



**NORTH CAROLINA
DEPARTMENT OF AGRICULTURE
AND CONSUMER SERVICES**



NORTH CAROLINA FOREST SERVICE



**DuPONT STATE RECREATIONAL FOREST
ANNUAL LEGISLATIVE REPORT**

Oct. 1, 2021

Steve Troxler, Commissioner
Scott Bissette, Assistant Commissioner
David Lane, State Forester

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 on DuPont State Recreational Forest for fiscal year 2020-2021.

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STATUTORY REQUIREMENT

No later than Oct. 1 of each year, the Department shall report 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) encompasses more than 12,400 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 activities that are sustainable within the context of natural resource protection. DSRF strives to provide an exemplary model of scientifically sound, ecologically based natural resource management for the social and economic benefits of a diverse community of users. DSRF is also required to protect and restore natural areas to meet the intent of a grant agreement that designates most of the forest as a dedicated nature preserve.

DSRF has more than 40 miles of multiuse roads and nearly 60 miles of multiuse trails supporting the forest's recreational opportunities. In addition, DSRF contains four waterfalls on the Little River, two waterfalls in the Grassy Creek watershed, six mountain lakes, and unique low elevation granitic domes and slickrock formations.

DSRF's popularity stems from many sources. DSRF has three waterfalls located within 3.5 miles of the Visitor Center. DSRF's topography is not quite as steep or technical as other nearby public lands, making the forest accessible to a wider variety of visitors. DSRF's unique limited mobility vehicle permit program increases the diversity of visitors and allows individuals with disabilities to drive into view one of the larger waterfalls. In addition, DSRF receives heavy visitation from local, regional, national and international visitors who come to enjoy the forest's trails and experience the natural features that have been featured in a variety of publications, movies, websites and social media outlets.

Nineteen full-time employees and four temporary employees work together to manage DSRF. Fiscal year 2020-2021 staff included:

- Jason Guidry, DuPont State Recreational Forest supervisor
- Michael Santucci, assistant forest supervisor
- Kimberly Watson, office manager
- Sarah Patton, administrative associate

- Jordan Luff, management forester
- Jeremy Waldrop, forestry technician
- Jane Dauster, recreational specialist
- Eric Folk, recreation technician
- Jimmy Patterson, firefighting equipment operator
- Nathan Sweat, facility maintenance supervisor
- Buck Jones, maintenance technician
- Bob Twomey, maintenance technician (temporary)
- Mary Ann Hamilton and Joseph Grant, housekeepers (temporary)
- Katelyn Keller, information and outreach coordinator
- Susan Fay, Holmes Educational State Forest supervisor
- Amy Kinsella, educational ranger
- EJ Dwigans, educational ranger
- Andy Norman, lead law enforcement agent
- Daniel Britt, law enforcement agent
- Anthony Owen, law enforcement agent

Mechanic and communications director positions were vacancies in fiscal year 2020-2021. The DSRF forest supervisor also supports the operation of Holmes Educational State Forest (HESF) and its employees. HESF is in Henderson County. The DSRF forest supervisor reports to Mountain Division Director Greg Smith who is based in the N.C. Forest Service (NCFS) regional office in Asheville.

The Aleen Steinberg Visitor Center

The Aleen Steinberg Visitor Center is one the most important visitor stops at DSRF. Visitors drop by to acquire important information about:

- updated trail maps and map reading;
- safety and outdoor preparedness;
- DSRF rules and regulations;
- directions to waterfalls;
- recreational opportunities within the forest;
- multiuse trail etiquette;
- educational offerings;
- general area information;
- permits for vehicles for disabled visitors; and
- picnic shelter reservations.

Approximately 1,055,783 visitors have come to the Visitor Center since its opening in 2013. The Visitor Center operates under the supervision of five DSRF staff members. They are assisted by a group of approximately 50 volunteers who greet visitors, answer questions, provide safety information and help relay important communications.

The Visitor Center’s classroom serves as a meeting place for various community groups, educational programs, DSRF staff meetings, field trips, and training and enrichment programs for volunteers. During fiscal year 2020-2021, however, all Visitor Center interior spaces were closed to the public to comply with COVID-19 health precautions and the N.C. Forest Service’s agencywide safety recommendations. Volunteers and staff continued to help DSRF visitors through a staffed information table located on a porch of the Visitor Center. This public information table and the self-service map and information area located on a separate porch welcomed more than 137,000 visitors during fiscal year 2020-2021.

