



State and Private Forestry Fact Sheet

Nebraska 2020



Investment in State's Cooperative Programs

Program	FY 2019 Final
Community Forestry and Open Space	\$0
Cooperative Lands - Forest Health Management	\$135,000
Forest Legacy	\$20,000
Forest Stewardship	\$161,130
Landscape Scale Restoration	\$100,000
State Fire Assistance	\$1,034,794
Urban and Community Forestry	\$979,485
Volunteer Fire Assistance	\$267,874
Total	\$2,698,283

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 contributes 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 2019, NFS staff worked with tens of thousands of people and hundreds of communities across the state to address our mission: of enriching lives 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.
- Address the critical issues including forest health threats, timber management and wildfire.
- Locate staff and focus programming on critical habitat and high priority landscapes to maximize the overall benefit for the resource and for all Nebraskans.
- Develop markets to help offset cost of management for landowners and communities. Utilize biomass, CLT technology, mass timber, biochar and other technology to maximize utilization.
- 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
- Emerald ash borer is now in Eastern Nebraska and now threatens our 44 million ash trees across the state. This is a huge threat to Nebraska's forest resources. In Nebraska's community forests alone, costs to remove and replace ash trees killed by EAB are estimated to exceed \$1.0 billion. Ash trees in Nebraska represent nine percent of the state's entire tree population

Forest Facts and Accomplishments

Selected Facts	Value	FY 2019 Accomplishments	Value
Population	1,826,341	Landowners Receiving Educational or Technical Assistance	1,981
Acres of Forest Land	1,481,131	Acres Covered by New or Revised Forest Stewardship Plans	29,525
Acres of Nonindustrial Private Forest Land	1,092,000	Acres in Important Forest Resource Areas Covered by New or Revised Stewardship Plans	26,765
Number of NIPF Landowners	57,000	Volunteer Fire Departments Assisted	474
Acres of Federal Land Under State Fire Protection	741,247	State Fire Communities Assisted	227
Acres of Private Land Under State Fire Protection	48,342,273	Coop Forest Health Acres Protected	1,500
Number of Rural Fire Departments	494	Forest Legacy Project Acquisitions	0
Cities and Towns	530	Communities Provided Urban Forestry Program Assistance	130
Forest Based Employment	2,200	Population Living in Communities Provided Urban Forestry Program Assistance	1,252,798
Economic Impact of Forestry (by rank)	34,000,000	Urban Forestry Volunteer Assistance	42,310
State Forestry Budget (All Sources)	5,306,217		

Program Highlights

Agroforestry

NFS entered into a partnership with U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) on a National Technical Assistance Agroforestry (NTAA) position, which officially started on July 15, 2019. The NTAA serves as the technical leader in coordinating agroforestry responsibilities for 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. Thus far the NTAA has performed a SWOT analysis on Agroforestry promotion in Nebraska and developed desired outcomes and priorities for the state's Forest Action Plan. In addition, completion of 450 minutes of editing NRCS Windbreak Technology videos along with the development of a six person team to initiate the revision of Practice Standard 379 (Multi-story Cropping). Work on this, together with Practice Standard 380 (Windbreak/Shelterbelt Renovation) are ongoing and will continue through FY 2021.

Community Forestry and Open Space

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. NFS staff assisted 163 Nebraska communities, implementing over 290 community and residential projects. The total value of these projects exceed more than \$700,000. In addition, our outreach efforts focused around 87 educational talks and workshops affecting over 8,000 Nebraskans.

