



N.C. DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES



NORTH CAROLINA FOREST SERVICE



ANNUAL LEGISLATIVE REPORT ON DUPONT STATE RECREATIONAL FOREST

October 1, 2018

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Pursuant to G.S. 106-887 (i), the North Carolina Forest Service, a division of the North Carolina Department of Agriculture and Consumer Services, respectfully submits this annual report for DuPont State Recreational Forest for Fiscal Year 2018.

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STATUTORY REQUIREMENT

The Department shall report no later than October 1 of each year to the Joint Legislative Commission on Governmental Operations, the House and Senate Appropriations Subcommittees on Natural and Economic Resources, the Fiscal Research Division and the Environmental Review Commission on the Department's management activities at DuPont State Recreational Forest during the preceding fiscal year and plans for management of DuPont State Recreational Forest for the upcoming fiscal year (2011-145, s. 13.25(o)).

OVERVIEW OF DUPONT STATE RECREATIONAL FOREST

DuPont State Recreational Forest (DSRF) contains 10,949 acres in Transylvania and Henderson counties. The forest is managed for natural resource conservation, scenic enjoyment and recreational purposes, including horseback riding, hiking, bicycling, hunting, fishing and other outdoor recreational activities. DSRF strives to provide an exemplary model of scientifically sound, ecologically-based natural resource management for the social and economic benefit of the forest's diverse community of users. It also works to remain consistent with the grant agreement that designates a portion of the forest as a dedicated nature preserve.

DSRF has nearly 31 miles of multiuse roads and 52 miles of trails used for outdoor recreation. There are four waterfalls on the Little River, two waterfalls on Grassy Creek and six mountain lakes.

The forest is operated by 19 full-time employees and four temporary employees. The staff consists of the following positions:

- Forest supervisor: Jason Guidry
- Office manager: Lillian Birchfield
- Management forester: Wesley Sketo
- Forestry technician: Jeremy Waldrop
- Recreation technician: Eric Folk
- Firefighting equipment operator: Jimmy Patterson
- Facility maintenance supervisor: Justin Carpenter
- Maintenance technician (temporary): Bob Twomey
- Housekeepers (temporary): Edna Hensley and Mary Ann Hamilton
- Communications director: Bruce MacDonald
- Visitor center manager (temporary): Jane Dauster
- Holmes Educational State Forest (HESF) supervisor: Susan Fay
- HESF educational ranger: Amy Kinsella

In 2016, the North Carolina General Assembly appropriated funding for nine new full-time employees to support DSRF's operations. DSRF benefited from the additional personnel resources across all operational areas, including educational programming, law enforcement, recreation management, administration services, vehicle maintenance and facility maintenance. Highlights of the new programs and operational improvements are

described on Page 13 of this report. Positions added to DSRF in fiscal years 2017 and 2018 are listed below:

- Administrative associate: Sarah Patton
- Assistant forest supervisor: Michael Sweat
- Mechanic: John Morris
- Maintenance technician: Buck Jones
- Recreation specialist: Mary Smith
- Lead law enforcement officer: Harold Young JR.
- Law enforcement officer: Andy Norman
- Law enforcement officer: JR Murr
- Educational ranger: EJ Dwigans

The DSRF Forest Supervisor also oversees the operations of Holmes Education State Forest (HESF) in Henderson County, which has three employees. The DSRF forest supervisor reports to the Mountain Division director, Greg Smith, who is based in the North Carolina Forest Service (NCFS) regional office in Asheville.

Forest operations are coordinated with the DSRF advisory committee, a group of stakeholders representing a variety of user groups, including the Friends of DuPont Forest and local governments. Committee members are appointed by the assistant commissioner, Scott Bissette, and typically serve three-year terms.

The Aleen Steinberg Center

The Aleen Steinberg Center, also referred to as the Visitor Center, serves important functions at DSRF, where visitors can find trail maps, directions and check-in for limited-mobility vehicle permits and picnic shelter reservations. Approximately 86,000 visitors used the Visitor Center in fiscal year 2018. There are 49 volunteers that work at the Visitor Center to provide safety and directional information. This group of volunteers has provided over 3,460 hours of service to North Carolina's residents and visitors in fiscal year 2018.

PUBLIC USE OF THE FOREST: A balance of desired experiences, safety and natural resource protection

Visitation estimates indicated a levelling-off of recent large increases in annual visits to the forest as shown in Figure 1. The factors contributing to the public's interest in DSRF are difficult to determine. For most outdoor recreation destinations, the weather patterns and the average price of automobile fuel can potentially affect changes in visitation over periods of time.

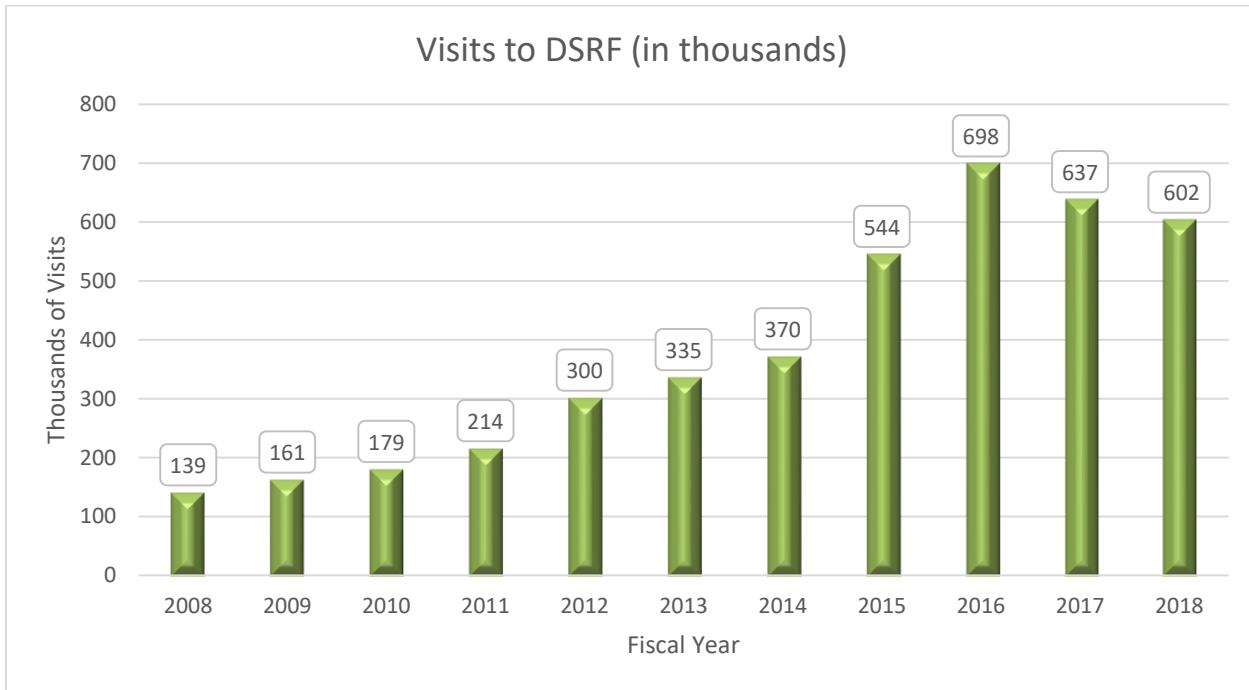


Figure 1. Visits to DSRF per fiscal year since 2008

Incidents involving the public

Public safety and natural resource protection challenges accompany our visitors during their experience at DSRF. DSRF staff and county emergency personnel respond to a variety of emergency incidents in the forest. Incidents may involve trauma, illness, search and rescue, theft, assists, as well as Administrative Rule and General Statute violations with visitors that extend beyond routine assistance by a DSRF ranger.

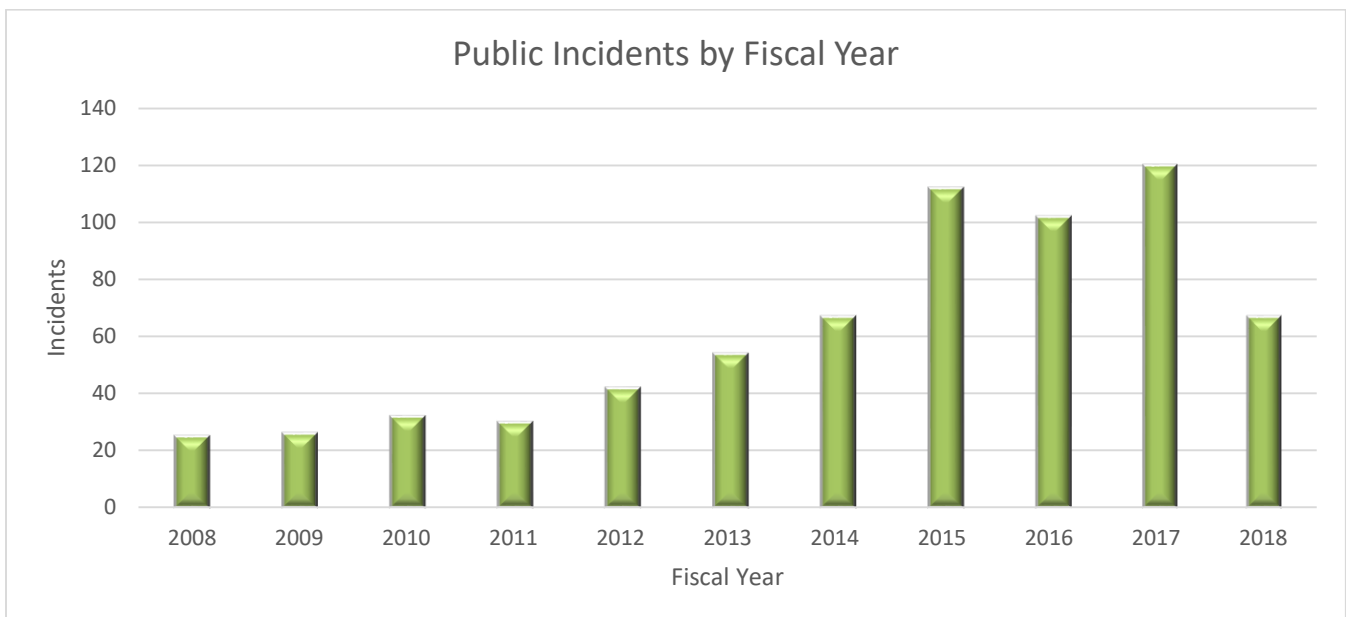


Figure 2. Incidents requiring ranger response per fiscal year at DSRF

A positive development in fiscal year 2018 was the downturn of incidents requiring DSRF ranger response as shown in Figure 2. While there is expected to be some variability between years, DSRF has made concerted efforts to address areas of concern, which may have played a role in decreasing reported incidents, with the following examples:

- Increased patrol capabilities with three new law enforcement officers have provided more interaction with the public within the forest setting.
- Increased signage with warnings of hazards have been installed across the forest, along with more clearly defined 'restricted areas' near the waterfall viewing sites.
- Installation of a barricade at the middle of Triple Falls to contain large crowds and deter risky behavior as shown in Figure 3.
- DSRF partnered with the Brevard Chamber of Commerce and the Transylvania County Tourism Development Authority to produce the 2018 Waterfall Safety Campaign, emphasizing best practices to local visitors and the tourism industry when seeking views of the county's waterfalls. Several media releases, media events and a widespread informational poster initiative provided more attention on visitor safety than in years past.



Figure 3. Triple Falls viewing area

In addition to emergency response, DSRF staff documented 43 routine assists to visitors such as finding lost animals, providing searches for missing people and giving rides to visitors to mitigate possible emergencies (*e.g.*, heat exhaustion, elderly visitors, etc.). An assist to the visiting public is recorded for actions that are non-emergency in nature but take the DSRF ranger or law enforcement officer away from their normal duties.

Access to DSRF

DSRF manages certain uses that are typically excluded by DSRF's Administrative Rules (02 NCAC 60B .1001-.1032) through the issuance of permits. Each permit request is evaluated by a DSRF ranger to determine impacts to the forest's natural resources, road and trail system and fellow users as described in Table 1. Visitors with limited mobility may obtain a vehicle pass free of charge. Reservation for one of DSRF's five picnic shelters may be obtained for a nominal fee. The commercial use permit program oversaw the use of nearly 18,000 users, some of which obtained access with vehicles depending on the type of business using the forest.

This amount of vehicle access for a public land of DSRF's size is a manageable accommodation but is not without public safety or resource protection concerns. All programs are continually assessed for sustainability and whether the use supports the mission of the forest and is compatible with natural resource protection.

Table 1. Permits issued in FY18

Permit type	Permit use	Number of permits issued
Commercial use	For camps and businesses using the forest for a commercial use; covered approximately 18,000 users in fiscal year 2018	60
Special use	Disabled hunters, disabled anglers, equestrian facility rental and research permits	30
After-hours	Recreational trail uses after 10 p.m. and before 5 a.m.	22
Limited mobility visitor	Access to High Falls, Triple Falls and the Covered Bridge. Allowed access for 205 unique users and 60 vehicles	59
Picnic shelter	Picnic shelters at High Falls, Triple Falls, Lake Dense, Lake Imaging and Guion Farm; allowed access to 688 unique users and 55 vehicles	23
Limited mobility anglers and hunters	Allowed vehicle access for limited mobility anglers and hunters to select areas of DSRF	30

MANAGING THE FOREST: Working to improve wildlife habitat and provide forest products

The DSRF *Land and Resource Management Plan*, developed in 2011 by various natural resource agencies and the DSRF advisory committee, drives the management of multiple forest resources for the benefit of our citizens.

DSRF has a tradition of demonstrating a wide variety of forest management strategies, including timber harvests, within the framework of a heavily used recreational trail system. Since 2011, the forest management program has been actively managing the forest resources through the mechanical (harvesting), chemical (pesticide application) and biological (prescribed fire) tools proven effective from forestry research across the world. The objective has always been to achieve multiple desired conditions of natural systems of animal and plant communities that in turn benefit the residents of North Carolina. Figure 4 illustrates the widespread and diverse use of forestry practices across DSRF since 2011, with nearly 440 acres of younger forests created and 1,300 acres of a natural fire disturbance returned to the landscape.

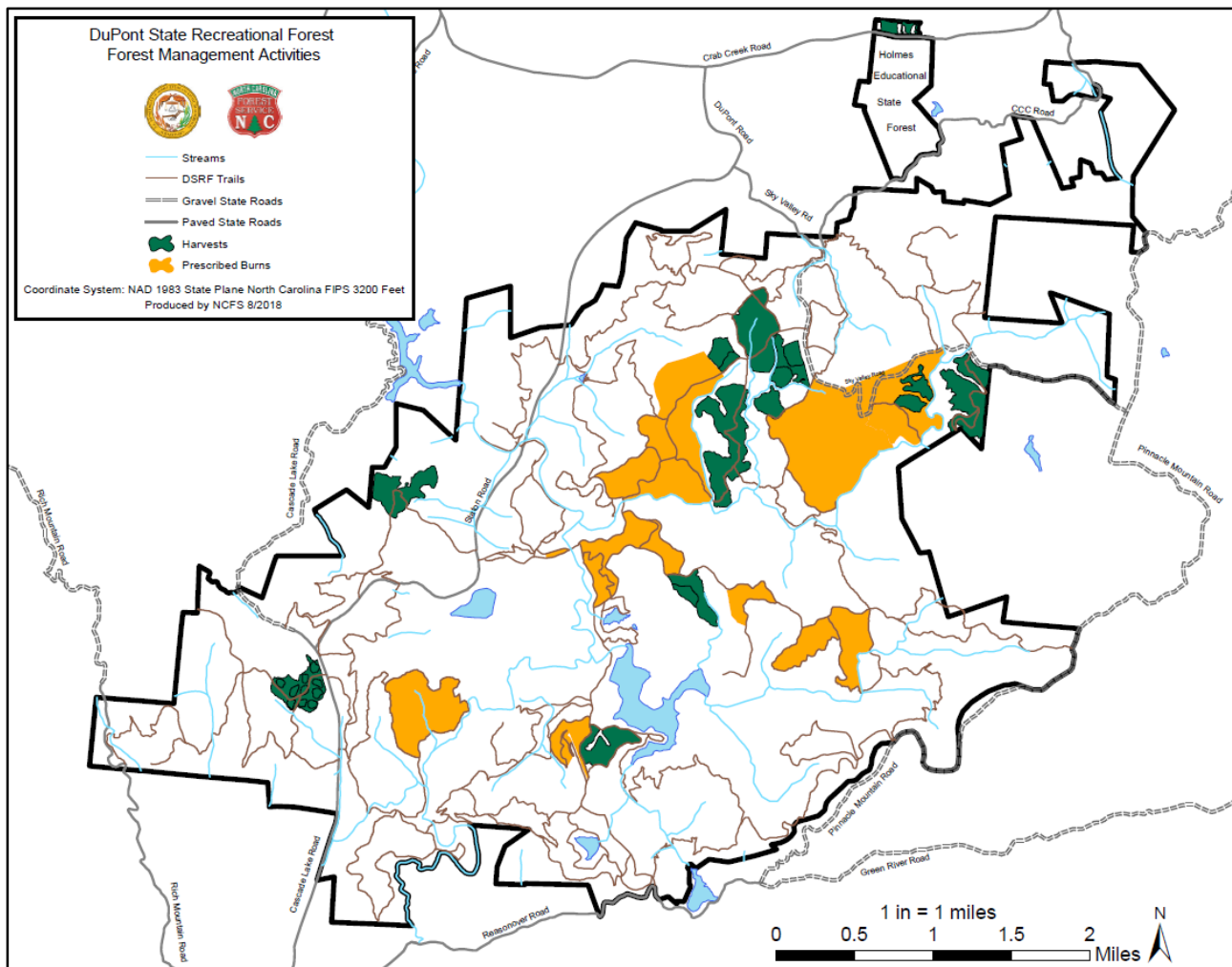


Figure 4. Forest management on DSRF since 2011

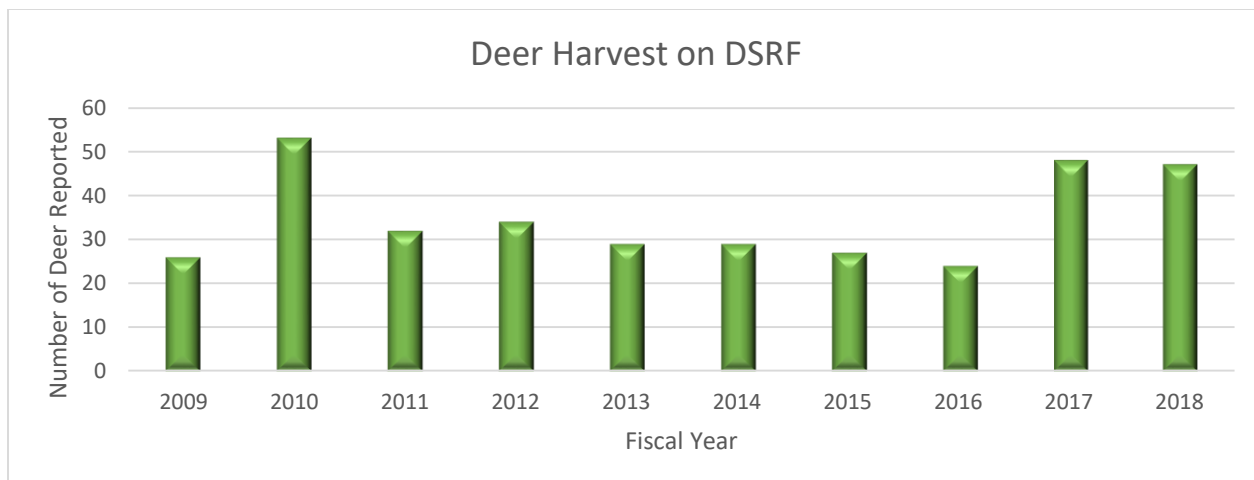
In 2018, the DSRF forest management staff conducted a “patch clearcut” timber harvest near Rock Quarry Road and Cascade Lake Road in Transylvania County. This harvest will help regenerate the area into a stand of mixed hardwood and mixed pine species. The objective is to increase structural diversity and introduce a new successional stage to this area by mimicking a natural forest disturbance such as ice damage, wildfire or insects and disease in localized areas. Figure 5 illustrates an aerial view of this treatment. As is the

challenge with all DSRF forestry practices, the harvest area was surrounded by recreational trails, which were able to remain open during the 2018 Rock Quarry harvest operations.



Figure 5. Aerial photograph of the Rock Quarry patch clearcut harvest

In cooperation with the North Carolina Wildlife Resources Commission (NCWRC) Game Lands program, the DSRF helps to maintain wildlife food plots, assist with wildlife law enforcement and encourage wildlife educational programming. The NCWRC issues seasonal hunting permits at DSRF through a lottery system for various game species, while DSRF provides access for disabled hunters and anglers. The NCWRC maintains nine wildlife food plots throughout the forest by planting high-quality forage and maintaining edge habitat for game species. fiscal years 2017 and 2018 did show a consecutive period where deer harvests remained higher than previous years (see Figure 6). While there are numerous variables related to game harvests, it is thought that deer and other wildlife populations are positively responding to timber management treatments that diversify the plant communities in both forest structure and age ranges.



Data source: N.C. Wildlife Resources Commission

Figure 6. Deer harvest at DSRF

Hemlock wooly adelgid: chemical control of a forest pest

Throughout 2018 the chemical control of the hemlock wooly adelgid continues to make significant progress on DSRF. Since 2007 the NCFS has been effectively treating hemlock trees to avoid mortality along areas of high visitation and high ecological value. In the spring of 2018, over 800 trees on approximately 200 acres were treated with a chemical pesticide. Along with the efforts of the NCFS in recent years, an additional 90 acres were treated with a chemical pesticide through the efforts of the Hemlock Restoration Initiative, a non-profit program that provides several services to private landowners and public lands in a region-wide effort to combat the hemlock wooly adelgid. Figure 7 shows the extent of treatment in 2018 and previous treatments dating back to 2007.