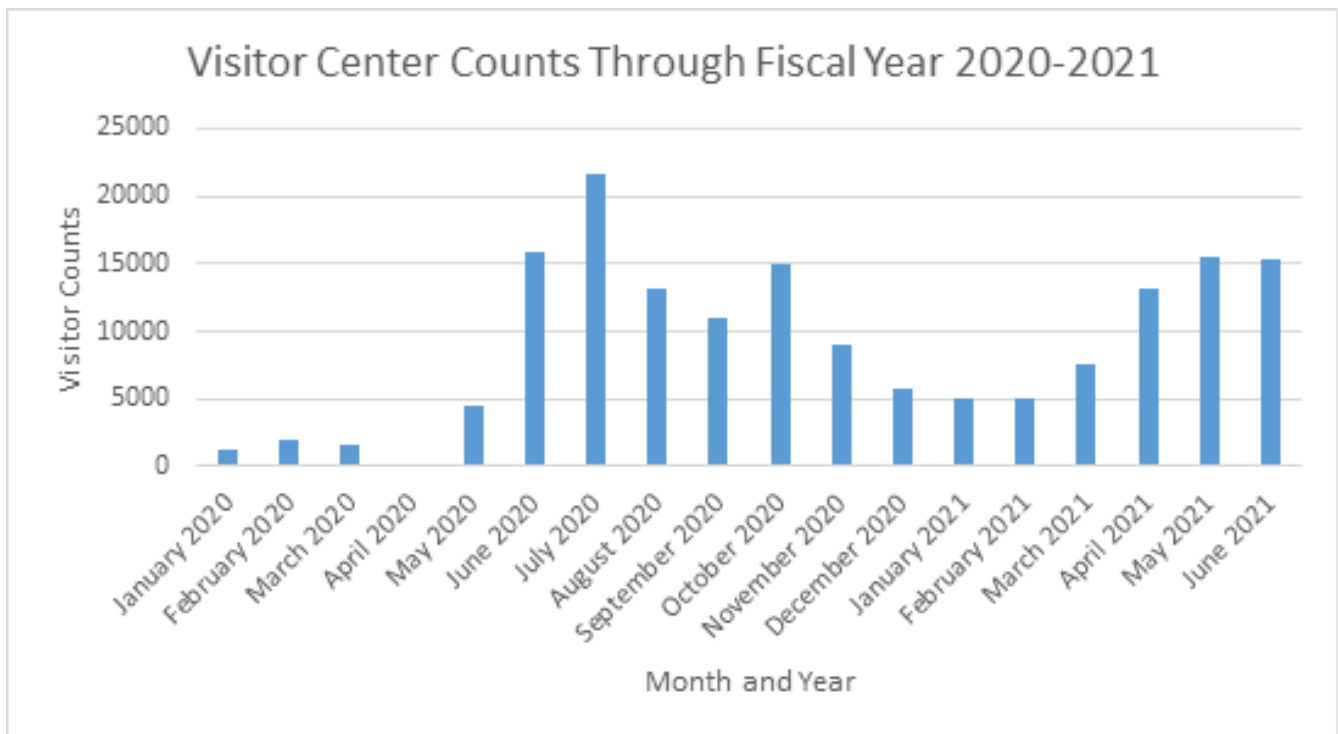


Figure 1: Visitor Center counts through fiscal year 2020-2021

PUBLIC USE OF THE FOREST: Operations during the COVID-19 Pandemic

COVID-19 precautions and procedures impacted all DSRF operations during fiscal year 2020-2021. For the entire year, restrictions on inside gatherings were in effect and the use of masks in outdoor settings was recommended when social distancing was not possible. DSRF further encouraged social distancing of visitors through signage and the closure of public gathering places like the Visitor Center, picnic shelters and standalone restroom facilities. DSRF also maintained the previously installed, temporary fencing along Staton Road to spread visitors out among the forest's access points.

DSRF's popularity continued to grow in fiscal year 2020-2021. Figure 1 illustrates the growth in visitation from 2010 through 2021, when the forest saw its highest number of annual visitors to date. The increase to more than 1.3 million annual visitors in fiscal year 2020-2021 reflects the unprecedented demand for outdoor experiences during the COVID-19 pandemic as well as the growing popularity of DSRF with local, regional and international visitors. Figure 2 illustrates the monthly distribution of these visitors during fiscal year 2020-2021 and highlights that July 2020 saw more visitors than any month since the establishment of DSRF.



Figure 2: Visits to DuPont State Recreational Forest per fiscal year since 2010

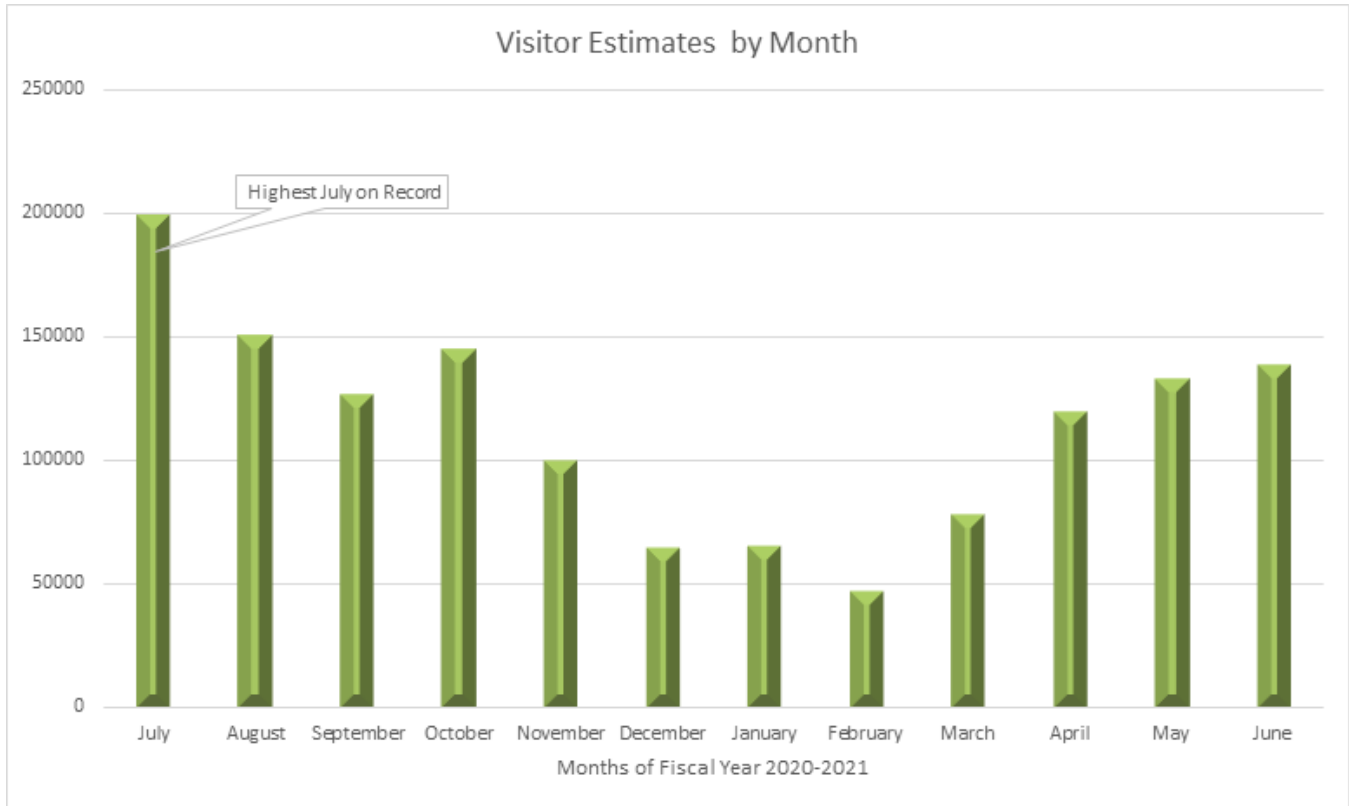


Figure 3: Visits by month for fiscal year 2020-2021, including approximately 200,000 visitors in July 2020

Limiting Roadside Parking on Staton Road: Natural Resource Protection and Public Safety Enhancement

For the last decade, visitors have parked on the shoulders of Staton Road, a state highway that passes by the Lake Imaging, Hooker Falls and High Falls access areas. On a typical summer day, hundreds of vehicles use narrow roadside shoulders as overflow parking. The pictures below illustrate how this practice leads to pedestrian traffic in a busy roadway and visitors accessing their vehicles while standing in the highway.

DSRF staff, stakeholder groups and area residents recognized use of the roadside for overflow parking as a public safety issue. In response, DSRF installed temporary fencing along portions of Staton Road to limit roadside parking, reduce pedestrian activity on the highway and spread visitors out among the various forest access points. DSRF maintained this temporary fencing throughout fiscal year 2020-2021 because of the positive impact on natural resource protection and public safety.



*Roadside parking along Staton Road
with pedestrians in the roadway*



*Limiting roadside parking along Staton Road
with temporary fencing*

Natural Resource Protection: Litter Reduction

Limiting roadside parking throughout fiscal year 2020-2021 helped spread visitors out among the three most popular forest access areas and required visitors to hike farther to reach the waterfall attractions, reducing overcrowded conditions on popular days and during popular times. This dynamic appears to have lessened the natural resource damage normally observed around popular gathering areas such as the Little River above and below Hooker Falls. While visitation in fiscal year 2020-2021 reached a record high, the visitors were more evenly distributed over a given day, which reduced the compounding impacts of too many visitors simultaneously accessing the same area of the forest. Littering appears to have been lessened by this dispersion, especially in sensitive natural areas along the Little River. The photographs below, taken at Hooker Falls, capture this reduction at the end of the same holiday weekend in 2018 through 2021.



July 4, 2018



July 4, 2019



July 4, 2020



July 4, 2021

Comparison of litter left by visitors at Hooker Falls on the same holiday weekend, 2018-2021

Public Safety Enhancement: Fewer Emergency Incidents

DSRF staff and county emergency personnel are dispatched to a variety of emergency incidents in the forest throughout the year. These incidents may involve trauma, illness, search and rescue, property damage or medical emergency evacuation. In general, emergencies are linked to risky behaviors in which visitors choose to participate. Common risky behaviors include entering restricted areas, climbing on rocks, sliding on or jumping off waterfalls, walking on wet surfaces, riding motorized vehicles and using intoxicating substances.

During periods of peak visitation, visitors see others engaged in these risky activities and assume that the activity is either safe or legal or that violations of rules and signage will not be enforced. Spreading out of visitors through limited roadside parking, coupled with law enforcement interactions by DSRF staff, has resulted in a decrease in the number of incidents occurring within DSRF. Figure 4 shows this recent trend in incident rates.

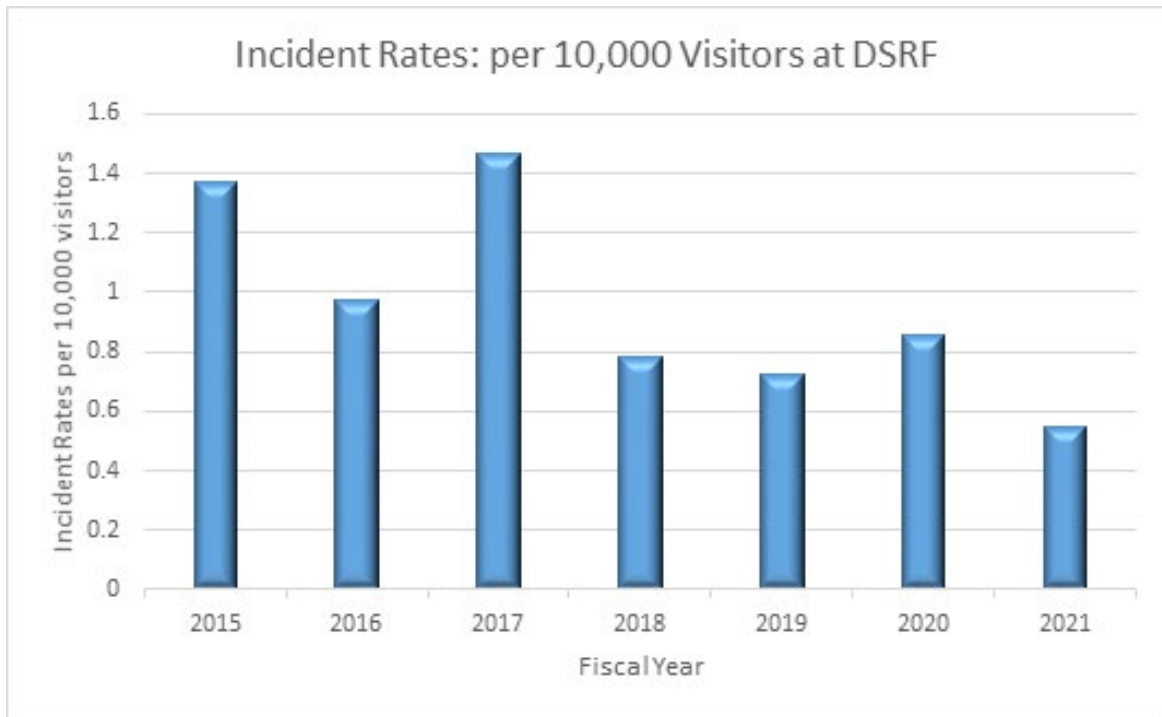


Figure 4: Visitor incident rates per fiscal year since 2015

To prevent damage to natural areas and enhance public safety, DSRF law enforcement agents and forest rangers provide regular patrols of the forest during normal operating hours and enforce forest rules when actionable violations are observed. Enforcement actions included issuing citations, written warnings, verbal warnings and expulsions from the forest. Most of these actions occurred at High Falls, Triple Falls and Hooker Falls. Figure 5 depicts the prevalence of each forest rule violation category during fiscal year 2020-2021.

