study of Wichita, Kansas (the largest city in KS). All the assessments provided both baseline data and the economic values of the current tree canopy resources.

A look from City Hall, Wichita, KS. *Photo Credit: Tim McDonnell*

For the smaller Kansas communities with no full-time forestry staff, KFS provides the professional technical and educational services which they may not otherwise have access to. In 2018, a bulk of 219 technical assists were to smaller communities. These assists included: tree inventories, management plans, hazard tree assessments, storm recovery assessments, current and future pest assessments, and assisting developing communities to become managing communities.

KFS also provided 50 workshops, trainings, and public speaking events to both metro and small communities. A popular education/training event is the KFS Statewide Trainings, which are going to be re-implemented in 2019. The KFS Statewide Trainings have been on hiatus since the discovery of emerald ash borer (EAB) in Kansas, as many trainings have been around this topic. The Statewide Trainings are popular due to the timely subject matter. KFS typically hosts these across the state's six Community Forestry districts in six to eight sites to allow for easy access and be cognizant of declining travel budgets. The trainings are taught by KFS staff and utilize the expertise and locations of the K-State Research and Extension (KSRE) county agents and specialists. KFS hosts both spring and fall trainings, and the 2019 training will highlight tree defects and risk management.

Downtown Wichita, KS. *Photo Credit: Tim McDonnell*



Riverside park, Wichita, KS. *Photo Credit: Tim McDonnell*

Every fall KFS partners with the Kansas Arborists Association in the Arborist Training Course, which is required in order to become a Kansas Certified Arborist. This course is a weeklong training with both classroom, outdoor demonstrations, and climbing activities. 40 individuals are trained per year, usually a 50/50 mix of private commercial and municipal arborists. The municipal portion allows the expansion of the professional staff in many Kansas communities, both large and small.

FOR MORE INFORMATION

Kansas Forest Service
Community Forestry Program
http://www.kansasforests.org/community_forestry

MONTANA

Montana Department of Natural Resources & Conservation

Montanans live in a vast area of natural beauty ranging from mountainous communities to open prairie towns. The fourth largest state, with over 147,000 square miles, the land spans across four different climate zones. The smallest Tree City USA has a population of 125 and the largest has 110,323. These factors shape Montana's urban and community forests in many ways. Communities throughout the state view forestry based on these unique environmental, cultural, and social factors. One such Montana community shaped by all these factors is Butte, Montana.

Butte, Montana has a very rich history as a mining town located in the Rocky Mountains, right at the Continental Divide. In its heyday, it was the largest city between Chicago and San Francisco.[1] Now with a population of approximately 33,500, it is the fifth largest city in the state. Butte has the nation's largest superfund site in the upper Clark Fork River, as well as Berkeley Pit, an open mine area filled with acidic water which has become a tourist attraction. Tree planting conditions are tricky with contaminated soils and some of the coldest year-round temperatures on record in the state.

The town is full of energetic and passionate people that carry pride for its resilience and ability to adapt. The Urban Forest Board of Butte-Silver Bow is no different. The Board has made huge strides in recent years toward beautification and urban forest restoration. Some of these accomplishments include:

Adding an arborist position. In 2018, the Council of Commissioners approved funds for a long-needed arborist position. This is the first position of its kind for the community. The Board worked diligently to gain support from their elected officials over the course of two years to bring this position into reality. Having a local arborist familiar with the local climate and conditions will greatly increase the vitality and health of the urban forest.

Green space transformations in uptown area. Butte's geography is indeed unique. The historic district resides on a steep slope of the hill where the mines are located. Hundreds of tunnels run under the streets and homes, sometimes creating sinkholes. Butte is home to one of the nation's largest National Historic Landmark Districts with more than 4,000 historic structures scattered across the hill.[2] The community is restoring and transforming abandoned lots and other properties into green space, some of it funded with Department of Natural Resources and Conservation (DNRC) grant dollars (through USDA Forest Service State & Private Forestry).

City-county staff and urban forest board volunteers work together to plant trees for Arbor Day, across from the county courthouse. *Photo Credit: Charlie O'Leary, Butte Urban Forest Board*

A local pilot project, planners planted hundreds of trees in an open space to utilize in remediation efforts. Note the mine shaft in the back right of the photograph. DNRC funded similar, smaller scale projects in the residential and business areas of the town to transform the area into functional greenspace. *Photo Credit: Jamie Kirby, DNRC*

DNRC employee takes measurements while training a seasonal employee on collecting tree data for the new inventory. *Photo Credit: Jamie Kirby, DNRC*

Updating an urban forest inventory. The new arborist and supporting staff recognize the need to have current and accurate data. In 2019, The Mining City successfully received grant funds through DNRC's Urban & Community Forestry (UCF) program to revive their public tree inventory. Last recorded in 2012, the inventory revealed an overabundance of chokecherry, green ash, and crabapple species – totaling 46% of the urban forest altogether.[3] This new inventory will hopefully reflect some shift in composition as the city strives for a more diverse and resilient urban forest.

