



**North Carolina Forest Action Plan
National Priorities Section Report
Updated November 20, 2015**



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Document Overview

The 2008 Farm Bill amended 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. North Carolina developed this Plan through the partnership of comprehensive teams of stakeholders. Cross-boundary, landscape scale actions were identified to address issues of concern as well as opportunities. This effort took into account the following three national priorities:

- A. Conserve and Manage Working Forest Landscapes for Multiple Values and Uses*
- B. Protect Forests from Threats*
- C. Enhance Public Benefits from Trees and Forests*

According to the U.S. Forest Service, the national themes are intended to be long-term in nature and serve multiple functions, including:

- Communicate the conditions, threats and opportunities relative to the nation's forests and associated public benefits;
- Identify the desired outcomes and key strategies that will guide the investment of federal funds;
- Provide the framework for a simplified program and budget structure, regional allocations, accountability and reporting results.

7 Goals and 25 Objectives were identified in the 2010 North Carolina Forest Action Plan (NCFAP). This document will link those Goals and Objectives to one of these three national themes and highlight strategic actions that have been taken to date in North Carolina.

Lead Contributors: Goal 1: Ron Myers
 Goal 2: Greg Hicks
 Goal 3: Barry New
 Goal 4: Clay Altizer
 Goal 5: Les Hunter
 Goal 6: Bill Swartley & Tom Gerow
 Goal 7: Nancy Stairs
 Military Partnership: Phil Wallace

Editors: Sean Brogan, Reid Hildreth & Brian Haines

Approved by: David Lane & Scott Bissette

Strategic Actions Taken by National Theme / NCFAP Goals & Objectives

A. **Conserve and Manage Working Forest Landscapes for Multiple Values and Uses**

Desired Outcomes:

- reducing the rate of conversion of forested landscapes to other uses; and
- informing decisions about which landscapes should be conserved as working forests to optimize public benefits for current and future generations.

Key strategies:

- forest products, woody biomass, and environmental services market development;
- tax policies, conservation easements, and county planning tools; and
- facilitating other social and economic incentives to encourage retention of important forested landscapes.

Associated NCFAP Goal 1: Increase the sustainable management and conservation of forests

NCFAP Objective 1.1. Conserve high-priority forest ecosystems and landscapes

Strategic Actions Taken:

- The North Carolina Conservation Planning Tool (CPT) was developed by the N.C. Department of Environmental Quality and provides a valuable means for synthesizing and sharing priority areas of the state's conservation agencies and organizations. By coordinating assessment data, users can identify and map lands that provide multiple resource priorities. Geospatial data layers that can be downloaded by users include maps for Biodiversity and Wildlife Habitat, Open Space and Conservation Lands, Agricultural Lands and Forestry. Refer to <http://portal.ncdenr.org/web/cpt/cpt-home>
- Multiple conservation agencies and organizations along with the N.C. Forest Service (NCFS) have participated and contributed planning, development of online tools, and “on-the-ground” accomplishments to promote both the Longleaf Pine and Shortleaf Pine initiatives. North Carolina’s accomplishments to conserve and promote longleaf pine can be found in the 2014 Range-wide Accomplishment Report prepared by America’s Longleaf.
 - <http://www.americaslongleaf.org/resources/2014-range-wide-accomplishment-report-and-executive-summary/>
 - <http://www.shortleafpine.net/>
- The NCFS has partnered and participated with regional conservation partnerships to hold educational landowner workshops and assist with implementation of stewardship activities such as prescribed burning, invasive species management, and species restoration. Examples of active regional conservation partnerships include: North Carolina Sandhills Conservation Partnership; the Greater Uwharrie Conservation Partnership; the Onslow Bight Conservation Forum; and the Cape Fear Arch Conservation Collaboration.
- The N.C. Department of Agriculture and Consumer Services (NCDA & CS) strongly promotes farmland preservation through the N.C. Agricultural Development and Farmland Preservation Trust Fund (ADFPTF). Since 2005, the ADFPTF has protected nearly 10,000 acres of working farmland and associated woodlands, and allocated almost \$16 million in grant funding for working lands conservation easements and agricultural development projects. Over this period, the number of counties with

Voluntary Agricultural Districts has more than doubled and more than half of the state's counties have adopted Farmland Protection Plans.

- The University of Mount Olive's Agribusiness Center (supported by the Southern Risk Management Education Center and USDA) published "Planning the Future of Your Farm – A Workbook on Farm Succession."
- The Forest Stewardship Program (FSP) continues to partner with conservation organizations to leverage program funds and personnel to support pilot programs in high priority conservation areas. The FSP is working with local land trusts to assist landowners with management plan preparation and enrollment in conservation programs to promote sustainable forestry. The NCFS is partnering with the Tar River Land Conservancy using a Tobacco Trust Fund grant to help fund Forest Stewardship Plans and promote conservation practices within a six-county Tar River conservation area.

NCFAP Objective 1. 2. Assist landowners with actively and sustainably managing forests for economic and social benefits

Strategic Actions Taken:

- Since 2010, the NCFS prepared and/or reviewed 32,044 woodland management plans that resulted in 1,700,139 acres under sound forest management. These woodland plans resulted in 9,722 forest establishment projects on 319,877 acres. The NCFS has been involved in 2,781 prescribed burning projects that resulted in 178,384 acres being burned for the purposes of site preparation, silviculture and wildlife benefits, and hazardous fuel reduction.
- Since 2010, North Carolina's Forest Development Program (FDP) has provided costshare funding on 6,427 projects for forest establishment and stand improvement practices, resulting in the improvement of 252,874 acres. The FDP completed 6,786 forest establishment and stand improvement projects on 222,334 acres. This costshare funding resulted in \$7,928,645 million dollars paid out to North Carolina landowners for sustainable forestry practices.
- Since 2010, silvicultural practices proven to prevent southern pine beetle outbreaks have been completed on 712 properties, impacting 20,434 acres across the state. This includes 7,061 acres of pre-commercial thinning, 10,365 acres of wide-space planting during reforestation (reducing need for pre-commercial thinning), and 3,008 acres of restoration planting of less-susceptible longleaf and shortleaf pine.
- The NCFS and the N.C. Tree Farm Program continue to work closely to assist landowners with active and sustainable management. NCFS personnel have been trained to prepare woodland management plans and provide inspections to help landowners maintain enrollment in the Tree Farm Program. These efforts are in support of Tree Farm meeting its 2010-2015 Standards of Sustainability for Forest Certification. The NCFS and N.C. Tree Farm have partnered to provide resource-specific, landowner education workshops (taxes, wildlife, markets, water issues, conservation, land succession) throughout the state. The North Carolina Tree Farm Program currently has 1,037 Tree Farms participants covering 281,613 acres.
- Since 2010, 672 Forest Stewardship Plans were prepared for North Carolina landowners on 112,742 acres. The N.C. Tree Farm Program currently has 1,043 certified Tree Farms on 281,607 acres.
- The NCFS in cooperation with N.C. State Forest Extension Service partnered to hold seven Non-native Invasive Species (NNI) workshops across NC. The target audience was forest landowners, resource managers, and plant industry professionals. All workshops were well-attended with over 200

participants per event. Outreach materials included the publication of a NNI Pocket Guide and NNI species-specific leaflets.

NCFAP Objective 1.3. Assess and redefine services provided to forestland owners to efficiently and effectively meet their diverse management objectives

Strategic Actions Taken:

- The NCFS partnered with the Natural Resources Conservation Service (NRCS) to establish and utilize a shared Farm Bill Field Coordinator position. This effort's primary focus was to increase promotion and implementation of Farm Bill cost-share programs in a 15-county focus area. This partnership resulted in increased longleaf establishment and prescribed burning in southeastern North Carolina.
- The NCFS and the NRCS implemented their interagency MOU and a Contribution Agreement that reimbursed NCFS for technical assistance and woodland plan preparation. The two agencies continue to work together closely, particularly through the NRCS's State Technical Committee. Emphasis has been placed on providing forest landowners with woodland plans that address all the required elements of the programs they are interested in. Examples of such programs include the state's Present Use Value Tax Program; Forest Stewardship; Tree Farm; and receiving forestry costshare through various agency programs.
- The Roanoke Electric Cooperative has funded the Sustainable Forestry and African American Land Retention Project – Pilot Phase I, within a seven-county area located in the northeastern coastal plain of North Carolina. NCFS personnel have provided site visits, woodland plan preparation, and technical assistance to underserved landowners. With NCFS assistance and cooperation in this project, 37 forest management plans were prepared for 1,900 acres. Sustainable forestry and land retention outreach has been provided to 180 families.

NCFAP Objective 1.4. Strengthen and support an urban-focused initiative that meets ownership objectives for urban-rural interface landowners and communities

Strategic Actions Taken:

- The NCFS has increased the number of Certified Arborists on staff to address the growing urban/suburban forestry needs. The NCFS has 24 Certified Arborists, with an additional six that will be taking the exam in December, 2015.
- Staff from the NCFS, U.S. Forest Service and several other southern forestry agencies have become certified as Urban Forestry Strike Team members that are prepared to provide assistance to urban communities following natural disasters. The NCFS has four fully-qualified strike team leaders and nine additional team members. A mock disaster training exercise is planned for May, 2016.
- The N.C. Urban Forest Council and the NCFS sponsored a N.C. Urban Wood Utilization Conference in Durham, N.C. on June 28th, 2012. Efforts to improve the utilization of urban wood have continued, including local demonstrations in Charlotte, NC, as well as the development of an "Urban Wood Utilization" listserve.
- The NCFS partnered with the Virginia Tech Department of Forest Resources and Environmental Conservation to publish "Urban Forest Waste Generation and Utilization in North Carolina: A Survey Study of Current Practices and Perceptions."

Associated NCFAP Goal 4. Maintain or increase the viability and sustainability of existing and emerging markets

NCFAP Objective 4.1. Advocate forest sustainability and market viability (current and future) for consumers and producers

Strategic Actions Taken:

- The NCFS Utilization Forester has been actively engaged with statewide forestry stakeholder groups including the N.C. Forestry Association, N.C. State University - College of Natural Resources, Carolina Loggers Association, N.C. Department of Agriculture – International Marketing, N.C. Ports Authority, etc. Approximately 25 presentations have been delivered highlighting the health and status of the forest products industry in North Carolina, including one presentation in China.
- Several international delegations have visited North Carolina, including a Danish Delegation comprised of Parliament members, other federal government officials, and energy company executives. A United Kingdom energy company representative visited in 2012. There were also two Chinese log and lumber buying teams that visited North Carolina over the last 5 years, as well as numerous individual Chinese buyers.
- The NCFS has sent representatives on international forest trade missions to China, Germany, the United Kingdom and the Netherlands during the past 5 years.
- NCSU's Wood Products Extension has had a number of successful projects, such as its Secondary Wood-Using Industry Directory Project. The Growing Hardwood Demand Project, designed to increase furniture sales to government agencies and school districts, is also yielding positive results.
- NCFS currently has twenty five foresters and rangers trained as Tree Farm inspectors. This is in support of its 2011 forest conservation and outreach MOU with N.C. Tree Farm and the NRCS. It is also directly related to efforts at increasing North Carolina's supply of certified wood.
- The NCFS maintains statewide lists of forestry service providers (ex. private consulting foresters; timber buyers; site prep and tree planting contractors; private prescribed burners) on its website. These lists are distributed to landowners, oftentimes along with outreach material that highlights "best practices" for choosing such providers.

NCFAP Objective 4.2. Advocate and promote domestic and export market opportunities for traditional forest products, including biomass and underutilized species

Strategic Actions Taken:

- Numerous international delegates (ex. 2013 Danish delegation) have visited North Carolina to see our forest resource base and witness forest management practices to satisfy strict European Union chain-of-custody sourcing guidelines for wood pellets. A North Carolina delegation visited the United Kingdom to meet with Parliament members and government officials to address questions related to the use of woody biomass for power generation.
- North Carolina hosted a Mid-Atlantic Export Conference in 2013 to promote North Carolina's annual \$1.5 billion forest products export market. Forestry representatives have participated in both outbound and inbound trade missions (ex. China and Germany).
- N.C. State University – Extension Forestry staff established a statewide wood energy team. This group is exploring ways to develop biomass markets in western North Carolina. N.C. State University – Wood Products Extension has successfully completed several projects to develop markets for low grade hardwood and other underutilized species.
- The Carolina Loggers Association, Hatton-Brown Publishers, and the N.C. Forestry Association hosted three Mid-Atlantic Logging and Biomass Expos in North Carolina (2011, 2013, and 2015). These events have been well-attended and have showcased forestry's \$24.7 billion total economic contribution to North Carolina's economy.

NCFAP Objective 4.3. Advocate and promote markets for forest-derived ecosystem services, non-timber products, and ecotourism

Strategic Actions Taken:

- North Carolina hosted a regional Ecosystem Services Workshop in 2014, which attracted participants from the entire 13-state southern region. Attendees represented state and federal government, academic institutions, and non-governmental organizations.
- The North Carolina Foundation for Soil and Water Conservation received a 2013 NRCS Conservation Innovation Grant (\$207,267) to “*Determine Certainty Program Framework of a Market Based Conservation Initiative for Longleaf Pine Habitat Improvements in Eastern North Carolina*”. This project will focus on the development of a habitat exchange system framework for wildlife species mitigation at an ecosystem level with an emphasis on market-based conservation and Certainty Program models within the traditional range of the longleaf pine ecosystem in eastern North Carolina. The integration of these approaches will present a substantial innovation in the delivery of wildlife habitat conservation on a landscape scale and provide a pilot model approach that can be expanded and replicated regionally within the ecosystem and nationally to address other ecosystem needs.
- NCFS personnel identify and promote ecosystem services and non-timber product production in management and Forest Stewardship Plans for forest landowners.
- North Carolina forestry partners (ex. USFS; Southern Group of State Foresters; N.C. State University; NCFS) completed a 2015 survey highlighting details related to non-timber forest products. The survey findings are available upon request.
- NCFS provides examples of how working forests can provide ecosystem services and non-timber products through its seven educational state forests, DuPont Recreational State Forest and Bladen Lakes State Forest. Signage, field tours, research and demonstration projects actively support multiple use management principles.

Associated NCFAP Goal 5. Increase and enhance forest fish and wildlife habitat

NCFAP Objective 5.1. Protect and conserve priority forest fish and wildlife habitat

Strategic Actions Taken:

- *Retaining Working Forests* is an Open Space Institute (OSI) report that was produced in collaboration with the Partnership for Southern Forest Conservation. The publication assesses a 33-county area in eastern North Carolina, highlighting both the challenges and opportunities related to conservation and economic sustainability. The report focuses on Timber Investment Management Organizations (TIMOs) and Real Estate Investment Trust (REIT) managers of large forest ownerships. The report collects critical information to make the case for retaining working forests in North Carolina. OSI’s study emphasizes the importance of non-government organizations (NGOs) and private landowners, as well as the need to incentivize the retention of working forests.
- There are 11,022 acres enrolled in the N.C. Forest Legacy Program; 3,585 acres have been added since 2010, including the acquisition of the Headwaters tract in Transylvania County and the donation of 812 acres in Moore County. All 15 North Carolina Forest Legacy projects are managed utilizing recommendations from their Forest Stewardship Plans.
Wildlife management and T&E Species play an important role in the ongoing management of the NC Forest Legacy Program. These resources are addressed in each Forest Stewardship plan for each of the Forest Legacy projects. USFW Service and NCWRC are important resources to help identify and make management recommendations to foster management of T&E species and wildlife present on the

tracts. A broad range of expertise is needed from these organizations as advice is implemented on managing RCW in central and eastern NC as well as mountain bog habitat which supports the mountain bog turtle in the NC mountain regions. USFW Service was instrumental in helping identify areas of concern in NC while the classification of the Northern Long eared bat was being discussed. Over the past five years, 589 Forest Stewardship plans were written involving 104,938 acres. The NCFS has shared an excellent working relationship with North Carolina Wildlife Resources Commission (WRC) for many years and recognizes WRC for its expertise in landowner education and outreach. A Memorandum of Agreement (MOA) is currently in place to provide guidance for the roles of each agency when providing informational, educational, and technical services to landowners associated with the Forest Stewardship Program (FSP) and to identify specific services that each agency will provide.

- Fish and Wildlife recommendations are included in the Resource Elements to be included in a Forest Stewardship Plan. The Forest Stewardship plan preparer is directed to consider, describe and evaluate this resource element when present and their importance to the ownership.
- The Carolina Mountain Land Conservancy, The Conservation Fund, the NCFS, U.S. Forest Service Forest Legacy Program, and U.S. Fish and Wildlife Service have worked together in a unique private-public partnership to ensure the permanent protection of the East Fork Headwaters tract. This conservation effort is part of a landscape-scale approach to protect large, undivided forests in the Southern Appalachian Mountains. The 8,000 acre East Fork Headwaters tract will complete the missing link in a contiguous chain of nearly one million acres of protected, public lands. The NCFS will manage the land once the acquisition phase is complete. Rare mountain bogs found within the conservation project may be included within the U.S. Fish and Wildlife Service's new Mountain Bogs National Wildlife Refuge.
 - The N.C. Wildlife Resources Commission (NCWRC) documented the presence of two species of concern within the Phase IV tracts: federally petitioned Eastern Hellbender (*Cryptobranchus a. alleganiensis*) and the state endangered and federally petitioned Green Salamander (*Aneides aeneus*).
 - The N.C. Natural Heritage Program has documented the presence of two federal species of concern within the Phase IV tracts: French Broad Heartleaf (*Hexastylis rhombiformis*) and Gorge Filmy Fern (*Hymenophyllum tayloriae*).
 - The U.S. Fish & Wildlife Service and the N.C. Wildlife Resources Commission are currently surveying for the presence of the federally petitioned bog turtle (*Clemmys muhlenbergii*) on the Phase IV tracts.
 - According to the N.C. Natural Heritage Program, the Phase IV tracts will buffer occurrences of federally endangered Rock Gnome Lichen (*Gymnoderma lineare*), state rare Liverwort (*Plagiochila caduciloba*), and the Eastern Woodrat (*Neotoma floridana*), a state species of concern.
 - Fish, wildlife, plants & forest communities: The Phase IV tracts will protect riparian communities that can support Southern Appalachian Mountain Bog sites in addition to the nine bogs identified by the U.S. Fish & Wildlife Service and located within the proposed State Forest boundary.
 - The NCWRC has documented natural occurrences of North Carolina's only native salmonid, the Appalachian Brook Trout, within the Phase IV tracts.
- The NCFS utilizes the "Conservation Recommendations for Priority Terrestrial Wildlife Species and Habitats in North Carolina", a 2015 NCWRC publication which was reviewed by agency partners. It is most commonly used as a supplemental handbook for special wildlife recommendations.

NCFAP Objective 5.2. Restore and actively manage forests to benefit priority fish and wildlife habitats

Strategic Actions Taken:

- The 8,000-acre Headwaters property (acquired in part with Forest Legacy funds) will be managed as a working Stewardship Forest by the NCFS, as well as a N.C. Wildlife Resources Commission State Game Land. The forest will continue to be part of the commercial timber base and the wildlife habitat that will favor both game and non-game species. Management of this property will serve as a model for multi-use natural resource management, blending sustainable forestry, wildlife conservation, habitat management, and restoration with educational and recreational opportunities for the enjoyment of all North Carolina citizens. The Forest Legacy Headwaters project will preserve more than 60 miles of streams classified as High Quality Waters. The French Broad River is a major drinking water source for residents in Asheville, Hendersonville, and Brevard. The tract will also protect documented occurrences of a federally-endangered plant species and other plant and animal species of concern, such as the native strain of the Southern Appalachian brook trout and Appalachian mountain bogs.
- All 15 N.C. Forest Legacy projects are managed under current Forest Stewardship Plans which address fish and wildlife resource elements.
- All 15 N.C. Forest Legacy conservation easement projects are monitored annually to ensure compliance with the programs standards.
- The NCFS supports and utilizes the 2015 NCWRC publications “*Conservation Recommendations for Priority Terrestrial Wildlife Species and Habitats in North Carolina*”, which was reviewed by agency partners. This is most often used during the creation of Forest Stewardship Plans with advanced wildlife management needs.
- The Partners for Fish and Wildlife Program is the U.S. Fish and Wildlife Service’s primary mechanism for delivering voluntary on-the-ground habitat improvement projects on private lands. Migratory birds, anadromous or migratory fish, and endangered or threatened species are the target beneficiaries of the program’s efforts. The program provides technical and financial assistance to landowners who restore and enhance fish and wildlife habitat on their property. The endangered Appalachian elktoe, found in the Upper Little Tennessee River basin, is one example of a species whose habitat is benefiting from such efforts.
- Silvicultural activities on 3,031 acres were conducted on eight NCFS State Forests improving soil, water and forest health on state-owned forests.
- Bladen Lakes State Forest (managed by the NCFS) has a total land base of 32,945 acres, with 16,131 of these acres under some form of active forest management. Some of these are natural stands (not planted) but are managed and have a harvesting regime. There are 8,226 acres of longleaf pine, including about 2,000 acres of straw stand. Other species under management include: Loblolly Pine, Slash Pine, Shortleaf Pine, mixed hardwoods, Atlantic White Cedar, Bald Cypress and Eastern Red Cedar. The rest of the acreage consists of natural stands, which are at this time not under an active management regime.
 - About 5,400 acres of these natural stands are registered under the N.C. Natural Heritage Program. Many of these areas are also in wet places like bays, alongside the Cape Fear River, and several creeks. These areas mostly hold hardwoods, Pond Pine, Atlantic White Cedar and Cypress. The drier and even xeric areas are mostly under natural pine hardwood canopy.
 - Bladen Lake State Forest has five known areas with more than 100 Red Cockaded Woodpecker (RCW) cavity trees. Not all of them are active but there are active nest trees in all of the five areas, two that are adjoining state park lands. Singletary State Park and Jones Lake State Park, have RCW within a quarter mile of the Bladen Lakes State Forest boundary, which means that birds often forage in its pine stands.

NCFAP Objective 5.3. Promote the restoration and conservation of declining tree species and forest ecosystems

Strategic Actions Taken:

- The NCFS Forest Stewardship Coordinator currently serves on the N.C. Plant Conservation Board. The N.C. Department of Agriculture - Plant Industry Division - Plant Conservation Program (PCP) inventories rare plant species and maintains the list of endangered, threatened, special concern, and candidate plant species. They also enforce regulations concerning state-listed plant species and monitors and manage their populations. The Natural Heritage Program (NHP) and N.C. DEQ identify rarer plants. The NHP and PCP jointly decide on listing changes, and the PCP then lists the relevant species as threatened or endangered. NHP houses a database of approximately 500 species, while the PCP database contains 125, of which 24 are federally listed as endangered. The PCP and NHP work closely with the U.S. Fish and Wildlife Service, National Park Service, N.C. State Parks, N.C. Wildlife Resources Commission, N.C. Department of Transportation, N.C. Botanical Garden, and the N.C. Chapter of the Nature Conservancy.
- Pollination by insects plays a significant role in the production of food crop and flowering plants. Without pollinators searching for nectar and pollen for food, the plants would not produce a seed that will create another plant. The NCDA&CS (<http://www.ncagr.gov/pollinators/index.htm>), NRCS and other forestry partners understand the importance of this process and are taking measures to increase habitat for the declining number of pollinators.
- In 2015, the U.S. Fish and Wildlife Service (USFWS) announced the northern long-eared bat as a threatened species under the Endangered Species Act (ESA), primarily due to the threat posed by white-nose syndrome, a fungal disease that has devastated many bat populations. At the same time, the USFWS issued an interim special rule that eliminates unnecessary regulatory requirements for landowners, land managers, government agencies and others in the range of the northern long-eared bat. The public was invited to comment on this interim rule as the USFWS considered whether modifications or exemptions for additional categories of activities should be included in a final 4(d) rule that will be finalized by the end of 2015. The USFWS accepted public comments on the proposed rule until July 1, 2015 and may make revisions based on additional information it received.
- The N.C. Forest Stewardship Program received a supplemental \$70,000 allocation to support North Carolina's Longleaf Initiative. These funds were utilized for longleaf pine cone collection during 2014's heavy cone year, and will be a source of longleaf pine seedlings for years to come.

NCFAP Objective 5.4. Educate natural resource professionals, the general public, landowners, and K- 12 schoolchildren about forestland conservation, restoration, and management, and the value of forests for fish and wildlife habitat

Strategic Actions Taken:

- The N.C. Forest Legacy Cool Springs project is presently owned by the Weyerhaeuser Company and is being used for environmental education. Environmental educational programs are conducted to school groups by appointment.
- From 2011 through 2015, 10,883 landowners and natural resource professionals were present for forestry-related outreach and educational events. These events were sponsored by the Forest Stewardship and/or Forest Legacy programs, oftentimes through funding and presentations. This also included the training of natural resource professionals to write Forest Stewardship Plans. Educational and outreach events included the N.C. State Fair, Mountain State Fair, Cape Fear Wildlife Expo, Tree Farm meetings, and NCFS-sponsored workshops.
- In NCFS was awarded the 2014 Dan Wilkinson WRAL Conservation Communication Award for its efforts related to forest management and water quality protection outreach. The NCFS Forest Stewardship Program's quarterly newsletter was cited as a primary example of the Agency's effective communication.

Military & Forestry Partnership

NOTE - Section 2A(c)(5) of the 2014 Farm Bill stated that Forest Action Plans should highlight “*as feasible, appropriate military installations where the voluntary participation and management of private or state-owned or other public forestland is able to support, promote, and contribute to the missions of such installations.*”

The following are some of the more notable Military / Forestry partnership efforts that have recently occurred in North Carolina:

NCFAP Objective 1.1 Conserve high-priority forest ecosystems and landscapes

Strategic Actions Taken:

- The Market Based Conservation Initiative (<http://ncsoilwater.org/mbc/>) pilot program tested methods of establishing cost effective alternatives to ensuring military readiness by protecting and promoting family farms. The Program focused on the land under a unique 2 mile wide flight training route and special use airspace crossing over 18 eastern North Carolina counties. Over \$3 million in Landowner Contract and Program Funds were provided by the Department of Defense, the Navy and the Marine Corps, the N.C. Agriculture Development and Farmland Preservation Trust Fund and N.C. State University.
- Through Sentinel Landscapes (<https://sentinellandscapes.wordpress.ncsu.edu/partnership-initiatives/working-lands-conservation/>) Marines Corps Installations East has partnered with the N.C. Forestry Association resulting in the Working Lands Trust, which hopes to offer landowners both term and perpetual easements.
- Sentinel Landscapes and N.C. State University has created a “Conserving Working Lands” workbook (<http://agventures.ces.ncsu.edu/wp-content/uploads/2015/06/ConserveringWorkingLandsHandbookFinal-1.pdf? fwd=no>) to promote conservation planning.

NCFAP Objective 5.1 Protect and conserve priority forest fish and wildlife habitat

Strategic Actions Taken:

- Through FY14, over \$112 million in military Readiness and Environmental Protection Integration (REPI) funds have been used to protect over 36,000 acres nationally. Partners in the Sentinel Landscapes partnership in North Carolina have completed an application for the REPI Challenge Program. This effort helped the stakeholders to agree upon priority areas and identify conservation needs of the U.S. Department of Defense installations in eastern North Carolina.

NCFAP Objective 5.2 Restore and actively manage forests to benefit priority Fish and wildlife habitats

Strategic Actions Taken:

- Marine Corps Installations East has dedicated funds to provide planning assistance through the FORCES program within defined project areas
- The NCFAS has conducted prescribed burning on Camp Butner and assisted with forest management planning.
- The National Fish and Wildlife Foundation have awarded multiple grants in support of Red Cockaded Woodpecker (RCW) recovery efforts and reducing incompatible land-uses near both Camp Lejeune and Fort Bragg. The 2015 grants awarded to The Nature Conservancy include the Cape Fear Arch Longleaf Initiative (http://www.nfwf.org/whoware/mediacenter/pr/Pages/forestlandstewards-sc_pr_15-0825.aspx) and the Onslow Bight Longleaf Pine Ecosystem Restoration Project (<http://www.nfwf.org/whoware/mediacenter/pr/pages/forestland-stewards-sc-pr-14-0818.aspx>), both of which support military interest.

NCFAP Objective 7.1 Reduce Impacts of land-use change and urbanization of forested landscapes in and

around urban areas

Strategic Actions Taken:

- The NCFS received a USFS grant to develop and implement a Forest Opportunities for Resource Conservation and Environmental Security (FORCES) pilot project in 2013 to promote sound conservation practices and reduce incompatible land-use in areas of military interest. Priority areas have been identified in conjunction with Fort Bragg and Camp Lejeune military bases.
- The NCFS has employed a FORCES coordinator to lead the efforts this military partnership.
- A FORCES memorandum of understanding was signed in 2014 to create a partnership between the NCFS, N.C. Wildlife Resources Commission, Fort Bragg, and Camp Lejeune.

B. *Protect Forests from Threats*

Desired Outcomes:

Actions under this theme are directed at reducing threats to and restoring forest health and productivity associated with:

- uncharacteristic wildfire;
- insects and disease; and
- invasive species.

Key strategies:

- restoration of fire adapted forests;
- monitoring, assessment, and treatment of forest insect and disease pathogens; and
- prevention, early detection, and rapid response to eradicate or control invasive species.

Associated NCFAP Goal 2. Reduce negative impacts from forest threats

NCFAP Objective 2.1. Minimize the impacts of wildfire on forests, citizens, and communities

Strategic Actions Taken:

- A NCFS Fire Danger Operating Plan was created in an effort to create a decision support tool to aid wildfire response efforts. This is currently being updated as an inter-agency effort with the NCFS and USFS taking the lead.
- The N.C. Smoke Management Program is being updated to include the use of smoke modeling to increase to number of burning days. This will create more opportunities for all prescribed fire practitioners to increase the number of acres benefitting from prescribed fire.
- The N.C. Fire Weather Intelligence Portal (<http://climate.ncsu.edu/fwip/>) was created as a “one stop shop” for fire weather/fire danger. This site allows users to view weather from numerous weather stations throughout the state in real-time. This web based portal provided historical and forecasted information to assist in all aspects of decision making related to wild-fires and prescribed fires.
- NCFS has conducted smoke modeling training and has increased its number of certified smoke modelers to six. The training was available to certified burners in the general public as well as all interagency and NGO partners.
- The NCFS Aviation Division has developed a process for loading single engine air tankers (SEATs) without requiring retardant tanks. This creates a more responsive SEAT program that can preposition resources based on the highest forecasted need. The shortened response time has already resulted in more effective structure protection on recent fires.
- NCFS has started developing the web based Daily Incident Action Log (DIAL) in an effort to improve technology use and create a real-time picture for both the agency and the public to the emergency response efforts by the NCFS. This system will greatly improve the effectiveness of fire response at the local and statewide level.
- Each year the NCFS conducts a statewide media campaign aimed at reducing debris burning-associated wildfires. The 2015 campaign utilized television, radio, and internet commercials and reached an audience of approximately 3.4 million within the targeted demographic of Men, ages 35-54.

NCFAP Objective 2.2. Minimize negative impacts to forest health caused by major, locally significant, or imminent insects, diseases, and nonnative invasive plants.

Strategic Actions Taken:

- NCFS forest health has taken the lead statewide in providing training and outreach related to new threats to our forests for field staff, allied agencies and organizations, and the general public. Threats

to our forests that have invaded our state since 2010 include laurel wilt, thousand cankers disease of walnut, and the emerald ash borer.

- To reach both professionals and the public at their level of understanding, web pages, media outlets, outreach exhibits (posters, banners, and models), and blogs have been produced related to threats to North Carolina forests. Many of these products are copied and used by other agencies, both in-state and out of state.
- Promoting the use of local firewood has been a priority of forest health outreach, and the promotion of the message has increased dramatically since emerald ash borer has been found in the state. In addition to outreach products mentioned above, forest health staff have partnered with NCDA Plant Industries Division, Great Smokey Mountains National Park, N.C. State Parks, North Carolina Forestry Association, Dontmovefirewood.org and others to spread the word.
- NCFS work closely with NCDA&CS Plant Industries Division in surveying, trapping, monitoring and prevention of non-native invasive pests, including gypsy moth, thousand cankers disease of walnuts, emerald ash borer, and laurel wilt, according to individual missions. Out of this synergistic partnership, we have collaborated on outreach efforts to effectively communicate awareness and prevention of these and other pests to protect the forests and trees of the state.
- In addition to traditional trapping and aerial surveys for southern pine beetle and a variety of tree defoliators, NCFS has partnered with NCDA&CS Plant Industries, USDA Forest Service and Animal and Plant Health Inspection Service, local, state and national parks, Eastern Band of Cherokee Indians and others to monitor the spread and respond to findings of invasive pest species.
- As most forest pests are secondary (only attack damaged or weakened trees), the use of sound silvicultural practices to prevent infestations and promote healthy forests have been worked into Forest Ranger (pest control) Training. The use of Southern Pine Beetle Prevention Program costshare is held up as a model to validate that a well-managed forest is a healthy forest.

NCFAP Objective 2.3. Identify impacts and develop long-term approaches that minimize negative influences on forests caused by climate change, air quality, and weather events.

Strategic Actions Taken:

- The USDA Southeast Regional Climate Hub (SERCH) was established at N.C. State University. Forestland is one of their four main areas of focus.
- The Southeast Regional Climate Hub (SERCH) recently released the Southeast Regional Vulnerability Assessment (<http://climatehubs.oce.usda.gov/sites/default/files/Southeast%20Vulnerability%20Assessment%20Final.pdf>)
- The Climate Hubs Toolshed (<http://climatehubs.oce.usda.gov/content/tools-and-data>) provides access to the latest available data and modeling information to assist forest land managers in making appropriate decisions within the context of climate change
- SERCH hosted a series of twelve stakeholder webinars and calls to learn about current needs and priorities.