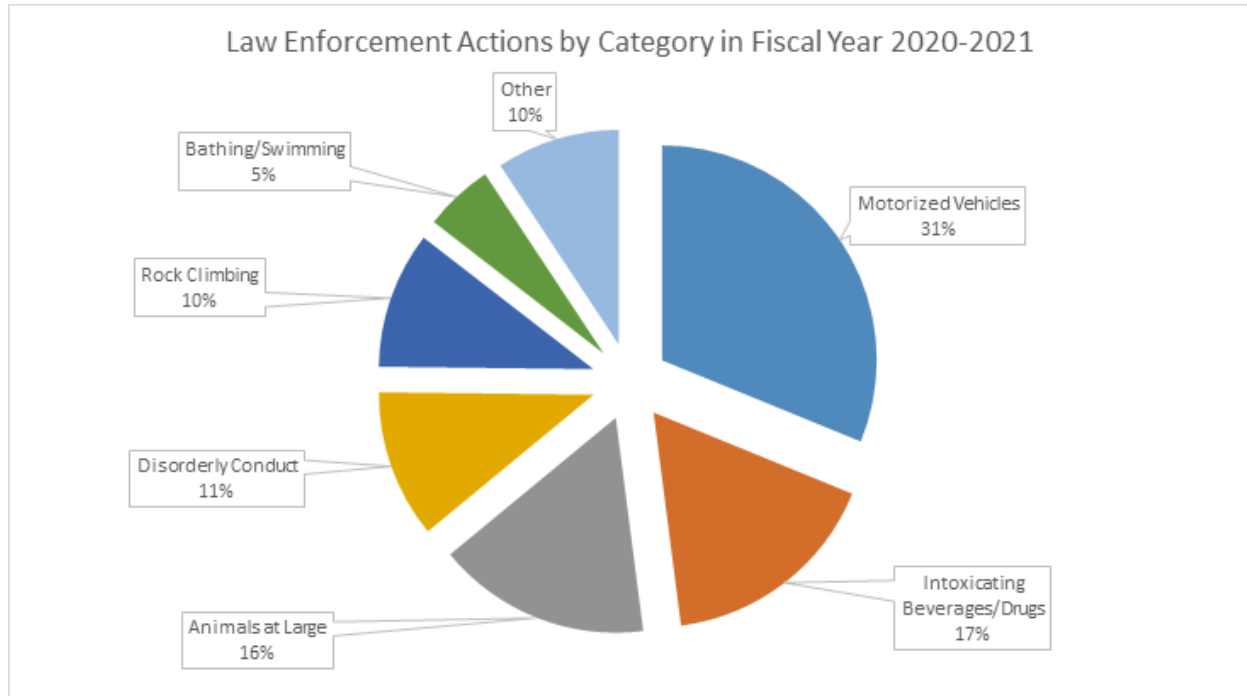


Figure 5: Categories of forest rule violations in fiscal year 2020

In addition to responding to emergencies and law enforcement incidents, DSRF staff delivered a high level of customer service to the general public by providing 130 assists in fiscal year 2020-2021. An assist is recorded for any action that is a nonemergency in nature but still takes the DSRF ranger or law enforcement agent away from their normal duties and includes activities such as finding lost animals, hasty searches for missing people and emergency prevention.

Permit Programs: Managing Public Use of DSRF

DSRF staff uses permits to manage uses that are prohibited by Administrative Rules (02 NCAC 60B .1001-.1032). Each permit request is evaluated by a DSRF ranger to determine impacts to the forest's natural resources, road and trail system and the overall visitor experience. Figure 6 compares the types and number of permits issued during fiscal years 2019-2020 and 2020-2021. Permit and reservation programs were limited for half the fiscal year to reduce gatherings and group activities per public health guidance related to COVID-19. These limitations and the resulting reduction in permits resulted in a decrease in reimbursement fees that partially support DSRF's operational budget.

Permit Type	Permit Use	Permits in Fiscal Year 2019-2020	Permits in Fiscal Year 2020-2021	% Change
After-hours	Recreational trail use after 10 p.m. and before 5 a.m.	7	12	+71%
Commercial Use	Youth camps and businesses using DSRF as part of commercial enterprises	65	91	+40%
Limited Mobility Anglers and Hunters	Vehicle access to select areas of DSRF for limited mobility anglers and hunters	26	20	-23%
Limited Mobility Visitors	Provides vehicular access to High Falls and the Covered Bridge	32	0	-100%
Picnic Shelter	Picnic shelters at High Falls, Triple Falls, Lake Dense, Lake Imaging and Guion Farm	13	0	-100%
Special Use	Foot race events, equestrian facility rentals and research permits	26	7	-73%
	Total	169	130	-23%

Figure 6: Permits issued in fiscal years 2019-2020 and 2020-2021

Overall, the forest issued 39 fewer permits than in the previous fiscal year, an approximately 23 percent reduction that resulted in a loss of about \$48,000 in projected collections. Figure 7 illustrates recent reimbursement revenue.

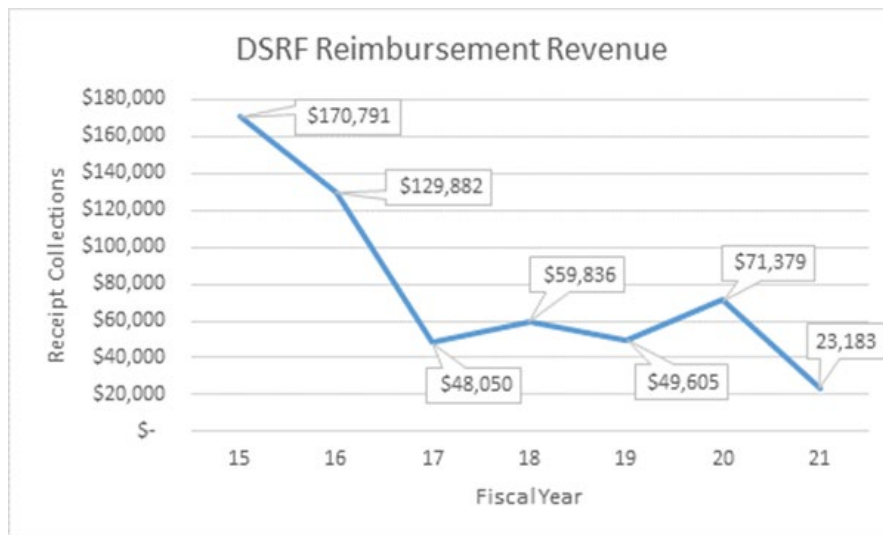


Figure 7: Reimbursement revenue generated through permit programs since fiscal year 2015

Promoting Forest Resources: Changes in Educational Opportunities

COVID-19 restrictions on group activities and the operations of the state's school systems had significant impacts on the number of educational offerings provided at DSRF in fiscal year 2020-2021. Programming at Holmes State Educational Forest was especially hard-hit by school closures, remote learning and moratoriums on field trips.

Presenter	Educational Programs 2019-2020	Educational Programs 2020-2021	Change	Participants 2019-2020	Participants 2020-2021	Change
HESF staff	111	7	-93%	2,104	166	-92%
DSRF staff	32	10	-68%	1,295	610	-52%
N.C. Wildlife Resources Commission	10	2	-80%	121	7	-94%
Friends of DuPont Forest	13	10	-23%	407	159	-60%
Total	166	29	-82%	3,927	942	-76%

Figure 8: Educational offerings associated with DSRF in fiscal year 2020-2021

MANAGING FOREST RESOURCES: Wildlife Habitat Improvements

The DSRF Land and Resource Management Plan was developed in 2011 by a multidisciplinary group of natural resource agencies and citizen stakeholder groups. The plan guides the management of forest resources for the benefit of our citizens.

Because of this foundational planning, DSRF has developed a renowned program of forest management demonstrations that balance the public's vast use of the recreational trail system and popular waterfall attractions. The DSRF forest management program actively manages natural resources using mechanical (harvesting), chemical (pesticide application) and biological (prescribed fire) tools that have been proven to be effective through generations of forestry research. The prime objective of forest management is to achieve multiple desired conditions within animal and plant communities. Figure 9 highlights the forestry demonstrations across DSRF since 2011, amounting to the creation of more than 450 acres of multiage forest and the return of more than 1,700 acres of natural fire disturbance to the forest communities.

