

APPENDIX: NATIONAL PRIORITIES

STATE OF North Dakota 2015

The 2008 Farm Bill, under Title VIII – Forestry, amends the Cooperative Forestry Assistance Act of 1978, to include the requirement that each state develop a long-term, state-wide assessment and strategies for forest resources. These assessments and strategies focused on three national priorities:

- Conserve and Manage Working Forest Landscapes for Multiple Values and Uses
- Protect Forests from Threats
- Enhance Public Benefits from Trees and Forests

These documents were developed with a comprehensive team of stakeholders to address cross-boundary, landscape scale actions that would be the most efficient activities to address issues of concern developed for the assessment phase of the Forest Action plan.

This document serves as a record of activities taken by all North Dakota's stakeholders to address strategic actions taken as part of North Dakota's Forest Action Plan and will be updated every 10 years. **Section 1** outlines the National Priorities and the corresponding state priorities. **Section 2** describes the strategic actions being taken to address the national and state priorities.

Section 1.

1. Conserve and Manage Working Forest Landscapes for Multiple Values and Uses

North Dakota Priority Issue 1.1: Reducing forest overmaturity and promoting natural regeneration

Strategy 1.1a: Identify, conserve, and actively manage high priority native forest lands.

Strategy 1.1b: Development of incentives and cost-effective measures for management (harvesting, Rx burn, thinning)

North Dakota Priority Issue 1.2: Maintaining historic vegetation type

Strategy 1.2a: Mitigate forestland lost due to urban sprawl, agricultural clearing, and utility development

Strategy 1.2b: Incorporate management techniques and/or disturbances that promote/sustain terrestrial ecosystems. Develop learn and teach methods to remove nuisance woody plants

North Dakota Priority Issue 1.3: Enhancing wood utilization opportunities

Strategy 1.3a: Identify wood utilization and biomass opportunities

Strategy 1.3b: Actively and sustainably manage trees and forests

2. Protect Forests from Threats

North Dakota Priority Issue 2.1: Mitigating invasive tree pests

Strategy 2.1a: Assist communities in planning to mitigate potential damage caused by invasive tree pests

Strategy 2.1b: Restore native forests impacted by Invasive tree pests (EAB, gypsy moth, DED) and invasive weeds (buckthorn, Russian olive, saltcedar, etc..)

Strategy 2.1c: Reduce risk of introduction in areas where risk of introduction is greatest.

Strategy 2.1d: Development of a first detectors program

North Dakota Priority Issue 2.2: Increasing species diversity and reducing vulnerability to damaging agents

Strategy 2.2a: Identify seed sources and species adapted to biotic and abiotic conditions of the state.

Strategy 2.2b: Promote species diversity and forest health practices in communities

North Dakota Priority Issue 2.3: Preventing and responding to wildland fires

Strategy 2.3a: Assist communities in planning for and reducing wildfire risks

Strategy 2.3b: Restore fire-adapted lands and reduce the risk of wildfire impacts

Strategy 2.3c: Wildland restoration and fuels reduction

3. Enhance Public Benefits from Trees and Forests

North Dakota Priority Issue 3.1: Strengthening educational outreach

Strategy 3.1a: Increase awareness (educational sessions and distance learning) of and benefits of and threats to forest resources

Strategy 3.1b: Connect people to trees and forests and engage them in environmental stewardship activities

North Dakota Priority Issue 3.2: Adapting to climate changes

Strategy 3.2a: Manage existing forests to improve health

Strategy 3.2b: Reduce forest conversion

Strategy 3.2c: Plant new trees to increase carbon sequestration

Section 2.

Activities Taken by North Dakota's Stakeholders to Address Strategic Actions

Nature Preserves Act

In 1975, the North Dakota Legislature passed the Nature Preserves Act (NDCC 55-11), which gives the North Dakota Parks and Recreation Department the responsibility to set aside a system of natural areas and nature preserves for the benefit of North Dakota citizens. There are three related programs that are managed by the North Dakota Parks and Recreation Department. The Natural Area designation means any area of land and/or water, whether in public or private ownership, which has unique natural features. Five areas have been enrolled in the Natural Areas program. Public or private landowners may also enter into a non-binding agreement to protect their land through the Natural Areas Registry Program. Approximately 50 sites have been successfully registered to date. The Natural Heritage Inventory identifies North Dakota's natural features and establishes priorities for their protection. Since the inventory's inception in 1981, over 5,000 records of important species and habitats have been identified and catalogued.

Strategies Addressed:

- 1.1a: Identify, conserve, and actively manage high priority native forest lands
- 3.2a: Manage existing forests to improve health

North Dakota State Wildlife Action Plan (SWAP)

The 2015 North Dakota SWAP replaces the 2005 North Dakota Comprehensive Wildlife Conservation Strategy as the principle document for safeguarding rare and declining fish and wildlife species in North Dakota. The SWAP is a habitat based, rather than species based approach. The landscape classification system includes Rivers, Streams, and Riparian; Badlands; and Upland Forests and identifies forested focus areas for each classification.

