State and Private Forestry Fact Sheet
Nebraska 2022

Investment in State's Cooperative Programs

<table>
<thead>
<tr>
<th>Program</th>
<th>FY 2021 Final</th>
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</thead>
<tbody>
<tr>
<td>Community Forestry and Open Space</td>
<td>$0</td>
</tr>
<tr>
<td>Cooperative Lands - Forest Health Management</td>
<td>$164,000</td>
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<tr>
<td>Forest Legacy</td>
<td>$25,000</td>
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<tr>
<td>Forest Stewardship</td>
<td>$154,890</td>
</tr>
<tr>
<td>Landscape Scale Restoration</td>
<td>$724,999</td>
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<tr>
<td>State Fire Assistance</td>
<td>$1,467,204</td>
</tr>
<tr>
<td>Urban and Community Forestry</td>
<td>$814,898</td>
</tr>
<tr>
<td>Volunteer Fire Assistance</td>
<td>$290,694</td>
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<tr>
<td>Total</td>
<td>$3,641,685</td>
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NOTE: This funding is for all entities within the state, not just the State Forester's office.

Nebraska's forest resources provide important environmental and economic benefit, such as soil & water conservation, wildlife habitat, wood & specialty forest products, wind protection, and overall aesthetics in the state. Unfortunately, many of the rural woodlands are unmanaged and our community forests are in decline. In Nebraska, there are 1.5 million acres of forest with approximately 489,000 acres of community forest that improve air and water quality, benefit overall storm water management, save energy, and contribute to the "Good Life" in our towns and communities that all Nebraskans enjoy. Stewardship and growth of community forest in Nebraska is key, considering about 2/3 of all Nebraskans live and work inside the boundaries of a community forest. In addition, Nebraska's rural forests include our native forest areas, and conservation plantings such as windbreaks, shelterbelts, and riparian buffers. These rural forests contribute by filtering harmful chemicals & improving water quality, reducing the wind to help keep soils in place while protecting rural homes, farms, ranches, and livestock. At the Nebraska Forest Service (NFS), we continue to generate substantial impacts by implementing, improving and expanding programmatic, technical and financial assistance. In 2021, NFS staff worked with tens of thousands of people and hundreds of communities across the state to address our mission: of enriching lives of all Nebraskans by protecting, enhancing and utilizing Nebraska's tree and forest resources.

Program Goals

- Ensure that our mission remains relevant to current and emerging needs of our clients and the people of Nebraska, and to clearly articulate our vision and role in meeting those needs.
- Ensure the effective management and stewardship of the NFS, our people, programs, and resources.
- Promote species diversity in both rural and community forests.
- Cultivate partnerships - supporting and enhancing existing partnerships as well as developing new relationships with non-traditional partners. Provide benefits to Nebraskans and the forest of Nebraska by leveraging relationships to effectively and efficiently serve the people of Nebraska.
- Foster an entrepreneurial organization to create an innovative and creative staff that supports program design and implementation.
- Continue to develop Wildland-Urban fuels reduction programs to thin acres around communities and infrastructure, thin to protect lives and thin to reduce costs associated with catastrophic wildfires.
- Provide direct, on-the-ground, technical assistance to woodland owners, agricultural producers, land stewards, critical habitat and high priority landscapes to maximize the overall benefit for the resource and for all Nebraskans.
- Improve the overall health of Nebraska's trees and forests in both urban and rural environments by engaging landowners statewide on the benefits of trees and current issues related to forest health, invasive insects and proper forest management activities
- Address the critical issues including forest health threats, timber management and wildfire.
• Utilize biomass, CLT technology, mass timber, biochar and other technology to maximize utilization and help offset the cost of management for landowners and communities.
• Restore forest areas affected by natural disasters and wildfires.