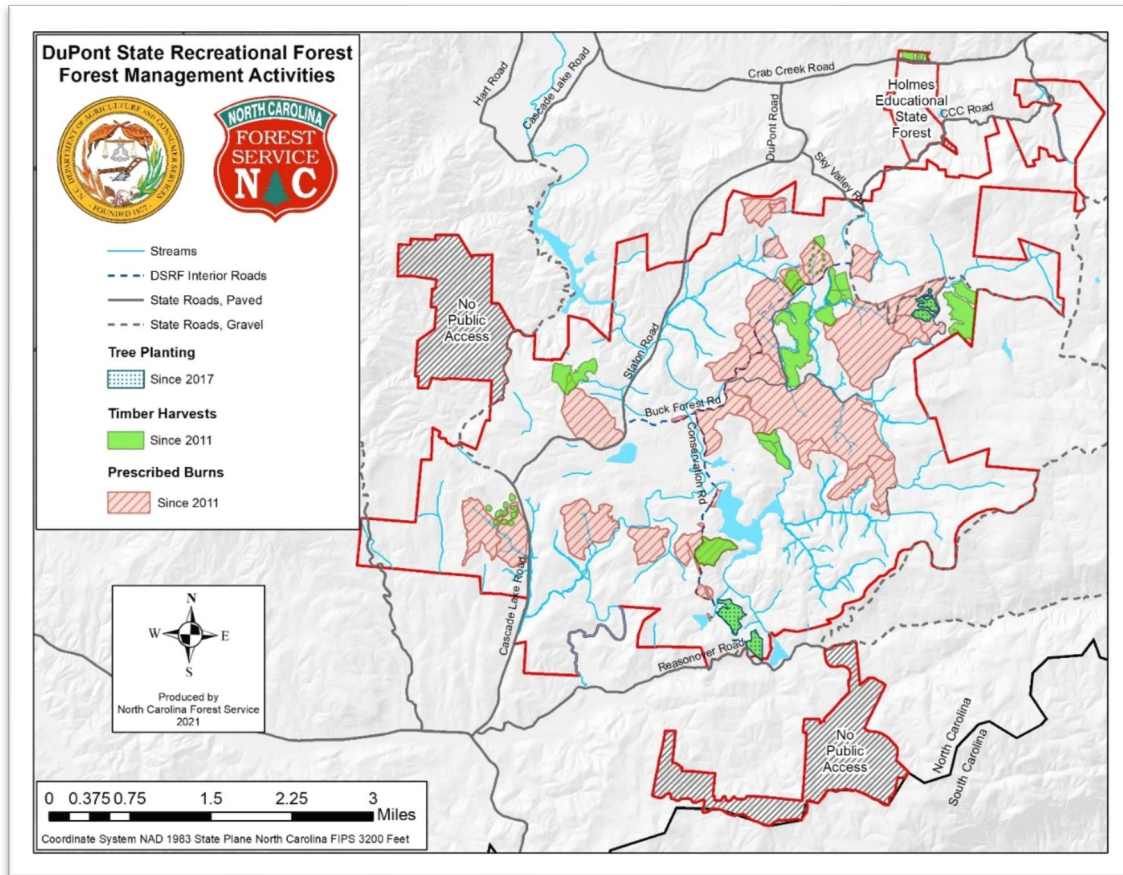


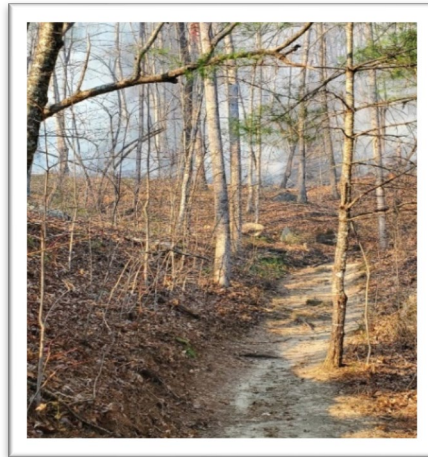
Figure 9: Forest management activities from 2011 to 2020

The DSRF forest management work unit focused significant attention to the prescribed burning program during fiscal year 2020-2021. Five prescribed burns totaling 228.8 acres were conducted despite COVID-19 related shutdowns and delays. These burns reduced hazardous fuel, restored forest areas and improved wildlife habitat.

In the fall of 2020, DSRF staff burned two units totaling 80 acres. Approximately 43 acres of the 81-acre Wilkie Trail unit were burned, improving conditions for oak regeneration. The 37-acre Hickory Mountain Trail unit burn successfully consumed surface fuels and reduced the understory shrub layer and white pine saplings on the summit of Hickory Mountain in Henderson County. The Hickory Mountain area borders private land, so this prescribed burn also achieved the goal of reducing potential wildfire hazards for our neighbors.

In the spring of 2021, DSRF staff burned three units totaling 148.8 acres. The 19.1-acre Rocky Ridge #1 unit was burned, significantly reducing hazardous surface fuels and thinning dense shrub thickets and white pine saplings to promote oak regeneration. The Sheep Mountain burn in Transylvania County successfully treated 129.3 acres and reduced the dense rhododendron, mountain laurel, and white pine thickets in the understory to make room for desirable oak regeneration. The 3.8-acre Demonstration unit on Buck Forest Road was also re-burned. This burn was used in an educational video produced by the Forest Stewards Guild and featuring foresters from the N.C. Forest Service.

Additionally, 8 acres of two harvest units off Conservation Road were chemically site-prepared and planted with shortleaf pine. This planting is part of an ongoing effort to reintroduce shortleaf pine in mixed pine-hardwood stands across the forest.



Hickory Mountain prescribed burn



Sheep Mountain prescribed burn



Buck Forest Demonstration Area prescribed burn

In cooperation with the North Carolina Wildlife Resources Commission (NCWRC) Game Lands program, DSRF continues to maintain wildlife food plots, assist with wildlife law enforcement, support the stocking of trout in the Little River, and provide important hunting and fishing opportunities across the forest. The NCWRC maintains nine wildlife food plots throughout the forest by planting quality forage and maintaining edge habitat for game species. The NCWRC oversees seasonal hunting permits at DSRF through a lottery system for various game species, while DSRF provides limited mobility vehicle permits to assist disabled hunters and anglers with access to the forest's interior.

Figure 10 shows that fiscal years 2017-2021 were a period when deer harvests remained higher than in previous years. While there are numerous variables related to game harvests, deer and other wildlife populations typically thrive in managed forest settings where the plant communities vary in both structure and age. This is a principle objective in the management of DSRF per its Land and Resource Management Plan and the planning recommendations in the NCWRC's Wildlife Action Plan.