Strategies Addressed:

- 1.1a: Identify, conserve, and actively manage high priority native forest lands

Forest Resource Mapping and Reporting System

The NDSU GeoScience Department and NDFS partnered to implement the "Forest Resource Mapping & Reporting System" which developed a web-based system to inventory forest species, map resource threats, and identify priority forest landscapes.

Strategies Addressed:

- 1.1a: Identify, conserve, and actively manage high priority native forest lands

Forest Stewardship Tax Law (FSTL)

Over 41,000 acres are enrolled in the FSTL which is authorized by North Dakota Century Code Chapter 57-57 and administered by the State Forester. The FSTL offers tax incentives to landowners for preserving and protecting forest resources. The program reduces value-based property taxes to 50 cents per acre per year on eligible lands.

Strategies Addressed:

- 1.1a: Identify, conserve, and actively manage high priority native forest lands
- 1.1b: Development of incentives and cost-effective measures for management
- 3.2b: Reduce forest conversion

Forest Restoration Initiative (FRI)

The North Dakota FRI conserves, protects and enhances priority forest landscapes through an innovative collaborative project initiated by the NDFS. The FRI assists city foresters, park districts, and community tree boards in restoring community forests through damage assessments, effective green infrastructure planning, implementation of disaster response strategies and forest health monitoring. Funds are used for contracting assessments, disaster response planning, community forest monitoring and the implementation of community forest restoration projects. In rural areas, the initiative assists landowners and natural resource professionals with restoring upland and riparian forests, as well as rural plantings. Forest conditions, including tree mortality, natural regeneration and invasive species establishment are monitored. Forest health surveys are conducted, forest stewardship plans prepared, hazardous fuels removed to mitigate wildfire risks and implement forest restoration practices.

Strategies Addressed:

- 1.1a: Identify, conserve, and actively manage high priority native forest lands
- 1.1b: Development of incentives and cost-effective measures for management
- 1.3b: Actively and sustainably manage trees and forests
- 2.1b: Restore Native Forests impacted by Invasive Tree Pests and Invasive weeds
- 3.2b: Reduce forest conversion

Hazardous Fuels Reduction – North Dakota Forest Service (NDFS)

The NDFS hazardous fuel reduction project are targeted at nonfederal lands adjacent to National Forest System (NFS) lands. These lands are targeted due to the USDA-FS prescribed fire program in the areas of concern, and provide risk mitigation by removing hazardous fuel and offering a higher degree of protection to communities and homes that may be at risk. The hazardous fuels reduction efforts are centered in the southwest portion of North Dakota, west of Amidon. The Ponderosa Pine Hazardous Fuels Reduction Prescription is outlined within the landowner's Forest Stewardship Management plan. This multi-year effort is taking place on private land treating overstocked, deteriorating ponderosa pine stands adjacent to the Dakota Prairie Grasslands.

Strategies Addressed:

- 1.1b: Development of incentives and cost-effective measures for management
- 1.2b: Incorporate management techniques and/or disturbances that promote/sustain terrestrial ecosystems. Develop learn and teach methods to remove nuisance woody plants
- 2.3b: Restore fire-adapted lands and reduce the risk of wildfire impacts

Forestry Best Management Practices (BMPs)

The NDFS developed BMPs to help ensure productivity of forest land during tree planting, timber harvesting, thinning and other forest management activities. BMPs serve as a basis for sound management decisions and can often be applied directly by the landowner. The NDFS provides assistant to landowners to develop a Forest Stewardship Plan for their forest land and planting areas.

Strategies Addressed:

- 1.1b: Development of incentives and cost-effective measures for management

Forest Stewardship Program (FSP)

The FSP provides technical assistance to nonindustrial, private forest landowners to encourage and enable active, long-term forest management. The Forest Stewardship Program offers a written Forest Stewardship Plan to private landowners. These ten-year plans are designed to help the landowner better understand their forest and manage the forest to meet their individual goals, for the benefit of the landowner and the resource.

Strategies Addressed:

- 1.1b: Development of incentives and cost-effective measures for management
- 1.3b: Actively and sustainably manage trees and forests
- 3.2a: Manage existing forests to improve health

3.2c: Plant new trees to increase carbon sequestration

Outdoor Heritage Fund (OHF) - Windbreak Renovation Initiative

The Windbreak Renovation Initiative is a \$1.8 million grant (\$3.6 million project) provided to NDFS by the ND Industrial Commission through the OHF. The project serves to ensure that windbreaks remain a part of North Dakota's conservation heritage and viable part of the agricultural landscape; reduce the number of windbreaks destroyed by offering incentives to replace dead/deteriorating windbreaks; incorporate species diversity and select species most suitable for the site to mitigate future losses due to abiotic factors or insect and disease issues; provide technical and financial assistance to landowners to help achieve their conservation goals; and administer a simple, effective, statewide cost-share program that leverages landowner's match with a source of grant funds for a variety of windbreak renovation practices.