1 https://en.wikipedia.org/wiki/Butte,_Montana#cite_note-24
2 http://www.mainstreetbutte.org/
3 Factsheet of Butte-Silver Bow's 2012 tree inventory: http://dnrc.mt.gov/divisions/forestry/docs/assistance/urban/docs-urban-fact-sheets/montana-fact-sheet-butte-silver-bow.pdf

FOR MORE INFORMATION

Montana Department of Natural Resources and Conservation
Urban & Community Forestry Program
http://dnrc.mt.gov/divisions/forestry/forestry-assistance/urban-and-community-forestry

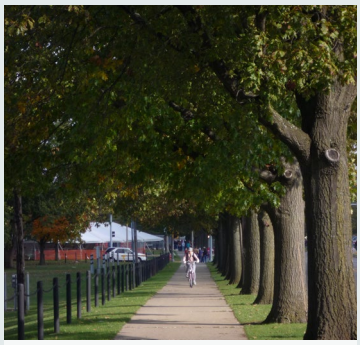
NEBRASKA

Nebraska Forest Service

Community forestry in Nebraska is "everything green and growing" and covers the gamut from public tree planting, to the creation of bioswales for stormwater management, to the establishment of native and resilient landscapes for pollinator support and beautification. In coordination with many statewide and locally based civic organizations, the majority of Nebraska Forest Service (NFS) program investment and support goes to rural communities with populations less than 5,000 due to their very limited financial and technical resources and their reliance on volunteer support.

Nebraska has a total land area of 49 million acres and is located in the heart of the Great Plains. The state has a population of approximately 1.9 million with 75 percent of the population living in the eastern third of the state. Two-thirds of the population lives within 32 communities that have populations greater than 5,000 people. The remaining 500 communities have populations of less than 5,000 people, making rural community forestry of critical importance across Nebraska's rural landscape.

In Nebraska, community forestry is defined as the interface of people living within and managing private and public landscapes. Community forestry involves the planning, establishment, management, and protection of trees and all associated plants for social, environmental, and economic sustainability. While trees are a cornerstone of the forest, NFS also views "everything green and growing" as components of the resource in developing and managing resilient landscapes.



Community forestry in Nebraska's three metro areas is directly supported by city staff with technical support from NFS. *Photo Credit: NFS*

In Nebraska, there are about 470,000 acres of community forest, the vast majority of which is planted rather than naturally occurring. This resource serves a continuum of population, ranging from the three communities defined as metro areas with populations over 50,000 to the 529 remaining communities—the vast majority of which (500) have populations under 5,000. These population demographics, from metro to rural communities, drive how NFS provides technical, educational, and resource support.

In collaboration with the Nebraska Statewide Arboretum, pollinator gardens, rain gardens, bioswales, and community arboretums play a key role in creating and demonstrating resilient landscapes across the state. *Photo Credit: Nebraska Statewide Arboretum*

In metro areas such as Omaha, NFS relies heavily on green industry partners, such as the Nebraska Arborists Association, to promote and deliver coordinated programming. A recent example is the partnership between NFS and Keep Omaha Beautiful, with the goal to proactively replace tree canopy with an aggressive planting program in advance of emerald ash borer (EAB). Keep Omaha Beautiful secured $500K-$750K for the purchase and 3-year maintenance of planting stock. NFS in turn developed very specific nursery standards to limit the planting to high quality root systems and developed a species matrix based on ROW planting area. NFS also selected the trees from nurseries, trained the planting contractors, and follows up with multiple inspections throughout the year. It is a win-win for all as NFS drives the quality assurance and Keep Omaha Beautiful secures funds and manages all of the administration.

On the other end of the spectrum are Nebraska's rural communities. While NFS still works with many regional green industry partners for program delivery, the nature of rural community partnerships often involves local banks, churches, and civic organizations. Another key difference is that most rural community forestry programs are managed via tree or park boards or volunteer-based groups. Most of these communities are heavily reliant on technical and educational programming from NFS in the form of staff support from district foresters, community forestry specialists, and forest health and wildland fire personnel. In partnership with key organizations such as the Nebraska Statewide Arboretum, it is typical to see these rural community forestry programs collectively report the planting of 47,000 trees and invest more than 40,000 volunteer hours annually in the management and care of local resources.