Conservation Education

This year Conservation Education (CE) programming directly reached over 1825 Nebraskans across the State and staff worked in 18 communities. Our staff provided 19 presentations and hosted 20 events. Our presentations included 3 Nature Night booths, 5 school visits, presentations at 4 conferences, and 7 events where we hosted a booth (water festivals, the state fair, etc.). These presentations covered anywhere from "Why People Need Trees" for pre-school classrooms to promoting the Nebraska Green Schools program with educators to communicating our Early Learning program successes at the Project Learning Tree International Coordinators Conference. In addition, CE hosted 17 workshops and 5 field trips. Through the workshops we reached a total of 223 formal and non-formal educators and certified them in at least one curricula. Our most popular workshops continue to be those for Early Learning Professionals as 57% of workshop attendees attended an Early Learning workshop. We also hosted our first Facilitator workshop since 2017 and welcomed 10 new facilitators to the team. These volunteers are now certified to lead workshops in their communities. We now have local facilitators in communities where we previously have not, including Hastings and Kearney. We were also able to add facilitators to areas where demand is high like Scottsbluff and Omaha. Through the 5 field trips, which all took place at Prairie Pines, we reached 133 people. This year we were able to train 55 educators, most from schools in low-income areas, at no cost to the educators.

Cooperative Fire Protection

Our wildland fire training provided National Wildfire Coordinating Group (NWCG) training to local, state, and federal agency personnel. NFS staff worked directly with the local fire chiefs and firefighters to broaden their knowledge of wildland fire suppression and mitigation tactics through classroom and hands on training. Staff held red card trainings in 5 locations (Ft. Robinson, Tecumseh, UNL, Scottsbluff, and Ponca) this year, hosted the 12th annual NWFA (Nebraska Wildland Fire Academy), the Second Annual Eastern Nebraska Fire Academy provided classes at the Nebraska State Fire School, and presented several RT-130 refresher trainings throughout the state. In addition, NFS was represented at the Prescribed Fire Training Exchanges (TREX) held at Fort Robinson, and provided field training to the NE National Guard. The Nebraska Forest Service also held several Sim Table trainings (Crawford, Halsey, Rapid City, Ainsworth, Carroll, and Pleasanton) throughout the state to deliver information about: wildfire suppression, fire prevention, fuels reduction, and sustainable forests. The Prevention program really took off in 2019. Using cooperators and local Volunteer Fire Departments (VFDs) the Nebraska Forest Service Sponsored over 200 events that reached approximately 1,184,030 people and consumed over 3874.06 hours of labor. The impact the NFS fire program has had throughout the state has been substantial; with over 9,870 training hours completed and over \$230,000 in Volunteer Fire Assistance disseminated to over 92 VFDs. These impacts in coordination with other cooperating agencies, VFDs, and community stakeholders assist in keeping fire small and help mitigate catastrophic wildfire and large scale incidents.

Economic Action

In a non-traditional forest products state, the expertise and assistance provided by Forest Products Utilization (FPU) program staff was invaluable. While continuing to assist with issues and opportunities in Nebraska, FPU staff helped foster wood products development with our biochar research and development program partnering with the Animal Science department at the University of Nebraska-Lincoln (UNL). The Great Plains Biochar Initiative II addresses both supply and demand for biochar as a cattle feed additive; thus, expanding on previous work completed by NFS and UNL Animal Science. This applied research project addresses demand and will advance industry adoption of standards for biochar as a cattle feed additive to improve animal efficiency while reducing greenhouse gasses, primarily methoane produced by the animals. Preliminary results show a 10% reduction in methane emissions resulting in improved feed conversion when 0.8% biochar is added to a daily diet. Supply, to meet an increased demand for biochar is addressed by modeling the economic feasibility of biochar derived from woody biomass under various scenarios. Given a 3:1 conversion rate of biomass to biochar, a significant market opportunity exists if biochar becomes an approved feed additive for the over 45 million cows and

calves produced annually in the US. FPU outreach efforts have shifted more towards specific and strategic projects overall. FPU staff provided nearly 1,000 hours of direct training through organized programming and presentations to more than 450 participants. Our diverse expertise in woody biomass energy, biochar production and use and urban wood utilization was in high demand during 2019.

Forest Health Protection

In 2019, NFS forest health programming directly reached over 1,410 Nebraskans across the State, and staff worked in more than 50 communities as well as multiple rural locations. NFS staff provided 66 presentations, organized 17 workshops, produced 12 issues of the Forest Health newsletter, and contributed to 4 news articles and stories. In addition NFS staff surveyed more than 1,100 trees for pest problems, provided 340 pest diagnoses, and distributed 4,000 hardcopy pest publications. Our forest health workshops and presentations helped educate over 1000 people on a wide variety of forest health issues, which will help them properly manage their tree resources. The pest detection workshops have greatly expanded the state's capacity to detect invasive species. This year over 170 individuals were trained to recognize signs and symptoms of emerald ash borer and many of these were professionals who work daily with trees. In addition, the Canopy Pest Detection workshops gave participants a chance to work with Emerald Ash Borer (EAB) infested ash wood viewing tunnels and woodpecker damage and practicing bark peeling to look for larvae. Shortly after receiving training, a municipal tree crew from Lincoln discovered the first city tree known to be infested with EAB, and they credited their workshop training for the find. Our forest health workshops are raising awareness about other pests as well, including thousand cankers disease, Asian longhorned beetle and spotted lanternfly. These various presentations and workshops reach students, homeowners, landowners, master gardeners and landscape professionals across the state.

Forest Legacy

NFS is continuing to work on the development of 3 potential projects in the Pine Ridge and one in the Niobrara Valley (5 miles east of Valentine) with the help of Nebraska Land Trust. These projects are in the planning stages. 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. The project (containing an oak savanna woodland) in the northeast part of the state is still high on list with discussion continuing with the landowners. NFS prepared an update draft of AON and presented for approval by the Stewardship Committee. The draft is currently under review by R2 and the WO.

Forest Stewardship

Nebraska Forest Service (NFS) staff provided crucial forest management planning and implementation to both private and public landowners. Along with more than 870 projects visits conducted by staff, 330 different management plans were developed to facilitate the management of nearly 33,000 acres of Nebraska forests.

Landowner Assistance

The forestry assistance provided by NFS staff facilitates crucial forest management planning and implementation to both private and public landowners. Along with more than 870 projects visits conducted by staff, 330 different management plans were developed to facilitate the management of nearly 33,000 acres of Nebraska forests. Along with direct, technical assistance, forestry staff organized 35 education programs (reaching 7,500 people), developed and delivered 75 presentations (reaching 4,700 people) and were a part of 234 media pieces (reaching 500,000 people). In addition to the field work and promotional activities, staff are highly involved in university, partner and professional service activities.

Landscape Scale Restoration

Our Full Circle Benefits (FCB) LSR grant, funded two major analysis of Urban Lumber and BioChar. Our Urban Lumber analysis focused on acquiring raw ash logs that were being removed due to EAB infestation in the state, milling them ourselves, having the lumber dried and planed, and then distributing the lumber to various woodworkers. The positive partnerships developed through this process, along with the knowledge and experience gained, will serve us in many ways for years into the future as EAB continues to move across NE. In addition, NFS coordinated and hosted Urban Lumber Community Conversations in Lincoln. These conversations brought together a wide range of stakeholders and interested parties to increase awareness of the issues and opportunities with EAB and urban lumber. Stakeholders represented a majority of links in the overall urban lumber chain, and the event helped

everyone to realize and understand the challenges faced by each link, along with ways to overcome potential challenges. This LSR grant also funded/aided in the development of a professionally produced tree benefits video, five demonstration projects in 5 NE communities, and the planting of 415 trees.

Urban and Community Forestry

Nebraska communities face challenges: water quality, storm water management, and declining overall forest health and habitat loss. The NFS, in collaboration with the Nebraska Statewide Arboretum, Inc. addresses these issues through initiatives aimed at enhancing green infrastructure in communities. NFS staff implemented through our Greener Nebraska Towns & Trees for Nebraska Towns grants, 71 tree planting projects, 32 landscape projects & 168 bloom boxes impacting over 85 NE communities. Grant funds disbursed approximately \$160,000; total value with match over \$400,000; approximately 1,100 trees planted along with hundreds of shrubs and thousands of perennials impacting more than 40 acres. Because of these programs, 439 Nebraskans donated over 1,800 hours (worth over \$40,000) to plant 13,900 waterwise and native plants (including 138 trees) at their schools, parks and homes.

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