Strategies Addressed:

- 1.1b: Development of incentives and cost-effective measures for management
- 3.2a: Manage existing forests to improve health
- 3.2b: Reduce forest conversion
- 3.2c: Plant new trees to increase carbon sequestration

Cooperative Conservation Partnership Initiative (CCPI)

The South Dakota Department of Agriculture, Division of Resource Conservation and Forestry; North Dakota Forest Service; Nebraska Forest Service; and Kansas Forest Service partnered on a CCPI entitled "*Central Great Plains Shelterbelt Renovation for Water Quality, Reduced Soil Erosion and Wildlife Habitat.*" The goal was to rejuvenate shelterbelts that are no longer functioning properly and renovation treatments included weed control, interplanting, supplemental planting, thinning, pruning, and/or coppicing. The state forestry agencies have a long history of working with producers to address natural resource conservation issues on private lands. Partnerships with local conservation districts and state and private wildlife groups provided technical assistance. The CCPI project provided needed incentives for landowners to implement shelterbelt renovation practices. In North Dakota, 135 projects were initiated and \$1,320,024 obligated for cost-share.

Strategies Addressed:

- 1.1b: Development of incentives and cost-effective measures for management
- 3.2b: Reduce forest conversion
- 3.2c: Plant new trees to increase carbon sequestration

Mitigation Tree Planting Partnerships

Mitigation criteria established by the North Dakota Public Service Commission (PSC) ensures that trees and shrubs lost or destroyed during construction projects are replaced at a 2:1 ratio. A minimum of 75% of these replacement trees and shrubs must be living at the end of three growing seasons in order to meet the mitigation requirements. The PSC is also responsible for authorizing mitigation tree planting partnerships. The NDFS has facilitated multiple Tree Mitigation Partnerships including the Keystone Pipeline (Case # PU-06-421) 158 projects with 85,316 trees and shrubs planted; Bridger Pipeline, LLC (Case # PU-09-750) 246 projects with 106,656 trees and shrubs planted and; Enbridge (Case #s PU-10-612, PU-10-613, PU-11-232, and PU-11-606) 11 projects with 1,869 trees and shrubs planted.

Strategies Addressed:

- 1.2a: Mitigate forestland lost due to urban sprawl, agricultural clearing, and utility development
- 3.2c: Plant new trees to increase carbon sequestration

OHF – Tree Planting Assistance

The North Dakota Conservation District Employees Association, in partnership with the NDFS and ND Association of Soil Conservation Districts, were successful in securing a \$1.878 million OHF - Tree Planting Assistance grant

from the Industrial Commission. The effort engages stewards to embrace conservation practices that promote the ecological services trees provide. The initiative focuses on encouraging and providing financial assistance to implement agroforestry practices in North Dakota including farmstead, feedlot and field windbreaks; forestry, wildlife and riparian plantings, buffers, and living snow fences.

Strategies Addressed:

- 1.2a: Mitigate forestland lost due to urban sprawl, agricultural clearing, and utility development
- 3.2c: Plant new trees to increase carbon sequestration

USDI - Theodore Roosevelt National Park

Theodore Roosevelt National Park's prescribed fire program addresses three interrelated goals. Resource benefit burning is intended to impact specific species, and is performed to the benefit or the detriment of a certain species. Examples include promoting grass growth by reducing woody plants, or controlling invasive plants like leafy spurge. Hazard fuel reduction removes fuels like woody plants that contribute to uncontrollable wildfires. Hazardous fuel build-up leads to the destructive wildfires which destroy homes and lives. Wildland-urban interface fires remove fuels adjacent to populated areas to protect lives and property. The goal is to lower the chance of an uncontrollable wildfire. Hazard fuel reduction and wildland-urban interface management goals are also achieved by mechanical means like cutting and haying.

Strategies Addressed:

- 1.2b: Incorporate management techniques and/or disturbances that promote/sustain terrestrial ecosystems. Develop learn and teach methods to remove nuisance woody plants
- 2.3b: Restore fire-adapted lands and reduce the risk of wildfire impacts
- 2.3c: Wildland restoration and fuels reduction

Dakota Prairie Grasslands/Nature Conservancy

The USFS - Dakota Prairie Grasslands and The Nature Conservancy, entered into a memorandum of understanding to cooperate in managing prescribed fire activities on the Sheyenne National Grassland and adjacent Conservancy lands. This agreement provides capability for the Dakota Prairie Grasslands and The Nature Conservancy to coordinate and assist one another with the use of prescribed fire for restoring, maintaining and conserving the tall grass prairie. Fire is a key disturbance factor in restoring and maintaining the tall grass prairie ecosystem. The two entities continue sharing of personnel and equipment, and implementation of cross boundary prescribed burns that benefit both USFS and Conservancy lands.