Associated NCFAP Goal 3. Increase the restoration, maintenance, and management of fire-adapted species and ecosystems

NCFAP Objective 3.1. Promote a greater acceptance of prescribed fire and its increased use.

Strategic Actions Taken:

- The North Carolina Prescribed Fire Council and its conservation partners; the Fire Learning Network, The Nature Conservancy, NCFS, N.C. Wildlife Resources Commission, N.C. State Parks, N.C. State University Extension Forestry, U.S. Forest Service, and U.S. Fish & Wildlife Service; sponsored a Prescribed Fire Training Exchange (TREX) February 15 – 28, 2015 in the Sandhills and lower Uwharries. TREX events, which have been held across the country, bring together a diverse group of fire practitioners with varying degrees of knowledge and experience. Trainees are paired with experienced wildland fire practitioners. Trainees learn about controlled burning from planning, operations, and to post-fire monitoring while improving their qualifications and leadership skills. TREX brings together people with different backgrounds and different perspectives on prescribed fire.
- As a member of the N.C. Prescribed Fire Council the NCFS actively promotes and supports all activities associated with Prescribed Fire Awareness Month in February of each year. This includes proclamations, news releases, interviews, and live fire demonstrations.
- The NCFS offers an annual Certified Burn School in partnership with Montgomery Community College, a requirement to become a Certified Burner (http://ncforestservice.gov/fire_control/fc_howtobeacertifiedburner.htm) in North Carolina.
- The Fire in the Pines Festival (<http://www.fireinthepines.org/>) is a public awareness and outreach event focused on the benefits of prescribed fire, and is held each October at Haliburton Park in Wilmington, NC. The festival draws an attendance of over 1,500 people each year and offers the public a live-burn demonstration to see how prescribed burns are conducted and learn more about their importance to wildlife, rare and endangered species, and ecosystems that depend on fire.
- In its 2013-2016 Strategic Plan (http://ncforestservice.gov/strategic_plan/index.htm), the NCFS adopted the following key initiatives:
 - “Work with the N.C. Prescribed Fire Council to develop and implement strategies and actions to increase the annual non-industrial private forest landowner acreage treated with prescribed fire by 25 percent over a 4 year period.”
 - “Develop a web-based Prescribed Fire Plan generator and a Smoke Management database.”
- In 2013, staff from the NCFS and the N.C. Division of Soil and Water Conservation (NCDSWC) organized a “[Workgroup to Increase Prescribed Burning on Private Lands in North Carolina](https://www.ncsu.edu/nrli/leadership/2013NRLIFellows.php)” (<https://www.ncsu.edu/nrli/leadership/2013NRLIFellows.php>) as part of their Natural Resources Leadership Institute practicum, which focused on understanding the challenges and barriers to prescribed fire implementation. The workgroup consists of stakeholders from both the public and private sector. Through workgroup meetings, surveys, and one-on-one conversations, the workgroup was able to gain a greater understanding of the barriers that exist for both private landowners and contractors for implementing prescribed fire on private lands. Needs for tools and services were identified that will help meet the current and future demands associated with prescribed fire. The workgroup will continue to produce outcomes through collaborative efforts.

NCFAP Objective 3.2. Restore and conserve fire-adapted species, habitats, and forest ecosystem

Strategic Actions Taken:

- The NCFS Nursery & Tree Improvement Program annually grows, promotes, and sells seedlings of several fire-adapted species, including longleaf and shortleaf pine, and six species of native understory grasses.

- Between 2012 and 2015, the N.C. Chapter of The Nature Conservancy received over \$1.8 million in funding from the National Wildlife Federation’s Longleaf Stewardship Fund (<http://www.nfwf.org/longleaf/Pages/home.aspx>) to implement longleaf pine restoration, habitat improvements, land conservation and prescribed burning within the N.C. Sandhills, Onslow Bight, and Cape Fear Arch on priority landscapes.
- The N.C. Division of Parks and Recreation has increased its focus on active management of fire-adapted species and ecosystems within state parks and natural areas, a shift from its former preservation-oriented management philosophy. Since 2010, the agency has established new positions focusing on prescribed burning and conservation ecology, a fire management team, and developed a Prescribed Fire Program (<http://www.ncparks.gov/sites/default/files/ncparks/37/natural-resources-prescribed-fire-program.pdf>) and Fire Management Guidelines (<http://www.ncparks.gov/sites/default/files/ncparks/37/natural-resources-fire-2014.pdf>).

The following summarizes the NC Division of Parks and Recreation prescribed burning accomplishments:

○ Year	Acres	Acres burned at Carolina Beach (with Venus flytraps)
○ 2010	1752	53
○ 2011	487	0
○ 2012	3086	53
○ 2013	1539	143
○ 2014	3852	130
○ 2015	4341	149

NCFAP Objective 3.3. Restore and conserve longleaf pine forests

Strategic Actions Taken:

- In its 2013-2016 Strategic Plan, The NCFS committed to continuing its longleaf pine initiative as an agency key initiative, with a goal of increasing the overall acreage of longleaf pine in North Carolina 1 to 3 percent by June 2016, from a 2012 baseline of 389,000 acres.
- The NCFS developed the Longleaf Pine Interactive Decision Support Tool (<http://www.ncmhtd.com/NCFS/Longleaf/>) to help resource professionals identify and prioritize areas within the natural range of longleaf in NC, SC and VA best-suited for longleaf pine restoration and management.
- The NCFS developed a series of eleven *Longleaf Leaflets* (<http://ncforestservice.gov/publications.htm>) to inform and educate landowners on the benefits of longleaf pine and how to manage the species.
- The N.C. Longleaf Coalition developed a central clearinghouse (<http://www.nclongleaf.org/>) for information and resources related to longleaf pine management and restoration in the state.
- In 2011, the N.C. Longleaf Coalition developed a Work Plan (http://www.nclongleaf.org/pdfs/Work%20Plan_10.24.11%20w-attach.pdf) for the America’s Great Outdoors Initiative.
- The NCFS’ Bladen Lakes State Forest (BLSF), which is one of the Longleaf Restoration Initiative’s “Significant Geographic Areas”, has significantly increased its total longleaf habitat to 8,226 acres. This is a result of focused emphasis on longleaf planting and improvement practices. On a related note, BLSF has five known areas with more than 100 Red Cockaded Woodpecker (RCW) cavity trees.

NOTE – this Goal also closely associated with the National Theme “*Conserve and Manage Working Forest Landscapes for Multiple Values and Uses*”

C. **Enhance Public Benefits from Trees and Forests**

Desired Outcomes:

- enhancing the suite of public benefits associated with trees and forests such as: clean air and water, fish and wildlife habitat, open space, outdoor recreational opportunities, renewable materials, economic attributes, and climate change buffering; and
- reducing the risk to communities from wildfire.