Rural community forestry programs are volunteer based and require constant technical support and hands-on training. *Photo Credit: NFS*

FOR MORE INFORMATION

Nebraska Forest Service at the University of Nebraska-Lincoln
Community Forestry and Sustainable Landscapes Program
https://nfs.unl.edu/
https://plantnebraska.org/

NEVADA

Nevada Division of Forestry

Trees improve the livability of urban areas for many reasons. However, for several years now, tree canopy in Nevada's urban communities and towns has been diminishing. Large mature trees which reach the end of their lives are frequently replaced with smaller species, or not at all. Then, replanted trees often struggle to establish and reach maturity due to the demands of the harsh environment surrounding them. By offering some of Nevada's smaller communities mature trees to plant where there is a deficit, Nevada Division of Forestry's (NDF) programs help to bring residents together to enjoy the benefits of trees.

NDF's Urban and Community Forestry (U&CF) program provides technical assistance to communities around the state including tree selection and tree care programs, assistance with Arbor Day and Tree City USA activities, community forestry inventory, management, and planning, and assistance with the development of tree boards and ordinances.

The Nevada Nursery Program was first established in 1957 to provide technical assistance and conservation plant materials–tree seedlings, shrubs, forbs, and seed–to meet the conservation needs of Nevada's private landowners, public land management agencies, and urban communities. The nurseries also offer custom growing services for conservation plants native to or adapted to the Mojave Desert, Great Basin Desert, and Sierra Nevada.

The nurseries produce low-cost native or adapted plant species, acclimated to Nevada's environmental conditions, to encourage residents to take part in recreational activities that boost healthy living and for conservation purposes that include the establishment of windbreaks, wildlife habitat enhancement, and rehabilitation of wildfire damaged lands or other disturbed sites.

This year, NDF purchased mature trees that were donated to the Spring Creek Association, which is located in northern Nevada. These trees were planted to strengthen the community, beautify common areas, and to provide shade to residents using paths and parks within the homeowners association because trees are a vital component of Nevada's urban life.

Colorado blue spruce planted at the Spring Creek Marina. *Photo Credit: Greg Heberlein*

Trees being delivered by NDF to Spring Creek. *Photo Credit: Andi Porreca*

FOR MORE INFORMATION

Nevada Division of Forestry
Urban and Community Forestry Program
http://forestry.nv.gov/forestry-resources/urban-and-community-forest/

NEW MEXICO

New Mexico State Forestry

Shade trees, including many invasive Siberian elms, were actively planted in New Mexico's plazas, parks, courtyards, and streets during the New Deal era of the 1930s. Many of these trees are now over-mature and rapidly declining, and New Mexico faces an impending loss of their significant cultural, environmental, aesthetic, and economic contributions. Through a USDA Forest Service grant, New Mexico State Forestry (NMSF) is working with communities large and small statewide to develop management approaches to transition New Mexico's community forests into a future healthy state.

Carrizozo, New Mexico is not far from the geographical center of the state and, in 1899, it became a major railroad terminal point with a large ice plant. A booming town popped up in the middle of the grasslands, and Carrizozo became the Lincoln County seat. Carrizozo was well poised in the 1930s to accept New Deal era funds. Among the many projects undertaken during that time, Carrizozo built McDonald Park as a gathering point and planted the park and lined the Main Street with Siberian elms.

Lincoln County courthouse, c. 1940. *Photo Credit: www.courthousehistory.com*

Siberian elms in front of the former Carrizozo Ice Plant. *Photo Credit: Jennifer Dann, NMSF*

Today, Carrizozo struggles to remain economically strong. The interstate highway system crisscrosses New Mexico but bypasses Carrizozo in both directions by a great distance. The few trains that still come by no longer stop, and the old ice plant is now a museum. Yet many of the Siberian elms remain, despite infrequent water and often extreme winds. McDonald Park, once a symbol of New Deal era prosperity, now contains severely degraded trees.

McDonald Park, Carrizozo, NM. *Photo Credit: Town of Carrizozo*

Carrizozo's situation is the same in many New Mexico community forests, where the combination of railroad access and free tree giveaways resulted in an enormous number of trees planted in communities that had no resources to maintain them in their old age. Even the bigger, more prosperous communities struggle with the volume of trees planted during this time. Because of this, New Mexico is now facing the impending loss of the trees' significant cultural, environmental, aesthetic, and economic contributions.