Strategies Addressed:

- 1.2b: Incorporate management techniques and/or disturbances that promote/sustain terrestrial ecosystems. Develop learn and teach methods to remove nuisance woody plants
- 2.3b: Restore fire-adapted lands and reduce the risk of wildfire impacts
- 2.3c: Wildland restoration and fuels reduction

USDI Fish & Wildlife Service (USF&WS)

The USF&WS uses prescribed fire on refuges and waterfowl production areas in North Dakota to manage grasslands. Historically, natural fires caused by lightning burned the Refuge's grasslands and marshes, recycling nutrients, cleaning out old growth and promoting new vegetation. Refuge staff incorporates prescribed burning to manage grasslands the way natural fires once did. Benefits of burning include: improves native habitats and controls noxious weeds; reduces thatch and promotes seed germination; increases nesting and escape cover for birds; and stimulates the growth of sprouts which are food for deer and other wildlife.

Strategies Addressed:

- 1.2b: Incorporate management techniques and/or disturbances that promote/sustain terrestrial ecosystems. Develop learn and teach methods to remove nuisance woody plants
- 2.3b: Restore fire-adapted lands and reduce the risk of wildfire impacts
- 2.3c: Wildland restoration and fuels reduction

The North Dakota Game and Fish Department (NDG&F)

The NDG&F has identified Russian olive as a non-native, exotic, woody invader that out-competes native vegetation such as cottonwoods and willows; degrades wildlife habitat; and reduces recreational values. Russian olives have contributed to a change in the riverine habitat by shading river banks, reducing available water resources, and displacing native plant species, both herbaceous and woody. The department's habitat improvement projects address habitat fragmentation by removing a non-native, invasive tree species (Russian olive) from native ecosystem including riparian forests. The project serves to restore riverine systems to a more historical state and directly benefit species identified as Species of Conservation Priority in the North Dakota Comprehensive Wildlife Conservation Strategy. The restoration efforts target Wildlife Management Areas around the Missouri-Yellowstone River confluence.

Strategies Addressed:

- 1.2b: Incorporate management techniques and/or disturbances that promote/sustain terrestrial ecosystems. Develop learn and teach methods to remove nuisance woody plants
- 2.1b: Restore native forests impacted by Invasive tree pests and invasive weeds
- 2.3b: Restore fire-adapted lands and reduce the risk of wildfire impacts
- 2.3c: Wildland restoration and fuels reduction

Biomass Feasibility Studies

The Energy and Environment Research Center (EERC) developed feasibility studies that covered equipment options, specifications, and economics to implement the use of biomass energy. A resource assessment was conducted for availability of biomass in the area, and energy profiles were conducted to size equipment options and to determine potential savings relative to firing biomass. Various quotations were collected to determine capital costs for equipment, and economics were estimated based on the quotations, operational costs, and potential savings. A feasibility study was completed statewide and individual studies by the EERC and private consultants specifically for the communities of Bottineau, Bismarck, Minot and Dickinson.

Strategies Addressed:

- 1.3a: Identify wood utilization and biomass opportunities

Flood Affected Woody Biomass

The NDFS awarded a grant to the NDSU Agricultural and Biosystems Engineering Department. The project served to assess the technical feasibility of wood biomass utilization, determine market opportunities, and develop educational materials to local managers and users following the historic floods of 2011. Products of the project include (1) recommendation of best management practices of handling the affected woody biomass, (2) engineering quality analysis of affected woody biomass, (3) market potential estimates of the products, (4) scenario analysis and mapping and estimation of flood affected and insect damaged wood resources, (5) as study of the available technologies of ND organizations handling forestry biomass and the feasibility of these technologies, (6) local demand and supply assessment for the damaged woody biomass, (7) plan of small-scale local industries to handle such materials to NDFS and (8) educational outreach to local resource managers and users. A "Flood-Affected Woody Biomass Utilization Technical Workshop and Demonstration" was held in May 2015, at the Northern Great Plains Research Laboratory, USDA-ARS. The session considered both flood affected and biomass that would be generated from EAB killed trees if this invasive tree pest became established in the state. The project also resulted in "Flood Affected Woody Biomass Utilization Opportunities in North Dakota" by Md. Abdul Momin, Agricultural and Biosystems Engineering Department, NDSU.

Strategies Addressed:

- 1.3a: Identify wood utilization and biomass opportunities
- 3.2a: Manage existing forests to improve health

Biomass Boiler – Bismarck Public Works Landfill Building

Two wood waste biomass projects have been implemented within the community of Bismarck. The City of Bismarck and the NDFS developed a pilot project for the city using wood chips to heat the Public Works landfill building. The conversion resulted in significant annual savings in the cost of heating the complex. The wood-fired hot water heating system utilizes proven existing technology. Construction consisted of a centrally-housed biomass fired hot water boiler with hot water piping to connect the buildings at the Public Works landfill buildings and modernization of existing distribution systems to provide maximum heating efficiency.

Strategies Addressed:

- 1.3a: Identify wood utilization and biomass opportunities

Biomass Boiler - Bismarck Aquatic Center

The Bismarck Parks and Recreation District (BPRD) completed a feasibility study to determine that utilizing wood chips to heat the BPRD Indoor Aquatic Wellness Center building is economically viable. Construction of the Indoor Aquatic Wellness Center included utilization wood chips as a heating fuel source resulting in significant annual savings in the cost of heating the complex. The wood-fired hot water heating system utilizes proven existing technology and serves as a demonstration site and enhancement to the National Energy Center of Excellence at Bismarck State College.

Strategies Addressed:

- 1.3a: Identify wood utilization and biomass opportunities

Community Threat Assessment Protocol (CTAP)

CTAP is an urban forest survey and assessment approach that was developed under the first project phases of the Great Plains Initiative (GPI). Rapid street tree inventories are conducted in selected communities across North Dakota by ND Forest Service Community Forestry Program staff. These inventories provide detailed and specific assessments of the environmental and economic impacts of selected invasive pests on these communities, at the community level. In addition, the use of iTree and Forest Health Risk Assessment protocols provide a means of data analyses, spatial mapping, and reporting. Emerald ash borer is one of the primary potential threats facing North Dakota's community forests. Preliminary summaries of CTAP street tree data reveal populations of green ash ranging from 16 to nearly 80 percent, with an average street tree population consisting of 46 percent green ash. In 2012-2014, NDFS Community Forestry staff completed 63 CTAP assessments in communities.

Strategies Addressed:

- 1.3b: Actively and sustainably manage trees and forests
- 2.1a: Assist communities in planning to mitigate potential damage caused by invasive tree pests
- 2.2b: Promote species diversity and forest health practices in communities
- 3.2a: Manage existing forests to improve health

NDFS Community Forestry Grants

The NDFS provides a variety of Community Forestry grants to stimulate the development of innovative and effective community forestry program development projects or community forestry tree planting projects that increase the diversity of trees in the community. These include ATB Program Development (ATB PD) and Tree Planting (ATB TP) Grants. Community Family Forest (CFF) grants were developed to honor families in the state by planting trees in ND communities, and to strengthen the tradition of annual tree planting. The state also established the North Dakota Disaster Recovery Task Force, a long term recovery team intended to assist local leaders deal disaster recovery planning for green infrastructure. The project included: damage inventory of community forest and tree resources, an assessment of biomass utilization opportunities, a disaster recovery guide for communities, and assistance to communities for tree removal and replanting. The 2011 North Dakota Legislature provided \$250,000 in one-time general funds for the NDFS to help North Dakota communities eradicate emerald ash borer (EAB) when it arrives. The NDFS, in association with the North Dakota Community Forestry Council, established a framework to administer grants in the event emerald ash borer is discovered in North

Dakota. The funding is available through the agency's Community Forestry Grant Program to assist communities with tree removal and replacement on a 1:1 match.

Strategies Addressed:

- 1.3b: Actively and sustainably manage trees and forests
- 2.1a: Assist communities in planning to mitigate potential damage caused by invasive tree pests
- 2.1c: Reduce risk of introduction in areas where risk of introduction is greatest.
- 2.2b: Promote species diversity and forest health practices in communities
- 3.2a: Manage existing forests to improve health
- 3.2c: Plant new trees to increase carbon sequestration

North Dakota Urban and Community Forestry Association (NDUCFA) - Planning

The NDUCFA developed an EAB Preparedness and Response Plan template for communities to utilize. Guidelines provide additional background, information and resources for each element of a community plan. Preparedness and response assist communities in managing the threat posed by EAB. The materials provide additional information that may be incorporated into plans or referenced by the plan.

Strategies Addressed:

- 2.1a: Assist communities in planning to mitigate potential damage caused by invasive tree pests
- 2.1c: Reduce risk of introduction in areas where risk of introduction is greatest.

NDUCFA - Annual Conference

NDUCFA along with the North Dakota Nursery & Greenhouse Association host a jointly planned annual conference. The event includes speakers, trade show, and social events. NDUCFA has hosted this conference for 27 years and topics range from proper tree planting, tree pruning, hazardous tree identification, to a variety of EAB-related topics. Many sessions are geared to assist communities in planning to mitigate potential damage caused by invasive tree pests.

Strategies Addressed:

- 2.1a: Assist communities in planning to mitigate potential damage caused by invasive tree pests
- 2.2b: Promote species diversity and forest health practices in communities

ND First Detectors Program

The ND First Detectors program trains volunteers to help diagnose and report possible infestations of invasive species to the North Dakota Department of Agriculture. First Detectors are a part of the National Plant Diagnostic Network (NPDN) First Detector Program which promotes the early detection of invasive plant pathogens, arthropods, nematodes and weeds. This component centers on enhancing educational outreach and building capacity to detect and respond to invasive pests and pathogens that threaten the states forest resources. There have been over 300 First Detectors trained since the program was initiated.

Strategies Addressed:

- 2.1a: Assist communities in planning to mitigate potential damage caused by invasive tree pests
- 2.1d: Development of a first detectors program

EAB Awareness Week

EAB Awareness Week is an opportunity for state and local agencies, environmental groups, community organizations, schools, businesses, industry, tourists, and citizens to take action against the introduction and spread of EAB. In 2013, there were over a dozen communities that participated in EAB Awareness Week, the number grew to 31 in 2014, and 49 in 2015.