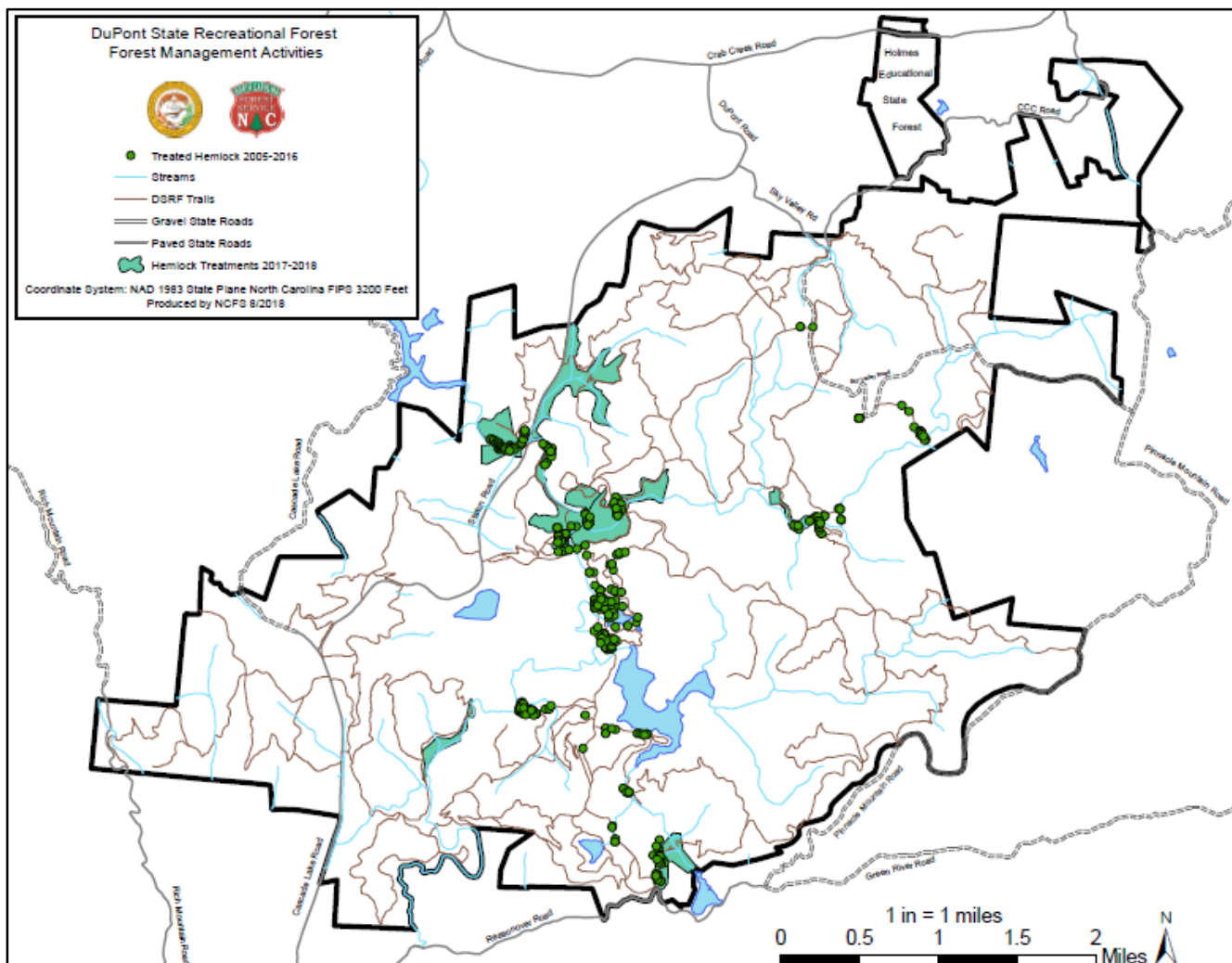


Figure 7. Hemlock wooly adelgid treatments on DSRF during FY18

PROMOTING THE FOREST: The future of forestry at DSRF

Central to the NCFS mission is promoting forest resources through education. Sustainable natural resource management is reliant on a public that understands and values what forests provide to natural systems and society. DSRF has the potential to enhance the enjoyment of hundreds of thousands of visitors through education. Educational programming at DSRF has been a broad-based effort with several partners, including the Friends of DuPont Forest and the North Carolina Wildlife Resources Commission. In fiscal year 2018, a wide variety of topics regarding forest management, ecosystem dynamics and natural history were offered to schools and visitors. These accomplishments are listed in Table 2.

Table 2. Educational offerings associated with DSRF in FY18

PRESENTER	EDUCATIONAL OFFERINGS	STUDENTS OR GUESTS
HESF staff	82	5,283
DSRF staff	43	1,320
N.C. Wildlife Resources Commission	20	240
Friends of DuPont Forest	12	187
Total	157	7,030

IMPROVING THE FOREST: Public facilities and additional staff

Hooker Falls restroom

Construction of a new restroom facility began in April 2018 (Figure 8). This building will provide a public service to one of DSRF's most visited areas near Hooker Falls, where an estimated 200,000 people park and enter the state forest each year. The new restroom will replace portable toilets at this popular access area and improve the visitor experience. The impacts of littering and human waste being introduced into the natural systems in this area are expected to be reduced by these facility improvements. The building was funded by a portion of the \$3 million provided to DSRF in fiscal year 2017.

The parking area near the new restroom facility was designed in fiscal year 2018 and is expected to be completed by winter of 2018. Plans for the parking area are illustrated in Figure 9.



Figure 8. Hooker Falls restroom facility during construction

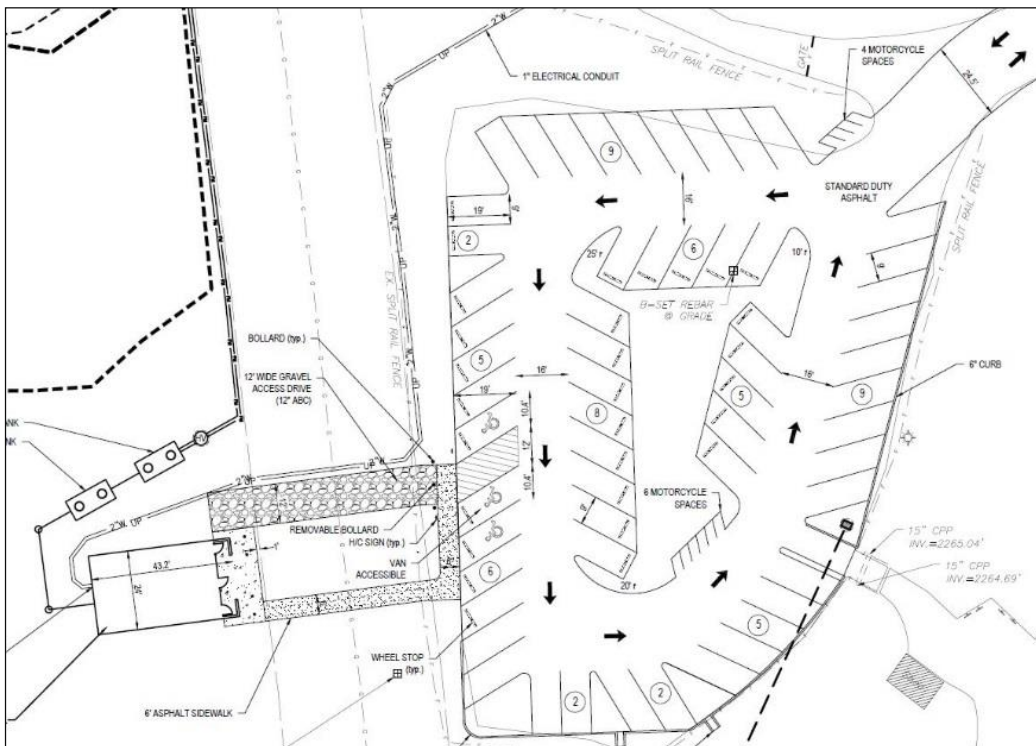


Figure 9. Plans for parking lot improvements at Hooker Falls access area

The former DuPont Corporation plant site

In December 2016, the forest acquired 476 acres which was previously owned and managed by the DuPont Corporation since the 1950s. Approximately 70 acres of the site was once a facility that produced silica-based computer components and then later X-ray film. In 2004, the facility was demolished by the DuPont Corporation and remained as secured private property within the middle of the state forest and was often referred to as the “Donut Hole.”

Through years of negotiation between the North Carolina Department of Agriculture and Consumer Services, DuPont Corporation and the North Carolina Department of Environmental Quality, agreements to donate the property to the state along with a Remedial Action Plan were completed. The property will remain closed to the public as the DuPont Corporation completes their Remedial Action Plan and the NCFS develops the site for recreational and natural resource management.