Tree assessment with community members in Carrizozo, McDonald Park, and Inventoried Tree Locations. *Photo Credits: Amy Bell, Groundwork Studio/PlanIt Geo Tree Plotter application*

NMSF received a USDA Forest Service Landscape Scale Restoration (LSR) grant to begin to tackle the problem statewide. The effort began with the Urban and Community Forestry program, which has inventoried trees across the state in New Deal era funded locations, assessing their condition and developing management recommendations. (Following the inventory in Carrizozo, NMSF was able to issue an additional community forestry assistance sub-grant to fund a small tree pruning and removal effort to help the town.)

Now, NMSF is working with other state organizations to try to address long-term solutions for Carrizozo and other New Mexico communities. The next phase of the LSR project is to communicate risk issues to funders and decision makers and collaboratively develop comprehensive community forest management approaches. Together, NMSF hopes to transition New Mexico's New Deal era community forest into a future healthy state.

FOR MORE INFORMATION

New Mexico State Forestry
Urban and Community Forestry Program
http://www.emnrd.state.nm.us/SFD/CommunityFor/Community.html

NORTH DAKOTA

North Dakota Forest Service

Arbor Day Foundation programs provide a sound base for guiding local community forestry programs across the state of North Dakota. Fifty-three communities are certified in the Tree City USA program, with populations ranging from 20 in Sibley, which currently reigns as the smallest Tree City USA, to Fargo, the state's largest city at 125,000. The first Community Tree Recovery project assisted New Rockford residents to plant 500 trees following a windstorm that damaged the community in 2018.

When the Tree City USA program began in 1976, 42 communities were honored in 15 states, including three communities in North Dakota. The program has grown to include 53 communities across the state, including Sibley–the current smallest Tree City USA with a population of 20 people–as well as the state's largest city, Fargo. The program is truly designed to fit communities of all sizes, providing a base for sound forestry program management and resources to recognize the communities dedicated to the program.

The North Dakota Forest Service (NDFS) Community Forestry program offers an annual cost-share grant program to provide funding for public tree planting and program development projects. Extra points are awarded to applicants from Tree City USA communities as an additional incentive for cities to certify in the program. Grant project requirements align with Tree City USA standards, requiring the formation of a city tree ordinance if there is none in place. Implementation of a tree planting grant project is the perfect venue for an Arbor Day celebration, sometimes the first in the community. Through this process, small communities find it rewarding to attain Tree City USA status.

Arbor Day speakers seated at the gazebo in Centennial Park with American Legion Color Guard posting. *Photo Credit: Mary O'Neill*

North Dakota State University was named the state's first Tree Campus USA and is home to the Woody Plant Improvement Program under the direction of Dr. Todd West. The campus arboretum features many of the more than 50 superior woody plants introduced through the program, plants with increased disease tolerance and winter hardiness for landscapes throughout the Northern Plains. United Tribes Technical College is also on the roster as a Tree Campus USA community, one of the first tribal colleges to earn the distinction.

New Rockford resident looks over the tree information sheets while holding his selection. *Photo Credit: Abby Makay*

Residents happy with the choice of trees at the tree distribution event on May 19. *Photo Credit: Abby Makay*

The 2019 State Arbor Day celebration was hosted by the community of New Rockford, certified as a Tree City USA for 28 years. It was "a celebration of recovery and resiliency," marking one year since a storm boasting 110 mph winds tore through the community, destroying more than one thousand trees. The Community Tree Recovery Program came to the rescue, providing 500 small trees in one-gallon pots to residents. Established by the Arbor Day Foundation in 2012 to help communities recover following natural disasters, there have been more than 775 distribution events in the U.S. However, this was the first Community Tree Recovery project in North Dakota, inspiring residents with hope and enabling them to re-green the landscape.

FOR MORE INFORMATION

North Dakota Forest Service
Urban & Community Forestry Program
https://www.ag.ndsu.edu/ndfs/programs-and-services/community-forestry

OREGON

Oregon Department of Forestry

An old saying has gotten a new twist, "trees grow on money." In Oregon, like many states, the more populous and affluent cities tend to have more sophisticated urban and community forestry programs than those in smaller communities. Research also indicates that within cities, tree canopy correlates with income. Given the multiple benefits of urban tree canopy, these findings raise environmental justice concerns within and between cities.