Strategies Addressed:

- 2.1a: Assist communities in planning to mitigate potential damage caused by invasive tree pests
- 2.1c: Reduce risk of introduction in areas where risk of introduction is greatest.

River Keepers

River Keepers has identified riparian forests are among the most important of all forests in the Great Plains. These forests face tremendous pressures such as invasive pests, noxious weed encroachment, and summer flooding that has impacted existing trees and forests. The loss of riparian forest has increased bank slumping which adds sediment to the river and threatens water quality. River Keepers helps restore riparian forests by establishing local riparian demonstration sites, educating and connecting our urban residents and youth groups, and restoring the natural, social and esthetic values once associated with our riparian forests. Using professionals and volunteers-noxious weeds are removed, new trees planted, and interpretive signs installed along recreational trails in the riparian forest.

Strategies Addressed:

2.1b: Restore Native Forests impacted by Invasive Tree Pests and Invasive weeds

EAB Survey

The North Dakota EAB survey initiative is a collaborative effort between USDA's Animal and Plant Health Inspection Service (APHIS), the ND department of Agriculture, NDFS and Tribal cooperators. EAB Surveys employed the manufactured detection tool, or "trap," to locate potential beetle populations in North Dakota.

Strategies Addressed:

2.1c: Reduce risk of introduction in areas where risk of introduction is greatest.

North Dakota State University (NDSU)

The NDSU Woody Plant Improvement research program involves the breeding, selection, evaluation and introduction of hardy woody plants for the Northern Plains. This program has introduced over 50 superior woody plants for production and sale with increased disease tolerance and winter hardiness for landscapes throughout the Northern Plains. NDSU woody plant introductions are currently being propagated for sale by commercial wholesale firms in three countries; Australia, Canada and the United States (14 states, including 35 nurseries).

Strategies Addressed:

2.2a: Identify seed sources and species adapted to biotic and abiotic conditions of the state.

Towner State Nursery

Towner State Nursery produces one million conifer (evergreen) seedlings in over thirty different species and stock types annually for distribution to landowners. The trees are used for farmstead, living snow fence, field windbreaks, wildlife, forestry and other conservation plantings. The nursery is a self-supporting operation, and since 1927 has sold over 81 million trees. The nursery also provides tree improvement services, such as testing, evaluation, selection and development of improved nursery stock for forestry and conservation plantings.

Strategies Addressed:

2.2a: Identify seed sources and species adapted to biotic and abiotic conditions of the state.

USDA NRCS Plant Materials Center (PMC)

The PMC in Bismarck is devoted to promoting and providing plant materials for conservation. Other Federal and State agencies, universities, and nonprofit organizations are important partners in the process which includes assembling plants or seed collections from representative areas; evaluating initial performance; determining potential for release; documenting production procedures; evaluating cultural and management techniques; testing under actual use conditions; and releasing new plants with cooperators. Their goal is to produce high quality, pedigreed seed/plants and make available to commercial growers and nurseries.

Strategies Addressed:

2.2a: Identify seed sources and species adapted to biotic and abiotic conditions of the state.

Deep Creek Ponderosa Pine Restoration

In September 2004, the Deep Creek Fire burned across private land and USDA Dakota Prairie Grasslands, forcing evacuation of ranches and threatening the community of Amidon. Many acres of ponderosa pine forest on public and private land were impacted. Due to the intensity of the fire, there are extensive areas that are not regenerating due to lack of adjacent surviving trees to serve as a seed source. NDFS staff has collected ponderosa pine cones from trees in the area and containerized seedlings are being grown at Towner State Nursery. A multi-year reforestation program that reintroduces a local ponderosa pine seed source back to the Deep Creek burn area will begin in 2016.

Strategies Addressed:

2.2a: Identify seed sources and species adapted to biotic and abiotic conditions of the state.

Tree City USA

At the annual Tree City Tree Line and Tree Campus USA recognition ceremonies, the NDFS encourages proper tree planting, care and maintenance, and promotes species diversity and healthy trees in communities. In 2014, there were 51 Tree City USA communities certified in North Dakota for their outstanding accomplishments in forestry. Today, 67 percent of North Dakota's residents live in a Tree City USA community. A healthy urban forest is the result of proper planning, management and community investment. Key messages include: benefits depend on healthy trees, healthy trees require quality care, and quality care depends on tree advocates and decision makers.

Strategies Addressed:

2.2b: Promote species diversity and forest health practices in communities

Tree Line USA

Tree Line USA recognizes public and private utilities across the nation that demonstrate practices that protect and enhance America's urban forests. Best practices in utility arboriculture result in healthier and more abundant community forests, and increased reliability of service because properly pruned and maintained trees result in fewer downed lines during storms. North Dakota recognizes Montana-Dakota Utilities Company as the only utility based in North Dakota with this distinction, certified since 2004. MDU provides electric and gas utility service to nearly 320,000 households.

Strategies Addressed:

2.2b: Promote species diversity and forest health practices in communities

Tree Campus USA

The Tree Campus USA program is designed to award national recognition to college campuses promoting healthy urban forest management and engaging the campus community in environmental stewardship. NDSU is recognized as North Dakota's only Tree Campus USA and has been certified as a Tree Campus USA since 2012.

Strategies Addressed:

2.2b: Promote species diversity and forest health practices in communities

Arbor Day

Arbor Day is a holiday in which individuals and groups are encouraged to plant and care for trees. It also provides an opportunity to teach people about the importance of trees and how to properly plant and care for them. Trees planted today will: Improve water quality and protect our drinking water; Slow and reduce stormwater runoff, reducing silt and sediment in our streams, rivers and lakes; Restore damaged forests and rebuild healthy ecosystems; provide food & animal shelters; Shade our homes, lowering energy bills for all of us; Clean our air and reduce air pollution; Beautify our homes, parks, streets, and schools; and make the quality of life better in our neighborhoods.

Strategies Addressed:

2.2b: Promote species diversity and forest health practices in communities

3.1b: Connect people to trees and forests and engage them in environmental stewardship activities

Barnes County WUI

The “2013 Barnes County Wildfire Protection Project (BCWPP)” WUI Grant was awarded to the Barnes County Soil Conservation District. The award is for a three-year grant to implement a priority project identified within the Barnes County Community Wildfire Protection Plan (CWPP) developed in 2006 identifying issues of high priority. These priorities included: reducing fuel loads, improving fire prevention in the WUI, prevention education, and direct outreach to rural landowners at risk. The BCWPP award to the Barnes County SCD is for use to provide cost-share opportunities to landowners for creating defensible space around homes and structures, providing Firewise assessments, developing Forest Resource Management Plans focusing on guiding the successful establishment of young fuelbreaks, and updating the Barnes County CWPP. The project also involves coordinating with the communities of Hastings, Kathryn, Litchville, Sanborn, Valley City and areas surrounding Lake Ashtabula & Bald Hill Dam recreation areas in meeting their fuel reduction priorities as listed in the Barnes County CWPP, and providing education materials to county residents by mailings, radio spots, newsletter/newspaper articles, information on the district web-site, and one-on-one contacts, with the overall goal of reaching 5,000 residents.

Strategies Addressed:

2.3a: Assist communities in planning for and reducing wildfire risks

Community Wildfire Protection Plans (CWPPs)

Healthy Forests Restoration Act (HFRA) in 2003 included the first meaningful statutory incentives for the US Forest Service (USFS) and the Bureau of Land Management (BLM) to give consideration to the priorities of local communities as they develop and implement forest management and hazardous fuel reduction projects. In North Dakota, 17 communities prepared CWPPs. CWPPs address issues such as wildfire response, hazard mitigation, community preparedness, or structure protection - or all of the above.

Strategies Addressed:

2.3a: Assist communities in planning for and reducing wildfire risks

NDP&Rec/NDG&F

North Dakota Parks and Recreation partnered with ND Game and Fish Department to restore native prairies at state parks. Many of the sites at the parks are small non-native or degraded grasslands dominated by crested wheatgrass, smooth brome grass and Kentucky bluegrass. Prairie restoration was accomplished through the use of prescribed fire and mowing.

Strategies Addressed:

2.3b: Restore fire-adapted lands and reduce the risk of wildfire impacts

3.2a: Manage existing forests to improve health

Geographically FIT (Forestry Institute for Teachers)

The NDFS and North Dakota Geographic Alliance partner to deliver Geographically FIT annually. Over the last eight years, participants have toured a portion of the State of North Dakota. This professional development opportunity enables educators an opportunity to expand their content knowledge of North Dakota’s badlands, forests, geography, geology and grasslands, and provides them resources for curriculum planning and development.

Strategies Addressed:

3.1a: Increase awareness of and benefits of and threats to forest resources

Envirothon

The North Dakota Envirothon is a hands-on, problem-solving environmental education program open to high school students throughout the state. The goal of the ND Envirothon is to promote a desire to learn more about North Dakota’s natural environment and to equip students with the knowledge and skills needed to apply the basic principles and practices of resource management and ecology to complex environmental issues. Teams are

associated with a sponsoring school, and usually train the entire school year with their advisor or "coach" in preparation for the annual state-wide competition. Study resources in the fields of soils, aquatics, wildlife, prairie (forestry and rangeland) and a current environmental issue are assembled by natural resource professionals and provided to the teams. Using these resources, students learn the skills of thinking and working as a team to assess natural resource issues affecting the environment. In late spring, each team has the option to select five members and one alternate to compete at the North Dakota State Envirothon Competition.

Strategies Addressed:

- 3.1a: Increase awareness of and benefits of and threats to forest resources
- 3.1b: Connect people to trees and forests and engage them in environmental stewardship activities

Eco-Ed

The Barnes County Soil Conservation District (SCD) in North Dakota began a program using an EPA section 319 grant as the basis for improving the format of the county's conservation tour. Five topics of study were identified. There are 34 SCDs that sponsor ECO-Ed and each event addresses: prairie/grasslands, soils, wetlands, woodlands, and water quality. All of the subjects are covered in relation to water and its importance.

Strategies Addressed:

- 3.1a: Increase awareness of and benefits of and threats to forest resources
- 3.1b: Connect people to trees and forests and engage them in environmental stewardship activities

Project Learning Tree (PLT)

PLT is a national award-winning environmental education program designed for teachers and other educators, parents, and community leaders working with youth from preschool through grade 12. At PLT, the goal is to teach students how to think, not what to think about complex environmental issues. Recognized as a leader in environmental education for more than 35 years, PLT enhances critical thinking, problem solving, and effective decision-making skills. PLT materials are multi-disciplinary and aligned with state and national education standards.

Strategies Addressed:

- 3.1a: Increase awareness of and benefits of and threats to forest resources

Prairie Forester

The Prairie Forester newsletter is circulated in the spring, summer and fall/winter to 4,000 people via hard copy. This free publication provided by the NDFS, is devoted to news articles, ideas and information related to forestry and other issues that impact North Dakotans.

Strategies Addressed:

- 3.1a: Increase awareness of and benefits of and threats to forest resources

Trees Bowl and Trees Awards

The Trees Awards recognize individuals, organizations and agencies who contribute in an outstanding way to forestry activities. Forestry activities can include: fire mitigation, protection and suppression; tree planting, preservation, or maintenance; community forestry efforts; forest management practices; forest recreation; or environmental education. In 2015, the state celebrated the 25th Trees Bowl anniversary. Looking back on 25 years of Trees Bowls, 353 Trees Awards have been presented to award winners, nearly 350,000 fans have attended the games, and 66,200 trees have been handed out to fans.

Strategies Addressed:

- 3.1b: Connect people to trees and forests and engage them in environmental stewardship activities

NDFS - State Forests

State Forests provide wildlife habitat, clean air and water, recreational opportunities, forest products, scenic beauty and other conservation benefits. The North Dakota Forest Service owns five state forests comprising approximately 13,290 acres that are managed to promote sound forestry practices. State Forests play an important role in the economic well-being of several rural communities by attracting hunters, hikers, campers, skiers, snowmobilers, tourists and other outdoor enthusiasts.

Strategies Addressed:

3.2a: Manage existing forests to improve health

Tree Promotion Meeting

For the past 15 years, the NDFS has partnered with SCDs to host an annual Tree Promotion Meeting. The meeting serves to promote, expand, and improve conservation tree planting in North Dakota and promote new concepts including climate change, design and planting specifications, tree species selection and other programs.

Strategies Addressed:

3.2a: Manage existing forests to improve health

3.2b: Reduce forest conversion

3.2c: Plant new trees to increase carbon sequestration

Environmental Quality Incentives Program (EQIP)

EQIP has been designed through a locally-led process. The North Dakota State Technical Committee, consisting of conservation stakeholders across the State, provides NRCS with invaluable recommendations for localizing the program to meet the natural resource needs in North Dakota. The State Technical Committee helps determine statewide resource concerns, develop application ranking criteria, identify eligible conservation practices, recommend practice payment rates, and suggest funding allocations. To accomplish the natural resource goals developed by local work groups, 62 percent of North Dakota's EQIP allocation will be allocated to the counties. The remaining allocation has been prioritized to address statewide priorities recommended by the State Technical Committee including the statewide priority of Forestry and Energy which aids in enhancing forestry and energy conservation resources.

Strategies Addressed:

3.2c: Plant new trees to increase carbon sequestration

Conservation Forestry Initiative

The FY 09 North Dakota Conservation Forestry Initiative S&PF Competitive grant helped local, state, federal, tribal and private conservation leaders on North Dakota's State Technical Committee to advance a forestry initiative to create more opportunities for working lands as intended by Congress in the 2008 Farm Bill. The State Conservationist has designated 3.5 percent of EQIP funding for windbreak renovation, woodland improvement and firewise projects. EQIP stewardship activities have been expanded to include forest management on nonindustrial private forest lands, as well as lands on which forest-related products are produced. The NRCS administers the EQIP forestry initiative through the network of county USDA Service Centers with assistance from SCDs and NDFS. This initiative strengthened coordinated interagency delivery of forestry-related conservation assistance as outlined in a new national MOU signed by conservation leaders.

Strategies Addressed:

3.2c: Plant new trees to increase carbon sequestration

Cooperative Conservation Assistance

The FY 11 Cooperative Conservation Assistance S&PF Competitive grant was a capacity building effort focused on protecting and managing priority forest landscapes. The project increased landowner participation in two EQIP projects involving riparian forest restoration and windbreak renovation. CCA supported education and outreach

efforts increased soil conservation district capacity to assist landowners with comprehensive management planning, and targeted high priority windbreak renovation and riparian forest restoration needs.

Strategies Addressed:

3.2c: Plant new trees to increase carbon sequestration