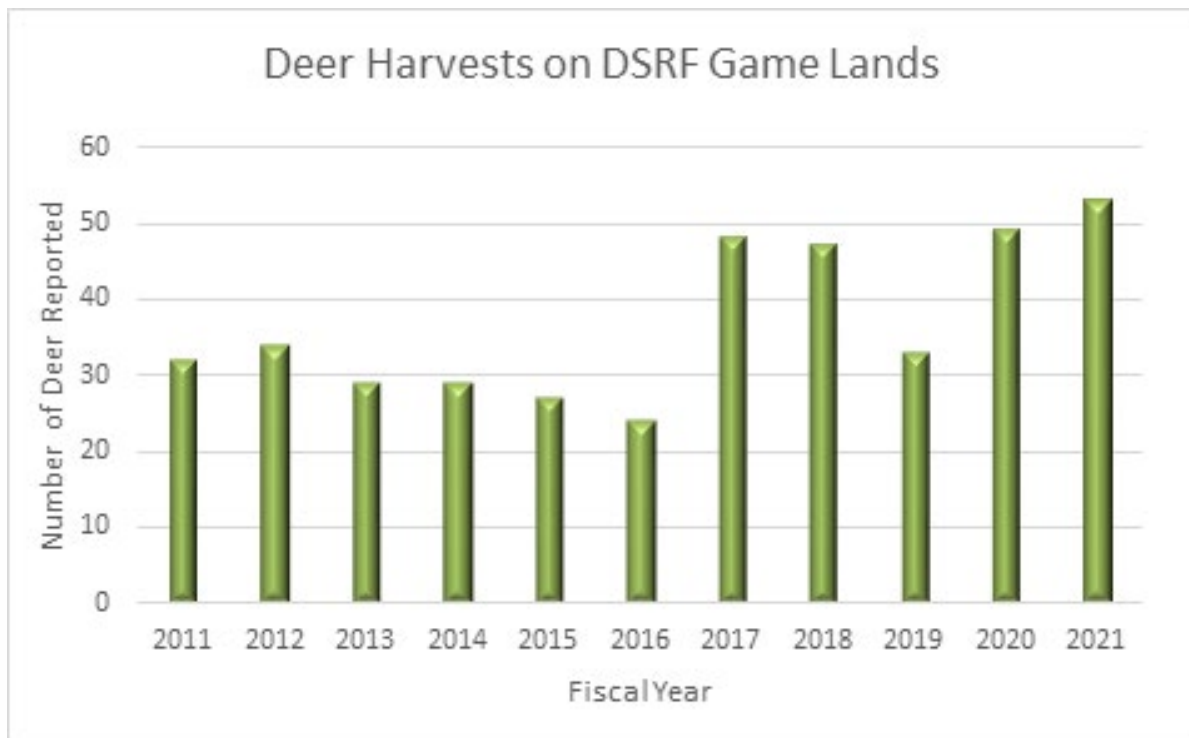


Figure 10: Deer harvest levels at DSRF since 2011

IMPROVING FOREST INFRASTRUCTURE: Capital Projects

N.C. Parks and Recreation Trust Fund (PARTF) Projects

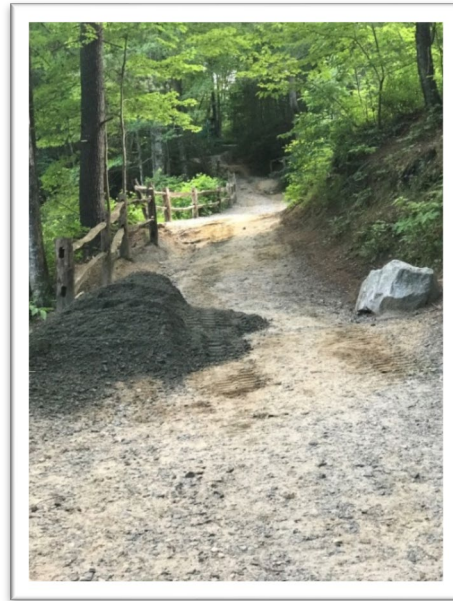
In fiscal year 2017, the North Carolina General Assembly authorized DSRF to have access to the North Carolina Parks and Recreation Trust Fund (PARTF) for the purposes of capital improvements, repair and renovation of facilities and land acquisition. Forest staff made progress on capital improvement projects supported by PARTF funds during fiscal year 2020-2021, expending \$309,624. Figure 11 provides a summary of expenditures.

Capital Project	Expenditures
Forest roads and trails: repair and renovation	\$ 85,918
Ranger Headquarters at Lake Julia: repair and renovation	\$ 30,380
Forest access areas: repair and renovation	\$124,845
Old Camp Summit Cabin: repair and renovation	\$ 68,481
Total	\$309,624

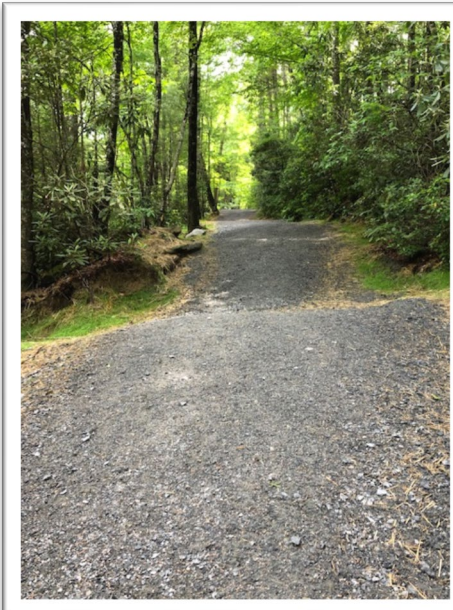
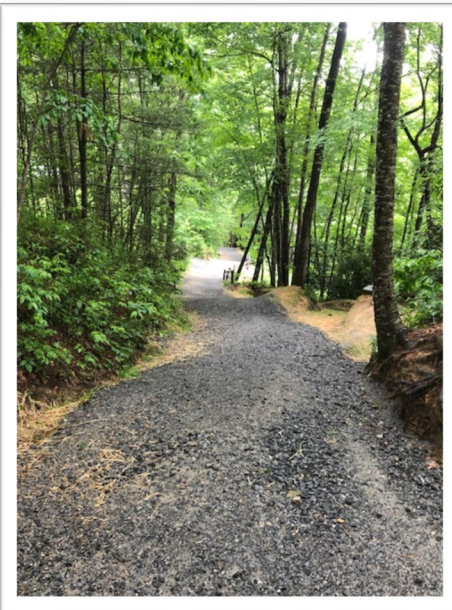
Figure 11: Summary of fiscal year 2020-2021 expenditures

Triple Falls Trail: Repair and Renovation

Forest trails at DSRF constitute one of the most extensive outdoor recreational systems in North Carolina. These natural surface pathways endure traffic from bicyclists, equestrians, hikers, and forest ranger operations with vehicles. In addition, these trails are exposed to significant rainfall contributing to continuous erosion and sedimentation. The maintenance of this trail system is a year-round operation and requires an investment of materials and labor. During fiscal year 2020-2021, DSRF used PARTF funds to purchase gravel, fencing and erosion control materials to be able to repair and renovate Triple Falls Trail, one of the most traveled trails in the forest with approximately 400,000 visitors using it each year.