Oregon Community Trees Board of Directors toured Orenco Woods Nature Park in Hillsboro during a recent meeting. Head Over Heels is a sculpture using woven branches of willow and red twig dogwood. *Photo Credit: Oregon Community Trees*

The Oregon Department of Forestry's (ODF) Urban and Community Forestry (UCF) Assistance program works with its nonprofit partner, Oregon Community Trees (OCT), the state's urban and community forest council, to serve smaller communities across the state, as well as underserved populations in all cities. Together, these partners cohost an annual conference and determine urban forestry award recipients. Additionally, OCT, through a small grant program, annually funds four to six Arbor Day "boost" grants to Tree City USAs and routinely hosts half-day seminars on tree pruning and tree protection. By optimizing its partnership with OCT, ODF extends expert UCF advice and encouragement to cities that do not have large UCF programs and to non-traditional populations who want to learn more about urban forestry work.

Oregon's population is around 4.1 million, with over 95 percent living in one of Oregon's 241 incorporated cities. There are five cities with populations over 100,000, and approximately 229 cities with populations of less than 50,000. Of those 229 cities, 147 have populations less than 4,000. One of the ongoing challenges for ODF's UCF Assistance program is to make UCF awareness and management relevant to communities of different sizes, with fiscal disparities and underserved populations, and in climatically diverse areas.

No community is too small for UCF! In larger cities, smaller, underserved populations can also benefit from UCF awareness and outreach. With a staff of two, the UCF Assistance program must rely on its partners to assist communities with their understanding and use of urban forest management concepts. Comprised of a variety of professionals–urban foresters, arborists, city planners, educators, utilities, nurseries, and university extension–the all-volunteer board of OCT helps the ODF-UCF program by offering technical assistance in and promotion of urban forestry across the state.

OCT partners with ODF to produce an annual Oregon urban and community forestry conference that is attended by UCF-folks from across the state. *Photo Credit: Eric DeBord*

OCT and ODF-UCF have been conferring urban forestry awards and cohosting an annual conference, along with the USDA Forest Service, for years. Several years ago, the ODF-UCF program decided to focus on building Tree City USA communities within Oregon as a way to encourage commitment to and participation in urban forestry throughout the state. Over the years, the OCT and ODF-UCF partnership has worked together to provide incentives for participation in the Tree City USA program, such as discounts on annual conference registration, special Arbor Day presenters for benchmark years, and participation in an Arbor Day "boost" grant program, which is funded by OCT. These small competitive grants are offered to Oregon Tree City USA communities to help them "boost" their Arbor Day activities.

Since the OCT board is also a place to hone the professional meeting and collaboration skills of its directors, several of its directors have led workshops on technical arboricultural skills for city staff. OCT has also partnered with programs that train under-represented groups in arboricultural skill-building. These half-day workshops occur around the state. When possible, International Society of Arboriculture continuing education units are offered to city-staff attendees, and similar work-credit recognition is extended to non-traditional participants learning about arboricultural skills for the first time. It is not uncommon to have more than 50 attendees at these events.

This collaboration between the ODF-UCF program and OCT is a cost effective and efficient way to extend high-quality technical instruction and positive urban forestry support to Oregon communities of all sizes.

FOR MORE INFORMATION

Oregon Department of Forestry
Urban and Community Forestry Assistance Program
https://www.oregon.gov/odf/forestbenefits/pages/urbanforests.aspx

PACIFIC ISLANDS

American Samoa Community College Division of Agriculture, Community & Natural Resources

This year, the American Samoa Community College Division of Agriculture, Community & Natural Resources (ASCC-ACNR) completed its first USDA Forest Service Landscape Scale Restoration (LSR) project to improve community watersheds. Partnering with local and federal environmental agencies as well as village leadership and youth groups, ASCC-ACNR held a trash cleanup of high priority areas within the American Samoa urban forests. Once trash was removed, a variety of native plants were planted along stream banks and corridors to prevent soil erosion. These cleanups were complemented with student intern-led community outreach presentations emphasizing the importance of biodiversity and environmental protection.

American Samoa is located in the Pacific Ocean about 2,500 miles south of Hawai'i and 1,600 miles northeast of New Zealand. Rainfall varies from 120 to 200 inches annually and the temperature averages around 80°F. As a result, much of the area is clad in dense tropical rainforests with pockets of urban populations.

The villages of Leone and Nu'uuli, as well as the capital city of Pago Pago, are heavily impacted by the clash between clay and concrete. During heavy rainfall, excessive flooding erodes riparian zones and causes landslides in streams, increasing sedimentation and nutrient runoff. Along with the depletion of native trees, land use changes, and general human disturbance, the damage to the environment not only directly affects the community livability but also the resilience of the urban forests and surrounding marine habitats.

Conducting tree planting activities. *Photo Credit: Denis "DJ" Sene Jr.*

Through the LSR grant, the ASCC-ACNR collaborated with local and federal agencies, along with village communities, to develop a four prong approach to improving watershed health and management:

1. Assess the conservation efforts needed to restore these high priority watersheds, riparian zones, and urban forests.
2. Organize stream cleanup within all three urban areas.
3. Implement a soil stabilization initiative through the planting of trees along stream banks and corridors.
4. Educate the populace on watershed stewardship through outreach presentations conducted by ASCC-ACNR student interns.

This project resulted in the gathering of 267 youth group volunteers to clear 2.43 tons of debris and planting of 33 native plants. Consequently, the attention to this project has sparked interest in other communities to start their own LSR programs and establish forest conservation plans. The ASCC-ACNR hopes to leverage the partnerships from these model projects to all communities on the island.

Community members in attendance of ASCC-ACNR outreach presentation led by student interns. *Photo Credit: Denis "DJ" Sene Jr.*

Volunteers participating in debris removal and stream restoration. *Photo Credit: Denis "DJ" Sene Jr.*

FOR MORE INFORMATION

American Samoa Community College
Division of Agriculture, Community & Natural Resources
http://www.amsamoa.edu/institution/cnr.html

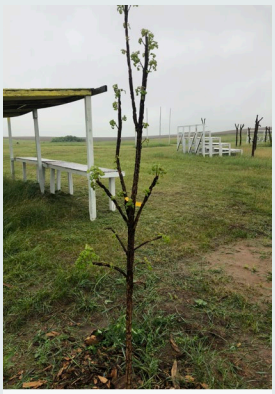
SOUTH DAKOTA

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

The state of South Dakota consists of communities from large to small. This piece highlights a tree planting grant that provided canopy cover for a very small community of around 600 people. This community is Parmelee, and it has a population that consists of mostly Native Americans. A local nonprofit, Bartlett Community Visions, saw the need for community improvement in the City of Parmelee and worked with them to submit a proposal for the Urban Forestry Challenge grant. Once the grant was awarded for $1,000, Bartlett Community Visions partnered with the City of Parmelee and its residents to plant trees in hopes of enhancing recreational experiences and preserving the area for future generations.

In the spring of 2018, Bartlett Community Visions was awarded an Urban Forestry Challenge grant from the Division of Resource Conservation and Forestry. The award was for $1,000 to be used for planting trees in the City of Parmelee. The Parmelee community put a plan together to add shade trees around their Pow Wow grounds and around their newly established baseball field. The community planned to provide match in the form of purchased trees and volunteer labor from the community. The community designated two individual volunteers, Jim Neiss and Mille Spotted Tail, to water the trees during the summer. The volunteers maintained the trees through daily watering for the first two weeks after planting and then weekly for the first year, in the absence of sufficient rainfall. The community will also be responsible for maintaining the trees year-round for moisture and to protect them from other hazards, such as lawn mowing, grasses, and wind concerns.

In the end, 12 trees were planted along the Pow Wow grounds and the new baseball field. The species planted included bur oak, oak leaf mountain ash, and Japanese tree lilac. In the near future, the community would like to add benches and a concrete walking path for the elders and children in the community to utilize for entertainment and health.



Tree planted right next to the Pow Wow grounds. *Photo Credit: Josh Larson*

Trees planted around the new baseball field in Parmelee. *Photo Credit: Josh Larson*

The impact of this tree planting was best summarized by project contact, Cheryl Bartlett:

"I think the biggest thing the trees have brought to the Parmelee community is the visual possibilities that they could have: a park for the kids today and an even better park for future generations. Local people in the community were also saying that it will be great to camp around the Pow Wow grounds like they did when they were younger with their families. This would bring their families back together in their cultural events."

In conclusion, Parmelee gained more than the 12 new trees in their community. They gained a more comfortable environment for their people to connect with their families and culture.

Volunteers in the community come together to plant trees around the Pow Wow grounds. *Photo Credit: Josh Larson*

Urban Forester, Josh Larson, worked with volunteers in the community to plant trees around the Pow Wow grounds. *Photo Credit: Josh Larson*

FOR MORE INFORMATION

South Dakota Department of Agriculture
Division of Resource Conservation and Forestry
https://sdda.sd.gov/conservation-forestry/urban-community-forestry/

UTAH

Utah Division of Forestry, Fire & State Lands

Utah has a wide range of climates and growing conditions in which a large array of tree species can grow, thrive, and attain incredible sizes. Most people in Utah are not familiar with the many species choices available when it comes to selecting and planting trees. Some species have achieved impressive dimensions in Utah. The Utah Champion Tree program identifies and showcases large examples of different species of trees—trees of all shapes and sizes throughout the state—for people to discover and enjoy.