The lake situated on the western side of this property was constructed in the early 1970s. Commonly known as “Lake DERA” (an acronym for DuPont Employees’ Recreation Area), the impoundment underwent extensive repairs to its earthen dam as shown in Figure 10. The DuPont Corporation funded the project and it was managed by the Department of Agriculture and Consumer Services and the employees of DSRF. The project is considered a success with a new siphon system installed and the impoundment being stocked with bluegill and bass fish species.



Figure 10. Lake DERA during and after construction of a new drainage system

New personnel

New programs and a high level of accomplishment were made possible through the collective efforts of the expanded DSRF staff, with some examples highlighted below.

Law enforcement program

Three certified law enforcement officers worked with the public during most of fiscal year 2018 with their duties based on both customer service and the enforcement of the state's Administrative Rules and General Statutes. Most rule violations result in either verbal warnings or a NCFS warning ticket. Figure 11 shows the relative increase in these actions since the hiring of law enforcement officers. Other more serious rule and law violations have been investigated and charged; examples being drug and alcohol possession, breaking and entering of vehicles, violations of concealed weapons laws and illegal dumping of trash on DSRF. This ability to find corrective action with forest visitors is believed to have contributed to not only a safer public environment, but also a safer workplace for the DSRF ranger staff.

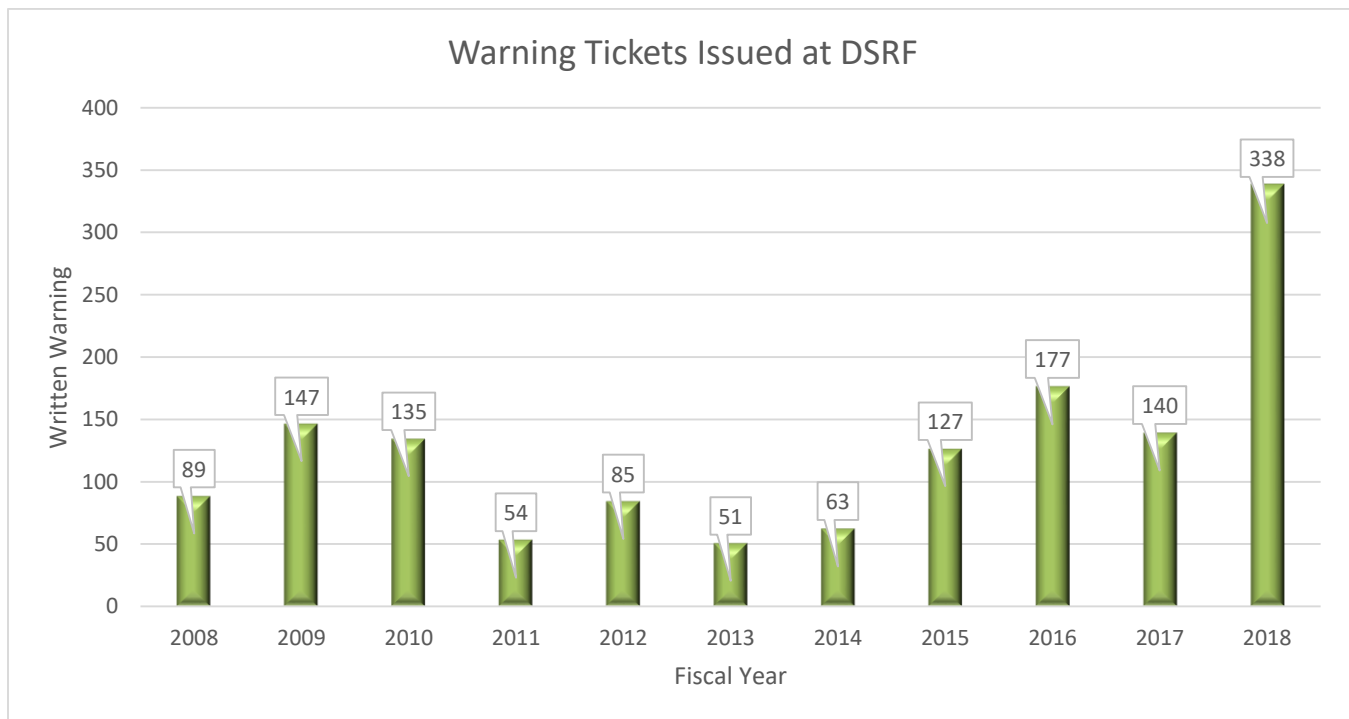


Figure 11. Warning tickets issued at DSRF since 2008

Recreation management program

In 2011, DuPont State Forest was designated by the N.C. General Assembly to be the State's first recreational state forest, thereby changing its name to DuPont State Recreational Forest and adding to its mission the management of outdoor recreational activities. It was not until the establishment of the DSRF recreational specialist that the forest had personnel dedicated mainly to the planning, designing and implementation of recreation initiatives. The DSRF recreation program achieved immediate gains in the first

year of operation through implementing trail maintenance and trail relocation projects, improving trail signage and sign guidelines, developing and distributing a survey for visitors to assess recreation-based expectations for DSRF and improving the permitting system for commercial use, most of which is based on the youth camp industry in Western North Carolina. Example of an implementation of a new trailhead at the High Falls access area is pictured in Figure 12.