Key Issues
• High fuel load in unmanaged forest areas. These areas are at risk to catastrophic wildfires.
• The encroachment of eastern redcedar into hardwood and coniferous forests. The uncontrolled spread of eastern redcedar into native grasslands
• Emerald ash borer and other invasive insects
• Declining health of community forests due to age and other factors
• Community forests canopy cover is on the decline
• Fuels within the WUI and the expanding acres and homes in the wildland urban interface
• Herbicide drift and the affect on both community and rural forests
• Removal of conservation forests including riparian forest and windbreaks
• Lack of economically viable markets for forest products which leads to a decline in management
• Hazardous tree removal on public and private lands in communities

Forest Facts and Accomplishments

<table>
<thead>
<tr>
<th>Selected Facts</th>
<th>Value</th>
<th>FY 2021 Accomplishments</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Population</td>
<td>1,826,341</td>
<td>Landowners Receiving Educational or Technical Assistance</td>
<td>1,271</td>
</tr>
<tr>
<td>Acres of Forest Land</td>
<td>1,402,192</td>
<td>Acres Covered by New or Revised Forest Stewardship Plans</td>
<td>45,782</td>
</tr>
<tr>
<td>Acres of Nonindustrial Private Forest Land</td>
<td>1,092,000</td>
<td>Acres in Important Forest Resource Areas Covered by New or Revised Stewardship Plans</td>
<td>40,502</td>
</tr>
<tr>
<td>Number of NIPF Landowners</td>
<td>57,000</td>
<td>Volunteer Fire Departments Assisted</td>
<td>474</td>
</tr>
<tr>
<td>Acres of Federal Land Under State Fire Protection</td>
<td>741,247</td>
<td>State Fire Communities Assisted</td>
<td>182</td>
</tr>
<tr>
<td>Acres of Private Land Under State Fire Protection</td>
<td>48,342,273</td>
<td>Coop Forest Health Acres Protected</td>
<td>150</td>
</tr>
<tr>
<td>Number of Rural Fire Departments</td>
<td>494</td>
<td>Forest Legacy Project Acquisitions</td>
<td>0</td>
</tr>
<tr>
<td>Cities and Towns</td>
<td>530</td>
<td>Communities Provided Urban Forestry Program Assistance</td>
<td>92</td>
</tr>
<tr>
<td>Forest Based Employment</td>
<td>2,200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economic Impact of Forestry (by rank)</td>
<td>34,000,000</td>
<td>Population Living in Communities Provided Urban Forestry Program Assistance</td>
<td>1,117,593</td>
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<tr>
<td>State Forestry Budget (All Sources)</td>
<td>5,306,217</td>
<td>Urban Forestry Volunteer Assistance</td>
<td>19,893</td>
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Program Highlights

Agroforestry
The National Technical Assistance Agroforestry (NTAA) position, continues to serve as the technical leader in coordinating agroforestry responsibilities for the Nebraska Forest Service (NFS), Natural Resources Conservation Service (NRCS), and, in partnership with National Agroforestry Center (NAC) and three National Technology Support Centers (NTSCs), assuring dissemination of state-of-the-art technologies, and efficient and effective technology transfer to resource professionals across the state and country. In 2021, the NTAA was the lead on multiple Conservation Practice Standards (CPS) focused on Forest Farming (CPS 379), Tree/Shrub pruning, and Silvopastures (CPS 381). In addition, the NTAA assisted with the University of Nebraska-Lincoln’s regional and community forestry bachelor’s degree program by teaching multiple 200 and 300 level courses during the 2021 spring and fall semesters.

Conservation Education
Conservation Education (CE) programming directly reached over 8,089 Nebraskans across the State, and
staff worked in dozens of communities. CE staff provided seven presentations, hosted 78 events, and contributed to nine news articles and stories. Through 17 online mini-workshops NFS hosted 274 educators and facilitated environmental education curriculum, potentially reaching thousands of Nebraska's youth. Students are trained in three NFS-sponsored curricula (Project Learning Tree K-8, Project WET K-12, Project WET Climate, Water and Resilience). In 2021, our Affiliate Education Centers (AEC) program was created, with centers located in Omaha, Lincoln, Gering, Ponca, Trenton, Columbus, and Hastings and one in-person CE workshop was facilitated as a result of this program. Several additional workshops are planned for 2022 as a part of this capacity-building initiative to enable our CE program to better serve the entire state.

Cooperative Fire Protection
In 2021, the Nebraska Forest Service (NFS), in partnership with Nebraska Emergency Management Agency (NEMA) and the State Fire Marshal's Office (SFMO), successfully utilized the State of Nebraska Type 3 Incident Management Team (IMT3) on two wildfire incidents. This new IMT3 helps to improve coordination between fire departments and state agencies in the event of a significant wildfire incident that exceeds the local department's skills, experience, and abilities. The IMT3 was rostered with personnel from all three agencies and assisting fire departments. The IMT3 responded to the Hackberry and Post Fires and coordinated with local, state, and federal resources to safely and effectively suppress both fires.

Additionally, NFS fire staff conducted 29 training events reaching over 500 trainees from dozens of volunteer fire departments (VFDs). NFS also supported VFDs via the Volunteer Fire Assistance program, which provided $363,000 in financial assistance to 96 VFDs for equipment, training, and prevention supplies. By providing training and financial assistance to the VFDs, we are building fire suppression capacity within the state and providing means for these departments to increase their knowledge and abilities. This increased capacity has allowed NFS to sponsor VFDs to serve as Nebraska state fire response resources and assist with national wildfire response, supporting our regional partners and providing a source of income for the departments. The coordination between cooperating agencies, VFDs, and community stakeholders assists in keeping fires small and helps mitigate catastrophic wildfire and large-scale incidents.

Economic Action
The production and manufacturing of wood products boost rural communities and economies while incentivizing trees and forests' long-term management and sustainability. NFS staff assisted businesses, organizations, and landowners to improve the utilization of Nebraska's forests through wood products development.

In 2021, significant strides were made in the development of markets for wood-based biochar. Nebraska Forest Service (NFS) partnered with the University of Nebraska-Omaha engineering department to evaluate biochar used to improve concrete strength and carbon sequestration potential. Staff also collaborated with the University of Nebraska-Lincoln department of animal science to evaluate biochar use in livestock operations (specifically as a feed supplement and a feedlot pen amendment). There was also a collaboration with the City of Lincoln to pursue funding to establish a closed-loop biochar production/utilization program in the City. Staff and contractors completed a feasibility study to assess the biochar production capacity of northwest and northcentral Nebraska forests. Wood energy continues to be a utilization emphasis of NFS, with technical and financial assistance being provided to two wood energy systems currently under construction. Mass timber building also plays a role in utilizing Nebraska wood, as NFS and UNL College of Architecture partner on the promotion of mass timber building opportunities and education of undergraduate and graduate architectural students and industry professionals. Lastly, NFS provides expert assistance to traditional forest products manufacturers (sawmills and timber industry) to address their needs and improve their manufacturing processes.

Forest Health Protection
Our Forest Health Program continues to be impactful across Nebraska. Forest Health workshops and presentations helped educate over 1,600 people focused on tree pest detection, diagnosis, insects, diseases, windbreak issues, herbicides, freeze damage, chlorosis, exotic pests, tree physiology and anatomy, soils, watering, and nutrition/fertilization. We created seven videos on various tree pests and problems. Staff evaluated over 500 tree problems, including EAB, Cercospora needle blight, and thousand canker disease in the State. Our Forest Health team coordinates the Nebraska Invasive Plant
Management Grant, funding treatments of invasive plants on non-federal state, local or private lands in Sioux and Dawes counties. The treatment cost, including match, is $44,137.

Forest Legacy
NFS continues to promote and work on the development of potential Forest Legacy projects in the State. We are continuing to work with the R2 coordinator to determine which projects are worth pursuing due to the unique nature of Forest Legacy Program. NFS has also updated our Forest Action Plan and the priority forest landscapes which now align more with the Forest Legacy Areas in the state.

Forest Stewardship
Nebraska Forest Service (NFS) staff provided crucial forest management planning and implementation to both private and public landowners. Community Assistance Funds Adjacent to National Forest, staff worked on 29 projects treating over 669 acres adjacent to or near the Nebraska National Forest to reduce cross-boundary wildland fire threats. Forestry staff met with 432 new forest landowners to assist with forest management recommendations or practice implementation, resulting in establishing windbreaks and forest stand improvement projects.

Landowner Assistance
Nebraska Forest Service (NFS) forestry assistance staff provided crucial forest management planning and implementation to both private and public landowners. Along with more than 944 projects visits conducted by staff, 199 management plans (57 were Forest Stewardship Management Plans) were developed to facilitate the management of 58,840 acres of Nebraska forests (45,782 acres under Forest Stewardship Management Plans). These management plans led to 3,562.42 acres managed through $1,432,148.49 in financial assistance provided to public and private landowners. Foresters also coordinated the reforestation of 120 acres of pine forest in the Pine Ridge. Along with direct, technical assistance, Foresters organized 26 education programs (reaching 1,519 people), developed, delivered 67 presentations (reaching 2,439 people), and participated in 451 media pieces.

Landscape Scale Restoration
Improving Bur Oak Resiliency: Phase One is a multi-state LSR grant project with Kansas focused on improving bur oak resiliency by examining herbicide injury & damaging oak galls. Bur oak is native throughout the central US & planted in rural landscapes. This 1st phase will focus on 20 priority landscapes 11 in Nebraska (NE) & 9 in Kansas (KS) encompassing multiple forest resources including woodlands, rural community forests & conservation & shelterbelt plantings.

Nebraska Forest Restoration Partnership: Accelerating Pace and Scale of Post-Fire Reforestation LSR grant project expands the ongoing NFS & USFS reforestation efforts onto state & private forestlands in north central & northwest Nebraska. The Pine Ridge & Niobrara Valley in northwest & north central NE are unique forested regions & are identified as priority forest landscapes in Nebraska’s Statewide Forest Action Plan. These area represent the easternmost reaches of ponderosa pine (PP) in the US & are home to 90% of Nebraska’s pine forests, while also being home to the majority of Nebraska’s native remnant aspen & birch forest stands. This LSR grant project will plant 300,000 trees on 1500 acres through a cost share program on state & private lands.

Nebraska’s trees are seriously challenged by a wide range of threats, including weather extremes & pest/disease outbreaks. The Small Projects, Wide Reach (SPWR) LSR grant project is a statewide effort to improve long-term rural community forests targeting 46 of the 93 counties in Nebraska. Thus far 59 projects have been completed in 54 communities resulting in 651 trees being planted.

Shared Stewardship
The Nebraska Forest Service continues to collaborate with USFS in implementing the Shared Stewardship Agreement by developing a framework for the NFS and USFS to work together to protect, enhance and maintain the natural resources and specifically the forest and trees of Nebraska. The development of projects under approaches such as the Good Neighbor Authority (GNA) will continue as a state driver in implementing Shared Stewardship.

Urban and Community Forestry
Nebraska Forest Service (NFS) Community Forestry staff in collaboration with the Nebraska State
Arboretum, Inc. focused on the sustainable community forest, from landscape to trees, providing Nebraskan's the education and knowledge needed to make sound resource decisions and raise up the next group of land stewards. Through our Urban and Community Forestry (UCF) programming, we helped Nebraska communities increase their capacity to implement community forestry programs and help improve community forest outcomes. Staff worked in 134 communities conducting inventories, tree planting, EAB preparedness activities. UCF programs, in partnership with the Nebraska Statewide Arboretum, have been highly successful in securing grant dollars over the years. The program has had essential impacts in hundreds of communities across the State in 2021. Activities included:

- Ten tree-board training, 7 tree inventories, 134 community assists, 91 Tree City USA (with 3 new communities), plus 12 growth awards (4 new), 7 Tree Campus, 4 Tree Line
- Created 5 EAB readiness plans with our newly developed EAB readiness template (online tool)
- Provided over 60 educational talks/workshops and events geared at promoting and improving knowledge of community forests
- Over 19,000 hours of volunteer community service project related to urban and community forests
- Nineteen community projects resulted in $78,110 in reimbursements and a leveraged value of $217,734. We planted 609 trees, along with over 1,000 companion plants (shrubs/perennials/grasses, many native/pollinator friendly) on these sites

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