The Utah Champion Tree program was first organized by the Utah Division of Forestry, Fire & State Lands (FFSL), Urban & Community Forestry Program (U&CF) in partnership with the Utah Chapter of the International Society of Arboriculture (ISA) and the Utah Community Forest Council. The program recognizes outstanding examples of big trees of different species, some of which have achieved massive size. In 2019, the program expanded to provide information on the broad palette of tree species available for residents to plant in Utah. Just a few years ago, the Utah Champion Tree species list recognized 150 species, while today it features 213 species, with frequent additions being made monthly.

State Champion Medlar-Mespilus germanica, Utah State University Campus. *Photo Credit: Jeran Farley*

National Champion Limber Pine-Pinus flexilis, in Logan Canyon. *Photo Credit: Jeran Farley*

This fall, the Utah U&CF Program Coordinator met with U&CF faculty at Utah State University (USU) to photograph and measure 20 new species on campus to add to the Champion Tree species list. They also identified many more species to be included in 2020. Many of these trees are large, thriving specimens that may be the only member of that species in the entire state. The Utah Champion Tree list can do more than recognize the largest of each species in the state. It can also identify and promote species that grow in Utah but have been seriously under-used and under-appreciated. It therefore provides a platform to encourage tree species diversification.

In addition to promoting species diversification, the Champion Tree program also strengthens public awareness of significant trees that could or should receive greater protection. One example is a massive English walnut (*Juglans regia*) growing in a vacant lot in Ogden. With a circumference of 216 inches, a height of 84 feet, and a spread of 79 feet, this is a special tree—a very large specimen of this tree species in the state. Dr. Mike Kuhns, a professor at Utah State University, discovered and nominated this tree as a state champion. It dwarfed the previous champion English walnut. More important, however, was the public interest generated by his find. People discovered that this special tree was at risk of being removed for a parking lot installation. Now that it has been crowned a state champion, the tree is not guaranteed indefinite protection, but there have been scores of news articles and public awareness has greatly increased interest and concern for this tree.

State Champion English Walnut-Juglans regia, in Ogden. *Photo Credit: Jeran Farley*

The state Champion Tree list has also enabled the state to recognize many of its national Champion Trees. Utah currently has 12 national Champion Trees listed on the American Forests website with several new nominations underway.

FOR MORE INFORMATION

Utah Division of Forestry, Fire & State Lands
Urban & Community Forestry Program
https://ffsl.utah.gov/

WASHINGTON

Washington State Department of Natural Resources

The Washington State Department of Natural Resources (WA DNR) Urban and Community Forestry (UCF) program was challenged by Commissioner of Public Lands Hilary Franz to use tree canopy data to focus on social equity issues in Washington communities. The program used publicly available data to determine a connection between tree canopy and socio-economic issues. The report will help inform future investments in Washington communities.

Washington is experiencing accelerated canopy loss due to rapid urbanization and development across the state. At the 2017 annual meeting of the Washington Community Forestry Council, newly-elected Commissioner of Public Lands, Hilary Franz challenged UCF staff to determine if stormwater and socio-economic conditions in urban areas were closely aligned with tree canopy density. She requested a list of cities that are challenged by stormwater mitigation/regulation, have high numbers of ethnically diverse neighborhoods with low-income populations, and have neighborhoods under the national average for tree canopy density.

Working with a WA DNR GIS analyst, staff used freely available US census data, state stormwater permit information, the tree canopy data layer from the US Geological Survey's National Land Cover Database (30 m resolution), and Washington's Forest Action Plan priorities to identify and rank 38 of 281 Washington cities that met the criteria.

The tree board in Fairfield, Washington celebrates Arbor Day with a new ponderosa pine. *Photo Credit: WA DNR*

Since data was initially filtered to identify communities subject to federal and state stormwater regulations, the analysis is biased toward Washington's largest cities, since it excludes small communities not subject to stormwater permits. Larger cities are also likely to have a greater number of census block groups, and a higher percentage of their population met the filtering criteria.

While the report is not perfect, and the need for additional data is clear, the purpose of the project was to investigate equity in urban forestry in Washington cities. It has increased awareness within WA DNR of the need to better assist communities to work closely with residents to engage diverse populations throughout the state.