Triple Falls Trail before improvements



Triple Falls Trail after improvements

Old Camp Summit Cabin: Repair and Renovation

Since its acquisition in 2000, this building had been unoccupied. It was once part of Camp Summit's facilities, which still provide recreational benefits and office space for DSRF operations. The approximately 40-year-old building was renovated with improvements to the roof, electrical systems, heating and cooling systems and water supply systems. In addition, hazardous trees in proximity to the building were removed. This facility supports the operations of DSRF's law enforcement agents.



Old Camp Summit Cabin after tree clearing and roof improvements

Ranger Headquarters at Lake Julia: Repair and Renovation

This facility has served as the main office for forest ranger staff since the early 2000s. It was previously an overnight lodge used by the DuPont Corporation before becoming state property. Before the DuPont Corporation's ownership and until the mid-1980s, the building served as the infirmary for the summer operations of Camp Summit. In 2019, mold contamination was detected in parts of the building, making it a high priority for renovation and structural improvements. During 2021, PARTF funds were used for designing renovation work, which includes new electrical system layouts, updated heating and cooling systems, a new floorplan to support forest administrative and operational work, and the removal of mold sources throughout the structure. Remodeling construction is expected to be completed by October 2021.



Renovation progress at Lake Julia office



Exterior repairs to Lake Julia office



Interior remodel and mold remediation in Lake Julia office

Forest Access Areas: Repair and Renovation

During fiscal year 2020-2021, DSRF undertook repairs and renovations to three of the most utilized access areas and parking lots in the forest: Hooker Falls, High Falls and Lake Imaging. Improvements included extensive grading, rebuilding gravel bases, stormwater management, erosion control measures, redesign of parking arrangements, directional signage, and stone stairways in select locations. These renovations improve the visitor experience by providing an organized parking area and allowing for better

emergency access to the more popular trailheads in DSRF. In addition, nearby sensitive areas such as streams and natural flood plain communities were further protected from stormwater and sedimentation impacts that were more prevalent before these improvements were made. Before and after images of these projects are provided below.



High Falls Access Area before improvements



High Falls Access Area after improvements



Hooker Falls Access Area before improvements



Hooker Falls Access Area after improvements



Lake Imaging Access Area before improvements



Lake Imaging Access Area after improvements

PLANS FOR FISCAL YEAR 2021-2022

Continuing Capital Improvements: New Bathroom and Parking Facilities

A portion of the \$3 million in capital improvement appropriations from fiscal year 2017 will fund a construction project at the Guion Farm Access Area in Henderson County. This project will provide a new restroom facility and expanded parking area to better accommodate equestrians, mountain bikers and other trail users.

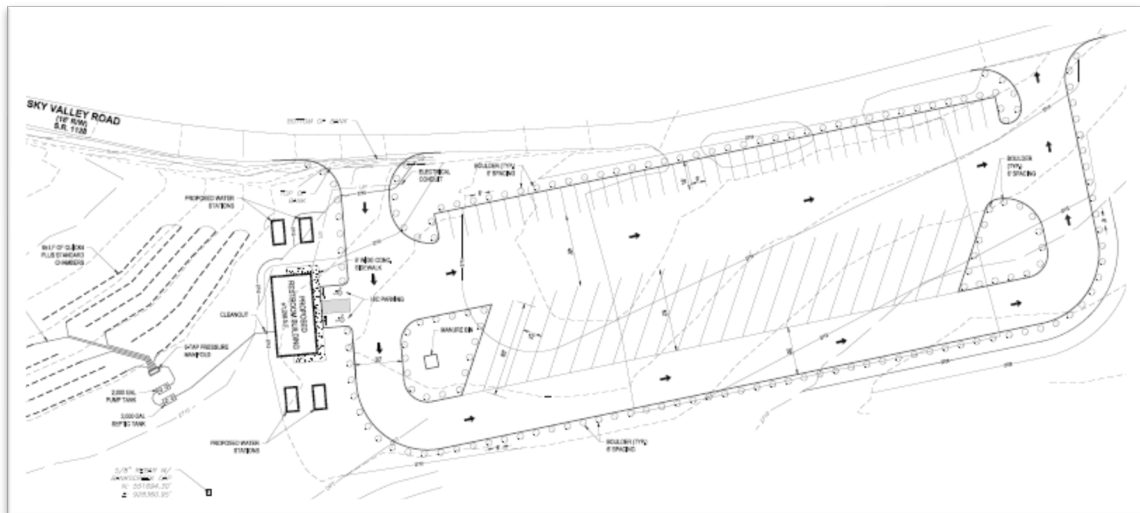


Figure 12: Design drawing for the Guion Farm Access Area in Henderson County

Managing Forest Resources: Continuing Innovations from 2012

A timber harvest project is planned for fiscal year 2021-2022 near the Guion Farm Access Area and Hickory Mountain Road. A 12-acre site is expected to expand on a previous timber practice conducted in 2012 known as an expanding gap harvest or a ‘femelschlag.’ This activity will support the primary objectives of the DSRF Land Management Plan by removing mature eastern white pines to widen open areas and support the growth of various oak species for wildlife food sources and habitat benefits.

To the north of the ‘femelschlag’ management unit, DSRF plans to thin approximately 70 acres of eastern white pine. This thinning aims to increase the diversity of tree species through the growth of hardwoods in the spaces created by the harvest. The thinning will also improve the health and growth of remaining eastern white pines, increasing their value for a future harvest. Figure 13 illustrates the general locations of these forest management projects.

