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MARYLAND STATE PARK SYSTEM

Study and Recommendations

Great Maryland Outdoors Act

December 2023

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A special thank you to those who participated in meetings, site tours, and work sessions:

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Park representatives from Rocks State Park, Susquehanna State Park, Gunpowder Falls State Park, North Point State Park, Newtowne Neck State Park, Point Lookout State Park, Calvert Cliffs State Park, Greenbrier State Park, Washington Monument State Park, Cunningham Falls State Park, Patapsco Valley State Park, Tuckahoe State Park, Harriet Tubman Underground Railroad State Park, Wye Island Natural Resource Management Area, Wye Oak State Park, Sandy Point State Park, Seneca Creek State Park, Assateague Island State Park, and the future Freedman State Park.

As well as the many other individuals who participated in focus groups and conversations with the consultant team.

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Visitors enjoying the water and beach at Greenbrier State Park.

EXECUTIVE SUMMARY

The Great Maryland Outdoors Act (GMOA) represents the State's unwavering commitment to the preservation of natural resources, the expansion of equitable recreational opportunities, and the enduring sustainability of the Maryland Park Service (MPS). This comprehensive study serves as an independent evaluation of the GMOA's implementation thus far, and charts a roadmap for equipping the Department of Natural Resources (DNR) and MPS with the tools required to enhance its operations and expand access to Maryland's parks for current and future residents.

Central to the GMOA and this report is the pivotal challenge of how MPS can effectively address the persistent issues of park capacity and closures. Although the number of park closures has reduced since the tumultuous year of 2020, most state parks have yet to return to pre-pandemic visitation levels. Notably, parks such as Sandy Point, North Point, and Cunningham Falls continue to grapple with closures that persistently exceed pre-pandemic rates.

These recurring closures stem from a core issue of capacity, traditionally tied to parking space availability, but deeply entwined with broader structural considerations affecting both MPS and DNR, ranging from staffing shortages that limit a park's ability to manage visitor surges to aging infrastructure and critical maintenance backlogs that shape the availability of essential visitor facilities and amenities that parks offer. Capacity issues are compounded by rising temperatures, shifting precipitation patterns, and sea level increases due to climate change. Maryland's state parks confront profound challenges in managing, conserving, and operating its parkland.

This GMOA evaluation takes a holistic approach in assessing MPS capacity and provides recommendations aligned with the four key GMOA objectives: evaluating the mission alignment of park operations, enhancing visitor experience, improving funding strategies, and addressing climate change and public health. The focus of the study analysis and recommendations are on Maryland State Park sites and facilities. Any Maryland Park Service site (including NRMA, NEA, or other MPS-owned land) identified by the 2022 critical maintenance backlog, capacity-related closures datasets, and visitor count datasets were reviewed.

Key Findings

Critical to successful reinvestment in the MPS system will be a realignment of staff capacity and clear leadership to focus resources behind the implementation of 94 systemwide recommendations and over 136 park specific recommendations. More importantly, as this study identifies in the systemwide and park-specific recommendations, DNR and MPS are not meant to accomplish the significant changes and investments identified by this study on their own. Many departments,

organizations, and individuals have a vested interest in making the state park system one of the highest quality and most beloved in the country.

Evaluating Mission Alignment: To enhance mission alignment within MPS operations, this report provides 37 systemwide recommendations and 31 mission-specific park-level recommendations. These recommendations focus on improving administrative management of parkland acquisition, fostering cross-departmental collaboration, conserving historic and cultural resources, and enhancing workforce recruitment.

The independent study identifies the following key recommendations:

Update of Conservation Data: Regularly update Targeted Ecological Areas (TEAs) and BioNet conservation mapping datasets every five years. Hire a conservation biologist to ensure the accuracy and reliability of these datasets.

Trail Map Enhancement: Conduct regular updates of trail maps using accurate surveys to reduce ecological impacts and control unauthorized trail creation in critical habitats.

Development of Site Management Plans (SMPs): Formulate SMPs for newly acquired park lands, working in collaboration with agencies like the National Park Service (NPS) and Chesapeake Conservancy.

Watershed Monitoring and Public Awareness: Implement watershed monitoring strategies to evaluate the health of water bodies in state parks. Launch public awareness campaigns focusing on watershed conservation, informed by the latest findings in this area.

Visitor Experience and Resource Protection: Balance visitor experience with resource conservation, employing established NPS protocols. Establish a new category of "Historical Parks" dedicated to specialized staffing and budgeting.

MPS Customer Satisfaction Survey Enhancement: Plan improvements to customer surveys to better capture demographic nuances of park visitors.

Formation of Community-Based Advisory Body: Establish an advisory body to infuse an equity perspective into park planning and investment.

Expansion of Park System: Extend the park system in Southern and Central regions to meet the acreage targets per resident by 2030.

Staffing Strategy Enhancement: Address the deficiency in full-time positions, aiming for an improved visitor-to-staff ratio. Create a Staff Advisory Committee for effective staffing decisions and emphasize recruitment of specialized skills.

Standardization of Training Programs: Develop and regularly update standardized training curricula for rangers and maintenance staff.

Improving Housing Access and Staff Diversity: Enhance housing access for seasonal staff and actively promote diversity among park staff.

Strengthening the Volunteer Program: Intensify efforts to bolster the volunteer program within state parks.

Enhancing Visitor Experience: To elevate visitor experiences across all state parks, this report presents 7 systemwide recommendations and 41 experience-specific park-level actions. These recommendations center on improving parking availability, implementing park reservation programs, maintaining park cleanliness, and expediting deferred maintenance requests.

The independent study identifies the following key recommendations:

Visitor-to-Parking Space Ratio Analysis: Utilize the most recent year's data to understand the average number of visitors per parking space.

In parks where the ratio exceeds 1,350 to 1,500 annual visitors per parking space, add additional parking spaces, considering the park's carrying capacity, comfort station infrastructure, staffing capacity, and ecological sensitivity.

Localized Carrying Capacity Definition: Redefine the desired carrying capacity for different areas within parks, like day-use areas,

overnight amenities, wildlands, and preserved areas, to tailor appropriate management strategies.

Visitor Count Management: Implement and standardize strategies across all park complexes to adjust visitor counts in line with the carrying capacity. Reduce the time park rangers spend monitoring parking and traffic.

Facilities Assessment: Evaluate whether existing passive camping and recreational facilities can accommodate day-long family visitation and gatherings.

MPS Customer Satisfaction Survey Expansion: Include a short-answer component to gather detailed feedback on park facilities' conditions.

Cleanliness Standards: Establish and implement a matrix of standards to rate and score the cleanliness of public spaces in parks, including beaches, sidewalks, facilities, and parking lots.

Real-Time Online Information: Provide visitors with real-time information about parking availability and wait times.

Recreational License Management: Explore alternative approaches for recreational licenses, like surf fishing, including caps on the number sold.

Day Use Reservation Pilot Expansion: Extend the Day Use Reservation Pilot from Kilgore Falls to other parks, incorporating mechanisms for day-of space use confirmation and provisions for walk-up visitors.

Climate Change and Public Health Considerations: To prioritize equity and environmental sustainability, the report leverages 12 systemwide and 36 climate change/public health-specific park-level recommendations. These recommendations explore opportunities to proactively implement climate change mitigation and adaptation, engage greater communities in climate change awareness, and initiate public health initiatives.

The independent study identifies the following key recommendations:

Comprehensive Resilience and Maintenance Plans: Mandate the development of long-term resilience and maintenance plans for all state parks, NEAs, NRMAs, and other MPS-controlled lands to address current and future climate risks.

Climate Change Mitigation Funding: Utilize the $5,000,000 allocation under GMOA 5-221(L) for infrastructure projects aimed at mitigating climate change impacts.

Climate Vulnerability Assessment: Conduct specialized assessments for 11 historic and cultural resource sites at risk from rising sea levels.

Informational Campaigns on Climate Risks: Enhance campaigns and materials related to climate-related risks within parks.

Land Acquisition for New Recreational Opportunities: Prioritize the evaluation and acquisition of additional land for new campsites and recreational facilities, focusing on areas less vulnerable to climate impacts like shoreline erosion and flooding.

Visitor Feedback on Climate Change Effects: Broaden initiatives to gather visitor feedback on the impact of climate change on their experiences and ways to improve park-related climate change information and education.

Staff Training and Recruitment: Offer dedicated support to staff through training and workshops on climate change challenges.

Actively recruit staff with expertise in climate change and scientific disciplines.

Enhancing Park Resilience: Allocate funding for strategic tree planting and restoration of coastal bays vegetation.

Allocate funding to enhance shade and temperature mitigation amenities for visitors.

Maintenance and Economic Assessment: Establish a catalog for climate-related maintenance tasks and engage environmental economists for cost-benefit assessments of maintenance and resilience initiatives.

Invasive Species Management: Create park-specific priority lists for invasive species management and implement strategies for their eradication and monitoring.

Expansion of Bilingual Rangers Program: Aim to place at least one bilingual ranger in all State Parks by 2030 and expand language options on DNR's COMPASS portal.

10-Year Investment Plan for Park Facilities: Develop a plan to replace or renovate restrooms over 30 years old, based on equity analysis and building age.

Investment in Recreational Programs and DEIA Initiatives: Offer free recreational swimming classes statewide.

Develop an inclusive interpretive program addressing DEIA through various strategies.

Demographic Analysis and Data Tracking: Continue collaboration for detailed demographic analysis and implement data tracking methodologies.

Collaboration with MDOT and ADA Compliance: Partner with MDOT for final-mile inventory near park entrances.

Conduct an ADA transition plan focusing on accessibility in parks.

Maximizing Funding Impact: To ensure long-term financial sustainability, the report outlines 12 systemwide recommendations and 28 funding-specific park-level recommendations. These recommendations aim to optimize the allocation of existing state funding and explore self-sufficiency models for future revenue generation.

The independent study identifies the following key recommendations:

Self-Support Goal Establishment: Set a clear objective for the park system to achieve a significant level of self-support within five years.

Cost Recovery Analysis: Engage an external entity to conduct a comprehensive cost recovery analysis.

Public-Private Partnerships: Foster public-private partnerships for park management, infrastructure development, and maintenance, ensuring a balance between contract costs and public service provision benefits.

Corporate Sponsorships: Encourage corporate sponsorships for park facilities, events, and programs, offering branding opportunities as incentives.

State Park System Alliance: Create a State Park System Alliance as a nonprofit organization dedicated to supporting the park system's mission, facilitating collaboration, and resource sharing.

Endowment Fund Creation: Establish an endowment fund specifically for the state park system.

Revenue Diversification: Redirect a portion of lottery proceeds or surplus state revenue to the park system.

Implement a new sales tax on outdoor and sporting goods.

Allow taxpayers to opt-in for contributing a part of their tax refunds to state parks.

Historic Resource Management: Continue managing historic resources, combining specific project funding with overall park management.

Prioritize additional funding sources and specialized staff for historic and cultural resources.

Investment Prioritization: Utilize outcomes from the Land Preservation and Recreation Plan (LPRP) to guide future investment priorities.

Align budget allocations with increasing funding based on visitor counts.

Addressing Past Financial Diversions: Implement a repayment plan for previously diverted Program Open Space (POS) funds.

Equitable Funding Distribution: Allocate more funding to parks in communities of color and younger communities in future fiscal years.

Fee Adjustment: Consider an increase to service fees to align with the increased costs of park maintenance and operations.

INTRODUCTION

System Snapshot

The GMOA and this Study

The Great Maryland Outdoors Act (GMOA) (Chapter 39 of 2022) is a landmark piece of legislation designed to address critical issues that surfaced during the COVID-19 pandemic related to land conservation, outdoor recreation, and environmental stewardship in Maryland state parks. Passed in 2022, the GMOA represents a significant commitment by the State government to balance the protection of natural resources, enhance equitable recreational opportunities, and promote sustainable staff capacity and capital investment practices. This commitment will support the Maryland Park Service (MPS) mission through increased funding, staff capacity, and studies aimed to support implementation of the GMOA.

> **"The GMOA is such an important moment for this agency"**
>
> *- DNR Leadership*

Under the GMOA, the Maryland Department of Legislative Services (DLS) is required to hire an independent consultant to conduct a comprehensive study of the GMOA's implementation.

The key objectives of this independent study, as outlined in the GMOA, are as follows:

1. ***Evaluating Mission Alignment:*** A primary focus of the study is to assess whether MPS is effectively achieving its goals and producing outcomes consistent with its mission.
2. ***Enhancing Visitor Experience:*** The study is meant to evaluate the visitor experience at Maryland state parks, examining critical factors such as parking availability, park cleanliness, and the reasons behind closures of facilities, amenities, or areas. The study will particularly investigate whether these closures are related to deferred maintenance.
3. ***Maximizing Funding Impact:*** The study will explore how funding allocated to MPS can be optimally utilized to both fulfill its mission effectively and ensure long term financial sustainability.
4. ***Climate Change and Public Health Considerations:*** Recognizing the importance of environmental sustainability and public well-being, the study will investigate how Park Service projects can contribute to climate change mitigation, adaptation, and resiliency efforts. It will also explore ways in which the park system can support public health and equity initiatives.

The GMOA called for the establishment of a Parks & Recreation Commission, charged with providing oversight of the Park Service. The independent consultant has been tasked with submitting a detailed report to the Parks and Recreation Commission in December 2023. This report will encompass all findings and recommendations resulting from the study.

Photo: Visitors crossing the Swinging Bridge at Patapsco Valley State Park.

Impacts of the COVID-19 Pandemic

When the COVID-19 pandemic limited indoor gathering, whether it be for work or for leisure, people across the world opted to be outdoors. While the pandemic further reinforced the known mental and physical health benefits of being in nature, it also became a much needed release valve for people experiencing isolation, for those with limited indoor options, and as a way to safely see family, friends, and others. The impacts of the pandemic on park systems like MPS were profound - both reinforcing the role of public outdoor space as critical and beloved infrastructure for Marylanders, while also exposing and exacerbating decades of underfunding. Increased visitors to state parks overwhelmed outdated infrastructure, increased the critical deferred maintenance backlog, and strained staff capacity to steward the system.

In response, MPS, along with its parent agency, DNR, worked to manage visitor numbers and ensure public safety to the most popular and most overwhelmed parks. Like many other agencies, DNR adapted by offering safe ways to be outdoors - offering virtual programming, online reservations, and contactless transactions to comply with health guidelines and ensure access to park facilities. Subsequently, MPS employees faced increased workloads, reduced staff capacity, as well as challenges related to safety protocols, visitor management, and sanitation.

Rocks State Park Tour with fenced off areas to reduce further habitat and shoreline degradation.

Point Lookout State Park beachgoers.

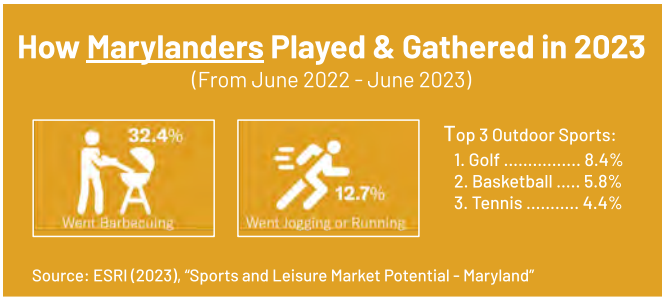
Visitor at the Washington Monument State Park.

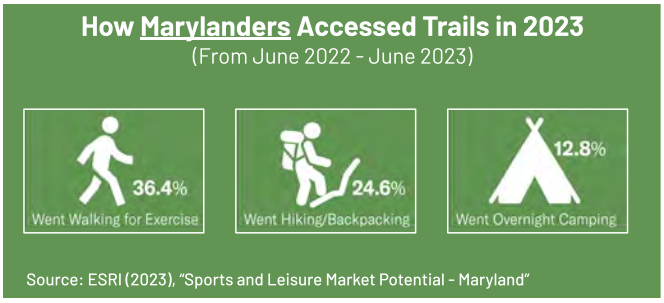
Recent Trends in Outdoor Recreation

The COVID-19 pandemic has also shifted the way that people participate in recreation activities. First, the pandemic encouraged more people to engage in outdoor recreation activities like going for a walk or run, swimming, and playing outdoor sports. According to the Outdoor Foundation, in 2021, outdoor recreation in the U.S. reached a milestone with 164.2 million, or 54% of Americans aged 6 and above, engaging in such activities, the highest ever recorded. This surge was influenced by the lingering COVID-19 pandemic. Although vaccines led to the lifting of many restrictions, health concerns remained, reinforcing the popularity of outdoor pursuits. Since the pandemic's onset in early 2020, the outdoor recreation base has expanded by 6.9%. Even as indoor venues like restaurants and bars reopened in 2021, the appeal of outdoor activities persisted.

Nationally, child participation in outdoor activities has increased, although the frequency of engagement has declined overall. This rise can be attributed to the growing diversity among new outdoor enthusiasts, encompassing individuals from more varied ethnic backgrounds and age groups. However, the sustained involvement of "core" participants, those engaging in outdoor recreation 51 times or more annually in the U.S., is on the decline. