

Executive Summary





2 Executive Summary

2.1 History

DuPont State Recreational Forest (DSRF), located in Western North Carolina in Henderson and Transylvania counties near the town of Brevard, has a rich history that has shaped its evolution into a beloved outdoor destination. Before the land became a North Carolina state forest it went through periods of being owned by the Thomas, Moore and Hooker families¹. Portions of the property became sites for farmland, the Buck Forest Inn, a grist mill, the Buck Forest Lodge, a cemetery, a caretaker house, a barn and several lumber mills. Throughout its history the land has consistently been used for timber harvesting, lumber mills and controlled wildfires. In the 1950's, over 10,000 acres were purchased by DuPont Corporation. Five years later a silicon chip manufacturing plant was opened on the site which began manufacturing X-ray film in 1958.

In 1996, DuPont Corporation sold its diagnostic imaging business to Sterling Diagnostic Imaging which included 2,200 acres along the Little River containing Triple Falls, Bridal Veil Falls and High Falls. During this time the state of North Carolina purchased 7,600 acres from DuPont Corporation and established DSRF⁷. Three years later in 1999, Sterling Diagnostic Imaging placed the 2,200 acres for sale which was pursued by the state; however, it was eventually purchased by a private residential housing developer. By 2000, several community groups, including Friends of the Falls, the Sierra Club, the public and Sterling Diagnostic Imaging urged the State to protect the area surrounding the falls and continue to allow public access. The North Carolina Council of State and then Governor Jim Hunt began negotiations with the private developer, and by October 23, 2000, the governor and Council of State proposed the invocation of eminent domain on the property, and it was unanimously approved.

The parties whose effort made the Forest's growth possible included Sierra Club, Friends of the Falls, landowners, federal, state and local governments and other conservation non-profit organizations⁷. In 2000, the state officially acquired the land that makes up the famous waterfall corridor in DSRF today, further establishing it as one of the region's natural attractions. The Forest is managed by the North Carolina Forest Service primarily for natural resource protection, scenic enjoyment and recreational purposes. Local communities

and stakeholder groups continue to be involved in the Forest's management through public input, engagement and educational programs.

Following its establishment as a state recreational forest in 2011, DuPont underwent significant development to create recreational facilities, trails and amenities for visitors. The Forest's iconic waterfalls, including Triple Falls and High Falls, became popular attractions for hikers, photographers and nature enthusiasts. The Forest has gained national recognition as a premier outdoor destination, drawing visitors from across the county to experience its scenic beauty and diverse recreational opportunities. In addition, the Forest's appearance in films and television shows such as *The Hunger Games* and *The Last of the Mohicans* has further increased its visibility and appeal⁴. At the time of the development of this report, DSRF is currently 12,489 acres in size and has an average annual visitation of over 1,100,000 people¹.

The history of DSRF reflects a legacy of conservation, public access and environmental stewardship that continues to make it a treasured natural retreat for outdoor enthusiasts and nature lovers alike. Its evolution from industrial land to a pristine recreational area underscores the importance of land preservation and sustainable management practices to create and maintain valuable natural spaces for future generations to enjoy.

2.2 Legislation

In 2021, DSRF was awarded funds by the North Carolina General Assembly to generate and incorporate a master recreation plan and hired a planning team to assist their efforts (*see Figure 1-1*)¹. The plan will guide DSRF to prioritize future needs, improvements to existing facilities, programs and trails, as well as financing and managing strategies to maintain and improve the Forest and its recreation resources.

2.3 Report Overview

The Master Recreation Plan incorporates national, regional and local recreation information to provide insight into the existing conditions, future programs and strategies and increased visitation rates. The large increase in annual visits over the last ten years mirrors that seen in national trends. The United States has experienced increased interest in outdoor recreation, participation in hiking, fishing and biking and in the number of new participants in outdoor recreational activities¹². In addition, the surrounding regional communities are experiencing increases in population and median incomes¹³. These trends help to explain the increase in visits to DSRF. The plan also goes into detail about the existing regional context of DSRF. Many well-known national parks and forests, state parks and forests and regional trail systems are within just a few hours' car ride. Due to the proximity of other attractions to the Forest, it is understood that this region is well known for its outdoor recreational opportunities and assets making it a frequently visited location. DSRF offers many of these recreational opportunities within its boundary such as hiking, trail running, horseback riding, mountain biking, hunting and fishing as well as scenic views and waterfalls making it an extremely popular destination in the region⁶. It was also determined that DSRF experiences a much higher level of use per acre of land compared to many popular protected lands such as Great Smoky Mountains National Park and South Mountains State Park. Due to the Forest's popularity,

there are several areas of concern resulting from the high level of use. These areas were identified through a needs assessment and public engagement that focused on the Forest's recreational facilities and trail network.

The process utilized to acknowledge the complexities of the Forest included a national and regional trends analysis, an examination of field conditions and extensive public engagement. The public input process was initiated in several stages and focused on the collection of information at national, regional and local levels. Online surveys were introduced; three Public Input Drop-Ins (PIDI) were conducted to discuss survey and previous input session results and collect additional information; interviews were conducted with stakeholders, civic organizations, DSRF staff and user focus groups; and results and progress updates were presented to both DSRF staff and stakeholders. Comparisons were made to similarly managed natural resources within the nation, region and local communities. The information from these steps of the planning process became the basis for a needs assessment to determine existing and future needs of the Forest. The assessment included a prioritization of improvements to be made in the short term, medium term and long term within the next fifteen years. The plan elements were then graphically depicted in draft concept plans and information maps. Below are the overarching takeaways the planning team received during the entirety

Public Input Drop-In #1 at the Transylvania County Library, May 5, 2023



of the public input process with more weight given to local feedback due to the finding that the high visitation rates were greatly impacted by local residents' repeat visits. In addition, during the first and second PIDs, the planning team gathered information specifically to distinguish preferences for each of the four user groups for their top-ranked trails, access areas and points of interest. The analysis of this information carried weight during the recommendation phase to best balance the impacts of proposed recommendations between all user groups. The results below are from all participants provided during the public input process. **To see user group preferences for ranked trails, points of interest and access areas see Section 6.2.3—User Group Preferences.**

Concentrated Areas

- High Use Trails: The top three responses regarding the most-visited trails included Jim Branch, Reasonover Creek and Ridgeline Trail.
- High Use Points of Interest: The top three responses regarding the most-visited points of interest included the interconnected trail system, Triple Falls and High Falls.
- High Use Access Areas: The top three responses regarding the most-visited access areas included Lake Imaging, Guion Farms and Corn Mill Shoals.

Public Priorities

- The need to protect ecological integrity and character of DSRF natural communities.
- The need for the Forest to focus on reduction of erosion and sediment into streams and rivers, the improvement of wildlife habitat for game and non-game species and the protection of native plant and animal species.

Public Concerns

- The need to reduce negative impacts of recreational activities on the long-term ecology of the Forest.
- The need for DSRF to be able to maintain trails at their current level of use.
- The need to reduce the occasional user group conflicts on a small number of trails within the system.

Public Outlook for Future Opportunities

- A need for additional recreational programming such as kayaking and paddle boarding.
- A need to disperse users through the creation of additional access to new properties.
- A need for access to regional trails to increase connectivity to other natural assets within the region and provide additional recreational opportunities.
- A need for clearly defined ADA accessibility opportunities.

Focus Group and Stakeholder Group Priorities

- Improve awareness of "Forest Rules".
- Encourage the enforcement of rules & regulations.
- Provide visitor center renovation.
- Provide education to enhance safety & visitor awareness.
- Develop strategies to enhance "Good Behaviors".
- Address safety concerns at the waterfalls.
- Encourage a "Leave No Trace" mentality.
- Provide parking lot trash cans.
- Provide signage about dogs (i.e., "Keep dogs on leash").
- Provide information for visitor preparedness (i.e., "There is no potable water in DSRF").
- Encourage visitors to stay on the trail (i.e., "Be in nature ON the trail").
- Keep the Forest as natural as possible.
- Maintain public access to DSRF.
- Communicate the reasons why trail management (direction, designation, closure, addition) may change.

Draft recommendations and concept plans were presented to the public and participants were asked for their input on the suggested elements of the plan. Once these suggested elements had been confirmed, the planning team determined probable costs associated with these plan elements. An analysis was made of the state jurisdiction's financial capability to fund the planned improvements and strategies were developed to best leverage local resources, grant opportunities and long-term debt. An evaluation was also made of the Forest's programs, organizational structure and management capabilities. These elements were examined and this culminated in the final recommendations of the plan.

The recommendations of this plan include providing improvements for the Forest's trail system and enhancement of management practices, facilities and recreational opportunities to provide users and staff with a high-quality experience and to address the high level of use currently present within the Forest. The recommendations are grouped into two categories - one focused on physical improvements and the other focused on organizational, management and long-term maintenance improvements. **See Section 4—Trails and Section 9—Recommendations for additional information on each one of the following recommendations.**

CATEGORY 1: EXISTING & FUTURE FACILITIES

Prioritize Deferred Maintenance

With 74% of the DSRF trail network requiring significant, frequent and professional maintenance it is recommended that the Forest focus on addressing these maintenance concerns prior to the pursuit of any new initiatives or expansion projects. It is recommended to prioritize high-use areas such as the waterfall corridor as it receives nearly one million trail users a year and is an important economic driver for tourism in the region. Maintenance approaches should be sustainable in their design, use of labor and funding sources. Although these approaches will be expensive and time-consuming they should be a priority for the Forest's allocation of time and resources. Hardened infrastructure should be implemented to allow for long-term health and safety of the visitor experience as well as preserving the character and ecological integrity of the unique and protected habitats. **See Section 9—Recommendations for a list of common approaches that DSRF could implement to expedite professional engagement for maintenance and building needs. See Section 4—Trails for complete assessment of recommended trail maintenance.**

Americans with Disabilities Act (ADA) Accessibility Opportunities

It is recommended that DSRF increase public awareness of ADA recreational opportunities through additional signage and online information on the DSRF website. In addition, it is recommended that additional ADA-accessible recreational opportunities be provided. The addition of recreational resources will increase the diversity of users within the Forest. Increasing awareness and opportunities will assist DSRF in the long term in determining the balance between the practicality and affordability of creating ADA conditions in natural areas.

Upgrades to Existing Recreational Infrastructure

Through the needs assessment process the planning team compared DSRF use levels and infrastructure to those found in national parks and forests. It is recommended that DSRF implement similar trail infrastructure to those found in national parks and forests that are capable of withstanding the high levels of use the Forest has been receiving over the last few years. Hardened infrastructure will play the largest role in creating a sustainable trail network as it will take the inadequately constructed trails DSRF currently has and create an infrastructure that will be capable of handling the current levels of high use. This significant capital investment that will be necessary for the long-term sustainability of the Forest. The current Forest practices of quick fixes are due to limited staffing and funding constraints; this

approach is not environmentally, socially or ecologically sustainable as maintenance must be consistently repeated in the same locations. It is recommended that the Forest prioritize the allocation of necessary funding for the implementation of this hardened sustainable infrastructure of existing high-use trails to provide long-term solutions, infrastructure that can handle the high level of use, minimize staff efforts related to maintenance and greatly improve the Forest's sustainability. **See Section 4—Trails for additional information regarding upgrades such as hardened trail infrastructure.**

Upgrades to Educational Materials

Signage related to trail etiquette and environmentally conscious behavior already exists at each access area and at certain road and trail intersections, however, to make this information more easily understood by Forest users it is recommended that signage be improved upon. This could include making fonts and images larger or in brighter colors to attract visitor attention or adding supplemental signage regarding items such as leash law or leave no trace. The Forest can take this information sharing a step further by providing additional educational materials to be shared with the public through social media or videos posted to the Forest website. In addition, the Forest can work with non-profit organizations to share this information or provide workshops that give users more detailed information about how to safely and respectfully use the Forest. The addition of educational information sharing can reduce conflicts between user groups and reduce the occurrence of injuries. In addition, the Forest currently has some educational signage that focuses on the Forest's environmental, social, cultural or historic assets located throughout the Forest. It is recommended that more signs be located and installed as this will add to the user experience, increase awareness of DSRF assets, gain support for Forest initiatives and increase user investment in the Forest as a whole.

Expansion of Existing Recreational Infrastructure

It is recommended that DSRF have reached a sustainable level of maintaining current infrastructure and have implemented the majority of the recommendations described in Section 4—Trails prior to the expansion of existing infrastructure be undertaken with additional and adequate personnel and funding resources. The staff required for the development and access to these three properties and potential regional connector trails will need to include additional staff within the maintenance, recreation and law enforcement DSRF departments as well as seasonal staff to manage the very highly impacted areas. **See Section 6—Needs Assessment for details.** Without this additional staff, these areas could not be



From left: DuPont State Recreational Forest Multi-Use Instructional Signage; Lake DERA

maintained, meet recreational needs or ensure visitor safety. Most public input indicated that the public was satisfied with the variety of recreational opportunities within DSRF, but the Forest could benefit from additional recreational areas and programming as it could assist with drawing visitors to alternative areas within the Forest and potentially relieve some of the high-use areas. The properties and programming recommended in this plan are listed below. **See Section 7—Concept Plans for additional information about these future expansion areas.**

Lake DERA: The portion of the Donut Hole near the northern edge of Lake DERA is recommended to be opened to the public as a day-use recreational area. At the time that construction begins for the site it is recommended that required staff be allocated for site operations and management. This space would include recreational programming such as gathering pavilions, paddle boarding, parking, kayaking, picnicking and fishing. It is also recommended that an ADA walking path be constructed along areas of Lake DERA to provide additional accessibility opportunities.

Cascade Lake: This property provides opportunities for conceptual programming such as scenic enjoyment, an undeveloped experience area, hunting opportunities and a natural heritage area. It is recommended that DSRF make the final decision on the programming for this property and at that time staff should allocate funds and personnel for the development of certain recreational elements. Once development has begun, all trail maps should be updated to include new access areas and points of interest. It is recommended that DSRF share the programming elements of this area with the public either through updating the DSRF website or making a social media or public announcement.

Continental Divide: This property provides opportunities for conceptual programming such as a hunting area, less-developed experience area, new trails, potential regional trail connector points and a natural heritage area. It is recommended that DSRF make the final decision on the programming for this property and at that time staff should allocate funds and personnel for the development of certain recreational elements. Once development has begun, all trail maps should be updated to include new trails, access areas and points of interest. It is recommended that DSRF share the programming elements of this area with the public either through updating the DSRF website or making a social media or public announcement.

Regional Trail Connections: DSRF is located in a prime location that could allow for the potential connection to one or more of the five surrounding regional trails which include the Ecusta Rails-to-Trails Trail, Palmetto Trail, Foothills Regional Trail, French Broad River Paddle Trail and the Mountains-to-Sea Regional Trail. If interest is expressed from an organization leading one of the five regional trail efforts to connect to DSRF, it is recommended that the Forest should prepare for any expected needs, management requirements, staffing requirements, growth of regional trail organization relationships and additional infrastructure if any regional trail connections become a reality. A connection to a regional trail could provide additional recreational opportunities for DSRF and regional trail users and provide potential tourism and economic benefits for the surrounding region.

CATEGORY 2: PROGRAMMING, ORGANIZATION & POLICY INITIATIVES

Addition of Full-Time Staff

DSRF does not currently have an adequate number of recreation-focused personnel to maintain the trail system and implement the trail-specific recommendations of this plan. The addition of full-time positions to focus on trail management and equipment operations is a critical need for the Forest. It is recommended that two full-time staff positions be created. One of these positions will be a trails-based position which will focus on tasks such as further support and coordination for trails and will lead the expansion of Volunteer Trail Crew efforts. The other position should be an equipment-based position for trails and recreational infrastructure. This position will focus on tasks such as increasing the capacity to address resource degradation and trail maintenance in response to high visitation counts and visitor impacts on trails. The addition of two full-time staff will allow for the following needs to be met:

- Current and existing needs of compounding deferred maintenance, resource degradation and critical fixes for visitor safety and resource protection.
- To eventually achieve a sustainable state of planning and maintenance where the Forest can handle an expansion of the current trail and recreational infrastructure called for in this plan.

In addition, for recommendations and maintenance needs that require professional trail assistance, it is recommended that the Forest seek efficient procurement processes to maximize use of current funding sources, future appropriate and donations. Contracts for trail renovation and maintenance should be adaptable and streamlined to further reduce implementation timelines to continually reduce deferred maintenance and avoid future trail conditions that require extensive repair and renovation. It is also recommended that DSRF incorporate annual funding sources for basic cyclical trail maintenance to handle the recurring wear and tear and high-level visitor impacts on the trail system. Lastly, DSRF should maintain the local ability to make future decisions about trails and less developed roads that are integral to the trail network. It is recommended that these trail-based decisions should align with the three pillars of sustainability used as guideposts throughout this plan. **See Section 9—Recommendations for additional information on additional full-time staff positions to address current and future needs.**

Increase Trail Maintenance Funding & Expedite Review Procedures

It is recommended that DSRF explore various funding avenues in addition to grants such as partnerships, sponsorships, or crowdfunding to enhance financial stability alongside grant income. Unfortunately, the current main source of funds from the Parks and Recreation Trust Fund often does not cover the costs of routine maintenance. Since DSRF is in a constant cycle of trail maintenance and repairs they are unable to allocate these funds towards these objectives. It is recommended that DSRF receive a maintenance budget for trails of \$225,000 annually. This amount would allow for \$45,000 of maintenance per trail mileage to perform maintenance on five miles of trail a year. It is also recommended that a streamlined process be put in place that allows DSRF to create trail contracts for primarily maintenance-based work without extensive design review.

Although these reviews are beneficial, they significantly slow down the process of applying funds to many small capital improvements and routine maintenance that would be performed by professional trail builders. Extended review periods results in funds not being utilized and maintenance issues persisting that result in issues for visitors and DSRF staff. **See Section 9—Recommendations for additional information on the diversification of funding sources and expediting review procedures.**

Continue with Natural Area Protection Efforts

It is recommended that the Forest prioritize natural area protection and use this prioritization as the primary base for the decision-making process for all recreational development. This prioritization should be sustained during times of high external pressures to ensure environmentally unsustainable proposals are not pursued.

Buck Forest Road Controlled Burn





DSRF Timber Harvesting

Greater Utilization & Partnerships with Volunteer Organizations

With several user groups providing volunteer labor and expertise for DSRF. It is recommended that when volunteers are utilized for trail work, they should be properly trained, and a pool of volunteers be established so that trail work can be completed in an efficient and timely manner. The use of volunteers provides several benefits for the Forest such as the creation of a sense of ownership and engagement, reduction in maintenance costs and educational opportunities. It is recommended that the Forest continue building the partnership already established between volunteer organizations as well as expand their relationship network to form a larger group of volunteers to assist with Forest needs and trail maintenance.

Communicating New Trail Management Objectives

Introducing new trail management practices to the public requires a thoughtful and comprehensive communication strategy to ensure understanding, acceptance and compliance. ***See Section 4—Trails for a list of actions that are recommended to be taken to ensure the objectives are communicated efficiently and that input from the public is considered.***

Commit to a System-Wide Implementation of Trail Recommendations

Due to high-use areas, high levels of maintenance needs and to make a more cohesive trail network it is recommended that some trails would function better if categorized as either directional and/or assigned designation. In Section 4—Trails of this plan, the recommended management practices are laid out to identify the best steps towards either trail designation, direction, closure or addition. It is important to note that all recommendations are considered a cohesive whole. Adapting only a few of these recommendations will result in limited improvement to trail sustainability across the whole of DSRF. Incorporating all of the recommended maintenance and management practices can give DSRF the greatest opportunity to improve trail system sustainability within the Forest.

Management of Emerging Recreational Trends

Throughout the planning process, the subject of electronic mountain bikes (eMTBs) became a topic of discussion during public input sessions, surveys, focus group interviews and stakeholder group interviews. In Section 4—Trails, the plan walks through the trends of eMTBs, classes of eMTBs, state and federal laws regarding eMTBs, eMTBs implications for land managers, other Power-Driven Mobility Devices (OPDMDs), other electronic recreation devices, other emerging trends and provides

recommendations specific to DSRF. It is recommended that no management changes be made within DSRF regarding eMTBs and to keep eMTB use on perimeter roads that are controlled by the North Carolina Department of Transportation. This recommendation is based on both public feedback and the necessary legislative action required to allow eMTBs on state forest lands. To improve communication and compliance regarding Forest regulations on the use of eMTBs it is recommended that DSRF focus on public awareness and education through additional signage, partnership collaboration and outreach and educational programs. If North Carolina law changes in the future to allow eMTBs on forest land it is advisable for the Forest to undergo a review process to assess the compatibility of eMTBs with current Forest uses.

Improvements for Social Media Management

The social media recommendations included in this report focus on Forest objectives of expediting information sharing, content control, real-time updates, community building, brand voice consistency and data insights. Recommendations also include the use of content calendars, visual storytelling, engagement strategies and educational campaigns to enhance the Forest's use of social media and online platforms. This initiative is recommended to include an additional staff position for its development and management. **See Section 9—Recommendations for a complete list of improvements to in-house social media management and enhancement of the Forest's social media strategies.**

Implementation of Grant Research & Application

Grant allocation can assist in obtaining the funding for trail maintenance, professional trail services and help alleviate the strain on State received funds to ensure DSRF's environmental, social and economic sustainability. It is recommended that DSRF obtain a consistent update of the funding landscape, create open and constant communication on priorities and pursuits for future funding and create a checklist to determine the applicability of grants for funding to achieve Forest goals. The Forest should also begin discussions regarding either hiring additional staff specifically for grant research and application or finding additional funds to outsource this process when grants are to be pursued. **See Section 9—Recommendations for a list of recommended actions for either new DSRF staff or the qualities for third-party grant assistance.**

Benchmarking

It is recommended the Forest implement a benchmarking process to set standards for achievements for basic organizational structure and mark achievements towards environmental, social and economic sustainability. Benchmarking is a helpful tool to recognize achievements towards specific Forest objectives and provide a tool for comparison with similar parks or forests within the nation, state or region. One recommended approach is through the National Parks and Recreation Association (NPRA) which maintains a national benchmarking database for local jurisdictions to compare their standards and practices against those jurisdictions of similar size and population across each state and nation. Being involved with the NPRA would provide DSRF with benefits such as providing research and resources to assist with the support of organizational programs or objectives; access to park metrics through a GIS database tool that provides insight into benchmarking, best practices and planning; access to an online field guide that provides information for suppliers related to the parks and recreation industry; and access to updated information on available grants supported by NPRA. **See Section 9—Recommendations for additional information about benchmarking opportunities for DSRF.**

CONCLUSION

Through the planning process, it was affirmed that DSRF is a highly loved natural resource with many environmental, social and economic assets that benefit users nationally, regionally and locally. Due to its high popularity, action must be taken in order to preserve and enhance the environmental, social and economic sustainability of the Forest. All of the previously mentioned recommendations should be implemented over the next fifteen years to create the greatest positive impact on environmental, social and economic sustainability of the Forest. **See Section 6.3 - Prioritization of Needs for more detailed information on the recommended schedule of improvements based on a timeline of short, medium and long term.**

Clockwise from top: DSRF's Junior Forest Ranger Program; Trail Crew Work Day; DSRF's Boundary Line Signage