Key strategies:

- strategic use of trees and forests in urban environments;
- watershed planning;
- enhancing community fire protection capabilities; and
- linking environmental health with community well-being.

Associated NCFAP Goal 6. Manage, conserve, restore, and enhance forestlands important to current and future supplies of clean water for economic, social, and ecological uses

NCFAP Objective 6.1. Increase implementation of forestry BMPs and compliance with water-quality regulations.

Strategic Actions Taken:

- Since 2012, the NCFS has been conducting comprehensive site assessments to evaluate BMP implementation and function. Target is to assess >200 harvest sites. Data collection and report of the findings should be completed by mid-2016.
- From 2011 to 2014 (state fiscal years), the NCFS conducted in excess of 15,000 individual site inspections to determine compliance with the state Forest Practices Guidelines Related to Water Quality. The compliance rates for each year were reported as: 96, 97, 97 and 98 percent, respectively.
- The NCFS continues to loan portable bridgemats to loggers, as a demonstration of this preferred stream crossing BMP. From 2011 to 2014, the bridgemats were used on 207 logging sites, protected 229 crossings and provided access to an estimated 9,000 acres of timber.
- Since 2013, the NCFS develops and publishes a quarterly BMP Newsletter, highlighting current BMP issues and potential solutions to promote BMP use. Newsletter is distributed by email to more than 200 recipients statewide.
- In 2014, a 6-year paired watershed study was completed in partnership with the USDA-FS/SRS. This study evaluated the effects of timber harvesting on water quality and hydrology, and included an assessment of the effectiveness of state-enacted riparian buffer protection rules; as well as effects from stream crossings.
- In 2012, NCFS staff led the compilation and development of a BMP implementation monitoring report summarizing the southern region efforts; on behalf of the Southern Group of State Foresters.
- Focused on providing technical assistance references for forest road BMPs: In 2012/2013, reprinted a USDA-FS booklet, “Environmentally Sensitive Maintenance Practices for Dirt and Gravel Roads,” and made it available to NCFS personnel and customers; In 2014, we substantially revised an older/out-of-print USDA-FS publication and re-branded it as “A Guide for Forest Access Road Construction and Maintenance in the Southern Appalachian Mountains.” This second guide was distributed in NC, and shared with other states (AL, VA) who contributed funds for printing.

- 2014/2015: the NCFS revised and published an information brochure and mini-poster, “Call Before You Cut Timber”, aimed at promoting BMPs to forest owners who are considering having their timber harvested.
- As part of a USDA-FS Redesign Grant, the NCFS and NCDA&CS are completing development of an online, GIS-based “Forest Pre-harvest Planning Tool” for landowners, loggers, timber buyers and forestry professionals. This tool will highlight applicable water quality regulations, and identify when precautions may be needed to protect water quality; and allow the user to customize a harvest map to mark where BMPs may be needed on-the-ground.
- 2015: Reorganized the District Water Quality Foresters (WQFs); now report to NCFS Regional Offices and are accountable for all 100 counties of the state.
- 2015: Reorganized the Central Office water quality staff; all staff now reside within the Water Resources Branch and technically support and assist the WQFs.

NCFAP Objective 6.2. Retain or increase the area of forestland within priority watersheds

Strategic Actions Taken:

- 2011/2012: Restored an estimated 500 linear feet of stream and riparian forest on DuPont State Recreational Forest, significantly enhancing habitat for brook, brown, and rainbow trout, which were seasonally collected in the restored stream reach within a year after construction was completed. A new riparian forest corridor, approximately 50 feet wide, was established in a former food plot area as well.
- 2014: Presented at the EcoStream Restoration Conference, on the topic of “A Model for State Forestry Agencies to Conduct Stream Restoration”.
- 2014: NCFS revised and printed a 3rd edition of the “Riparian & Wetland Tree Planting Pocket Guide for North Carolina,” to provide technical advice on reforestation for stream, wetland, and watershed restoration projects.
- With funding from Forest Legacy and state programs, the NCFS acquired and permanently conserved an estimated 3,900 acres of working forest in the upper watershed of the French Broad River. This watershed is a critical source of potable water for the City of Asheville, NC.

NCFAP Objective 6.3. Conduct education and outreach on the relationships between forests and water resources.

Strategic Actions Taken:

- 2015: Established a Watershed & Conservation Staff Forester position in the CO’s Water Resources Branch to better interact with local governments and grass roots organizations working in watershed management roles to protect and sustain water quality/quantity.
- NCFS personnel spoke/presented at the following conferences, reaching an estimated combined total of 680 attendees:
 - 2013: Annual conference of the N.C. Water Resources Research Institute, on the subject of “What do Water Supply Systems and Forestry Have in Common?”
 - 2013: Southern Regional Water Education Summit, on the topic of “Show Your Work: Stream Restoration and Watershed Education.”
 - 2014: A statewide video conference hosted by NCSU, providing refresher training on the FPGs and BMPs.
 - 2014: Discussed the topic of “What do Water Supply Systems and Forestry Have in Common?” at the Annual Spring Conference of the N.C. Chapter of the American Water Works Association / Water Environment Association.
 - 2014: Eastern Forestry BMP Symposium, on the topic of “Forestry BMP Training and Education in the South.”

- 2014: Water Resources Committee of the Western Piedmont Council of Government, on the topic of “What do Water Supply Systems and Forestry Have in Common.”
- 2014: EcoStream Restoration Conference, on the topic of “A Model for State Forestry Agencies to Conduct Stream Restoration.”
- 2014: Discussing the topic of “How Does Water Fit in the Forestry Landscape of NC?” at multiple U&CF workshops.
- 2015: Fifth Interagency Conference for Research in Watersheds, a poster on the topic of “Assessment of Forest Cover in the High Rock Lake Watershed of NC.”
- 2015: Annual conference of the N.C. Water Resources Research Institute, on the subject of “Assessment of Forest Cover in the High Rock Lake Watershed of NC.”
- From 2011 to 2014, an estimated 380 individuals received training/certification through the N.C. ProLogger Program, which includes six hours of forestry, BMP, and water-related training and education.
- From 2011 to 2014, the NCFS provided education and instruction to 230 forestry college students on hydrology, BMPs, and pre-harvest planning.
- In 2013 and 2014, NCFS instructed a total estimate of 450 fifth grade students on watersheds, forestry, and water quality during an annual environmental sciences day.
- As part of a USDA-FS Redesign Grant, the NCFS conceptualized, developed, and produced multiple outreach exhibits:
 - “Healthy Forests = Clean Water” banner/poster; produced copies for nearly all of the member states in the Southern Group of State Foresters (SGSF). Permanent sign exhibits were produced and installed at each NCFS State Forest.
 - “Healthy Forests = Clean Water” bumper stickers, with copies produced for each of the member states in the SGSF.
 - “Where Does Your Drinking Water Come From?” a set of 3 tabletop exhibit posters were produced for each of the NCFS District Offices and State Forests.