Middle school students help plant Arbor Day trees in Seattle. *Photo Credit: WA DNR*

This year, with assistance from the Washington Community Forestry Council and in partnership with the USDA Forest Service, the WA DNR launched a pilot environmental justice grant. The intent of the grant is to help communities engage with residents at the neighborhood level as they plan urban forestry projects to enhance tree canopy.

Recognizing that small communities often have reduced staff capacity to write grants, WA DNR also offers a Small Communities Forestry Assistance Grant to communities with populations under 10,000. To assure success, WA DNR first requests a letter of interest proposing a project, then works closely with community leaders to design fundable projects.

Other environmental justice investments in Washington have been funded through USDA Forest Service Landscape Scale Restoration (LSR) grants in collaboration with several partners:

- City of Tacoma - neighborhood engagement to plan green stormwater infrastructure and tree canopy in the rapidly densifying Tacoma Mall Regional Growth Center.
- The Nature Conservancy - a multi-county regional tree planting plan for cities in the three highest populated counties in western Washington.
- Forterra - working with youth to restore an urban watershed using trees as green stormwater infrastructure in the central Puget Sound region.

More importantly, WA DNR is working to assure that environmental justice is integrated into all aspects of the program.

FOR MORE INFORMATION

Washington State Department of Natural Resources
Urban and Community Forestry Program
https://www.dnr.wa.gov/urbanforestry

WYOMING

Wyoming State Forestry Division

A handful of common species in many communities are often over planted, limiting diversity. Inventories completed in Wyoming cities and towns have revealed that as few as three genera comprise over 75 percent of the public trees. The most dominant species include ash, spruce, and cottonwood, in which insect and disease outbreaks have taken their toll. Landscape designers and nurseries often promote species based primarily on ornamental characteristics only rather than adaptability and hardiness. Local species guides and arboretums have now been developed to highlight a greater diversity of species.

The topography of Wyoming varies from short grass prairie to alpine forests, it ranks second highest in the U.S. for average elevation, and it has plant hardiness zones ranging from 3a to 5b. Elevation of cities and towns range from 3,600 feet to over 8,000 feet. This wide range in climate and elevation creates a wide variation in tree species that thrive in Wyoming's communities.

In a continued effort to diversify tree species in urban areas, local species selection guides have been published in 15 communities. In addition, community arboretums have been established in six communities, each representing a different climate regime. Each site contains between 50 and 150 trees with the number of species ranging from 15 to 40. The diversity effort includes restoration of a 63-acre portion of a former USDA Horticultural Research Station located west of Cheyenne which is in the process of being developed into a regional arboretum. From the 1930s until the end of the research in 1974, trials were conducted on over 2,000 varieties of woody plants.

Locally produced tree guides feature tree species unique to the local area. *Photo Credit: Mark Hughes*

The first community arboretum was established in Sheridan's Kendrick Park. The arboretum is next to the historic Kendrick Mansion, the residence of a former early Wyoming governor. As a bonus, the arboretum features an amazing view of the Big Horn Mountains. The same year as the establishment of Kendrick Arboretum, a second arboretum was planted in Newcastle, in the Black Hills of Wyoming. Grant funding for this arboretum has been leveraged with considerable corporate contributions to install a winding pathway through the site.

The largest of the new arboretums is in Rock Springs, Wyoming. The High Desert Arboretum is home to over 140 drought tolerant trees, representing 40 varieties. A modern solar powered drip irrigation system is a unique feature of this site. The smallest arboretum is located on school grounds in Etna, Wyoming and is used by students and teachers for educational purposes.

The Powell Arboretum has a professional weather station on the site. *Photo Credit: Mark Hughes*

The final arboretum is in the city of Powell, near Yellowstone National Park. It is located in a park dedicated by President Franklin Roosevelt in 1935. In addition to over 30 different tree species, the arboretum features a state of the art weather station to gather climate data at the site.

Entrance signs and individual species interpretive signs have been installed in the arboretums. A website will be developed to share updates and the adaptability of the species within the sites.

The arboretums are living educational tools for natural resource managers, citizens, schools, nurseries and landscapers, arborists and others. The ultimate result will be a much greater diversity of climate hardy and disease resistant species for urban areas.

Durable interpretive signs highlight special features of individual species. *Photo Credit: Mark Hughes*

FOR MORE INFORMATION

Wyoming State Forestry Division
Community Forestry Program
https://wsfd.wyo.gov/forestry-assistance-programs/community-forestry

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