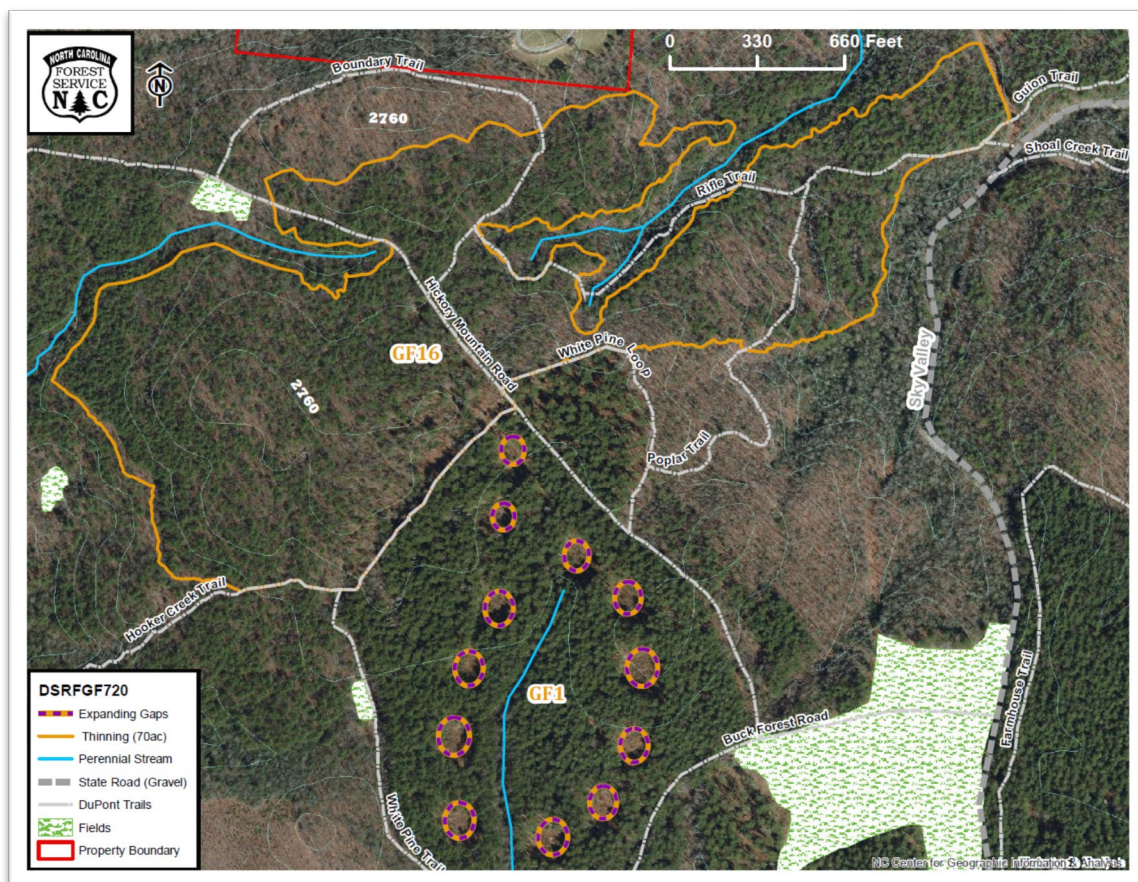
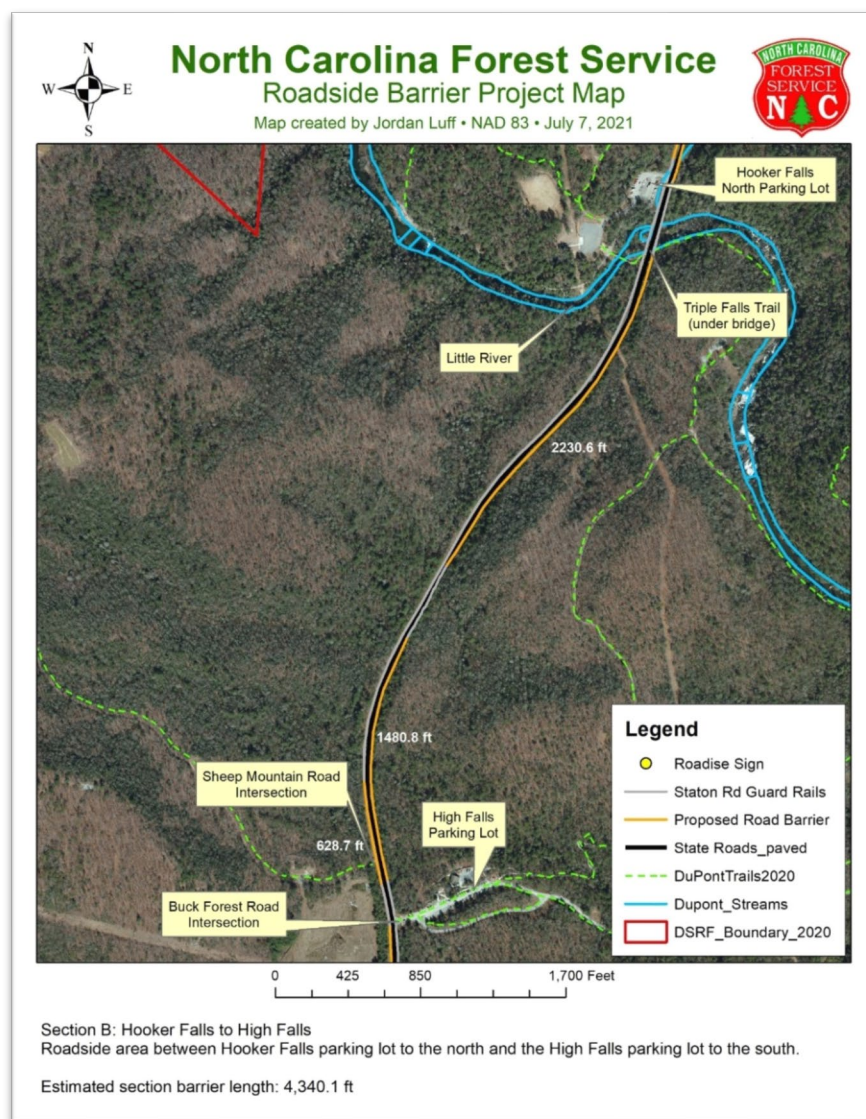


Figure 13: Depiction of planned ~82-acre timber harvests near the Guion Farm Access Area

Improving Public Safety: Installation of Permanent Roadside Bollards

During the previous fiscal year, DSRF installed temporary fencing to restrict roadside parking along Staton Road. The temporary fencing proved to be an effective way to distribute forest visitors more evenly among the various access areas as well to increase visitor safety by limiting the number of visitors accessing vehicles from the public roadside. In fiscal year 2021-2022, DSRF plans to replace the temporary fencing with permanent roadside bollards. The new bollards will ensure that the health and safety benefits derived from the temporary fencing become permanent features at DSRF. The following maps show the locations for these permanent roadside bollards.



CONTACT INFORMATION

For any questions regarding this report or DSRF, please contact:

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