NCFAP Objective 6.4. Offer landowners technical assistance that incorporates water-resource management with forest management

Strategic Actions Taken:

- 2014: NCFS revised and printed a 3rd edition of the “Riparian & Wetland Tree Planting Pocket Guide for North Carolina” to provide technical advice on reforestation for stream, wetland, and watershed restoration projects.
- 2014/2015: NCFS conceptualized, compiled and published “Managing Forests for Water: A Guide to Developing a Forest Watershed Management Plan” as part of a USDA-FS Redesign Grant.

Associated NCFAP Goal 7. Enhance the benefits and sustainable management of urban forests

NCFAP Objective 7.1. Reduce the impacts of land-use change and urbanization on forested landscapes in and around urban areas

Strategic Actions Taken:

- Competitive grant project with the Green Infrastructure Center, VA, to develop the Green Infrastructure Guide (<http://ncforests.service.gov/Urban/pdf/EvaluatingGreenInfrastructureNC.pdf>) and Quick Guide (<http://ncforests.service.gov/Urban/pdf/aquickguidetogianning.pdf>) and presented four workshops for evaluating & conserving green infrastructure across the landscape.
- Competitive grant project with the Nicholas Institute for Environmental Policy Solutions, Duke University, to develop Green Infrastructure Strategies in NC (<http://ncforests.service.gov/Urban/pdf/GreenInfrastructureNC.pdf>).
- Competitive grant to educate and assist communities on the benefits of managing publicly-owned wooded areas: nine workshops through The Nature Conservancy, NCSU and the American Indian Center, 11 plans written and eight plans initiated, updated existing Woodland Stewards webpage (<https://research.cnr.ncsu.edu/sites/woodlandstewardseries/>) to include community forest management.
- Competitive grant to assess the impact of forested land on municipal water quality has been started. Associated webpage is in development.
- Competitive grant to assist communities with planning to incorporate more green space into existing hardscape. To date, the following communities have been assisted:
 - Morganton (<http://www.cdac.arch.vt.edu/Morganton.html>)
 - Robbinsville (<http://www.cdac.arch.vt.edu/Stecoah.html>)
 - West Jefferson (<http://www.cdac.arch.vt.edu/WestJefferson.html>), and
 - Burnsville (<http://www.cdac.arch.vt.edu/BurnsvilleNC.html>)

NCFAP Objective 7.2. Facilitate strategic planting and maintenance of community trees for public benefits

Strategic Actions Taken:

- Two competitive grants included eight tree canopy analyses (<http://ncforests.service.gov/Urban/pdf/EcosystemAnalysisbrochure.pdf>) provided to communities.
- Promotion of tree canopy analysis and management plans in NCFS U&CF sub-grant program (<http://ncforests.service.gov/Urban/pdf/grant/2016/Urban2016RFP.pdf>). Partnership with Piedmont Together (<http://piedmonttogether.org/>) to develop publications promoting urban tree benefits (<http://www.ptrc.org/index.aspx?page=68&parent=4682>).

NCFAP Objective 7.3. Assist communities with establishing and managing their urban forests

Strategic Actions Taken:

- Developed the “Urban Tree Management for Community Benefits” brochure (<http://ncforests.service.gov/Urban/pdf/UManagementBrochure.pdf>), and presented five half-day workshops on the issue.
- Promotion of tree inventories in NCFS U&CF sub-grant program; helped to develop, promote and provided training on low-cost “Talking2Trees” tree inventory software; provided workshops and presentations on tree inventories; and completion of four tree inventories and reports.
- Delivered five-part webinar series through NCSU entitled “Planning in the Face of Change” (<http://www.ncsu-feop.org/UFW/>):
 - Urban Wood Resource
 - Green Infrastructure
 - Urban Interface
 - Emergency Planning
 - Tree Management

NCFAP Objective 7.4. Encourage policies and guidelines that sustain urban and community forests for the

public's benefit.

Strategic Actions Taken:

- Maintain support for arborist ISA-certification for 21 NCFS field staff plus U&CF staff.
- Urban Plan Writing workshop developed for NCFS staff and presented six times, urban plan written.
- Contribute expertise to ISA certified arborist training for certification.
- Developed “Tree Care Before and After the Storm” bulletin (<http://ncforestsERVICE.gov/Urban/pdf/stormTreeCare.pdf>), and presented two workshops on Emergency Planning.
- Continue to partner to provide training on urban forestry topics, e.g. N.C. Urban Forest Council, Asheville Greenworks, Piedmont Triad Regional Council, N.C. Cooperative Extension.
- Competitive grant project with the Nicholas Institute for Environmental Policy Solutions, Duke University, to develop N.C. Guide to Developing Tree Protection Ordinances (<http://ncforestsERVICE.gov/Urban/pdf/treeProtection.pdf>).
- Promotion of ordinance development and revisions in NCFS U&CF sub-grant program and program assistance provided.
- Competitive grants focused on urban wood utilization (http://ncforestsERVICE.gov/Urban/urban_wood.htm), including initiating an Urban Wood Group.
- Southern Region Urban Forest Strike Team training held in N.C. in 2013; mock exercise being planned for May 2016.

Summary

When looking back upon the last five years, it is evident North Carolina has a strong forestry community that is committed to the conservation and protection of its forest resources. Impacts which are in part due to the Great Recession have significantly affected budgets and resources, but the bigger story lies in the leveraging of partnerships. This document provides numerous examples of organizations identifying (sometimes new) allies that not only complement their strengths, but also help to overcome limitations. Collaboration takes time to cultivate, but there are numerous examples of it paying off in terms of forest landowner outreach and on-the-ground accomplishments.

Another identified trend has been the willingness of stakeholders to entertain new approaches to landowner engagement and forest conservation. Pilot projects, including those involving military partnership and focused outreach campaigns, are yielding positive results that will likely be incorporated into future programmatic priorities. At the heart of this lies the realization that forestry stakeholders need to be strategic with their efforts, particularly in this age of reduced budgets and staffing levels. The forestry community needs to continue to offer some first come-first served services, but it must also simultaneously and proactively identify priority areas where positive conservation practices must be achieved. Improved understanding of forest landowner demographics, combined with tailored programs and services, are needed if we truly want to increase the number of actively-engaged forest landowners.

One final comment relates to the need for the forestry community to tell its story in a more effective manner. Forestry organizations, like many natural resource stakeholders, are often staffed by individuals whose strengths lie in their technical skills. This is a positive when it comes to providing forestry recommendations, but it may not help much when it comes to effectively providing information to the public, decision-makers and other key partners. Improved data collection, shared through timely and easily-digestible formats, is becoming increasingly important if we want to have others understand and appreciate the issues pertinent to forest conservation and protection. Our primary duty is to meet the three National Priorities, but the forests of North Carolina will best be served if we ensure that others know about the associated challenges and successes.