Figure 12. The new recreational specialist position enabled establishment of the High Falls Loop trailhead.

Outdoor recreation is a significant economic driver for the region and DSRF plays a large role as an attraction in this sector of the tourism industry. It is fitting and necessary that DSRF have professional employees focusing on recreation as a priority forest resource. As the recreation program continues to assess the forest's opportunities for improvement, DSRF is more likely to enhance the visitor experience in concert with other capital improvements and design initiatives.

Meeting the DSRF mission with new personnel resources

Five of the nine new employees have supported DSRF operations through administrative responsibilities, educational programming, vehicle fleet maintenance, forest facilities maintenance and the on-going remediation work on the former DuPont Corporation plant site. Examples of their work are listed below.

- The addition of an administrative associate to undertake administrative functions has increased the ability to accomplish work effectively and efficiently. This position is the primary contact for the general public's phone calls and information requests and manages limited-mobility vehicle permits and the DSRF shelter reservation system. The position supports all functions of the various DSRF programs, including information and education, law enforcement and recreation.

- Through the addition of an educational ranger, DSRF was able to increase the numbers of students and visitors receiving educational programming. The collective work of the DSRF staff showed an increase in program participation from 157 students in fiscal year 2017 to approximately 1,300 students in fiscal year 2018—nearly a ten-fold improvement between years. This increase was achieved through the planning, creativity, advertising efforts and high-quality teaching delivered by the DSRF and HESF Staff.
- DSRF has 33 vehicles to support forest operations, ranging from UTVs used to assist with medical emergencies in remote areas to motor-graders that maintain nearly 31 miles of forest roads. The addition of a mechanic has been critical to the readiness of the DSRF vehicle fleet as well as managing maintenance costs for this equipment.
- Similarly, a new maintenance technician has been able to meet the maintenance and repair needs of DSRF's facilities and recreational infrastructure, totaling 83 structures and 46 gates. The purpose of the position is to avoid deferred maintenance and to mitigate issues related to public hazards relating to state property while keeping professional appearance of DSRF public-facing facilities.
- The new position of assistant forest supervisor has been responsible for the coordination of the various hazardous waste remediation projects conducted on the former DuPont Corporation plant site described earlier in this report. The assistant forest supervisor is tasked with ensuring compliance with the Resource Conservation and Recovery Act via a permit transferred to the North Carolina Department of Agriculture and Consumer Services upon the acquisition of the property. While the remediation work is being funded and implemented by the DuPont Corporation, it is critical to have a dedicated liaison for this process to protect the interests of the state and to understand processes in order to better inform the public on the remediation process.

PLANS FOR FISCAL YEAR 2019

Parks and Recreation Trust Fund

In fiscal year 2017, the North Carolina General Assembly authorized access to the North Carolina Parks and Recreation Trust Fund (PARTF) for the purposes of capital improvements, repair and renovation of facilities and land acquisition. The DSRF allocation for PARTF in fiscal years 2018 and 2019 are planned to address resource protection and public safety issues around more heavily impacted and high-profile areas of the forest, including the waterfall attractions along the Little River.

Continuing capital improvements

The remaining portion of the \$3 million in capital improvement funding, after the Hooker Falls restroom project is completed, will be used to improve other parking areas, restroom facilities and associated utilities across DSRF. The next project will likely be at the Guion Farm access area in Henderson County where a new restroom facility will be designed along with a new parking area to accommodate visitors with a variety of recreational interests.

Education

DSRF and HESF are expecting to launch a new educational initiative called the Junior Forest Ranger Program. The program will target younger visitors to the two forests and provide learning “adventures” as a chance to earn a Junior Ranger patch as shown in Figure 12. Topics will include learning about forest ecosystems and management, being prepared and safe while enjoying the outdoors and the benefits that forests provide to our society.

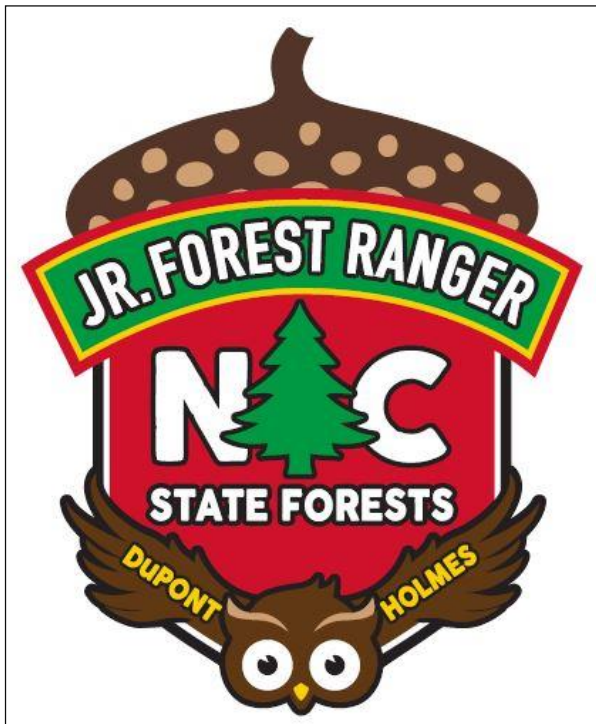


Figure 12. Patch design for the new Junior Ranger Program at DSRF and HESF

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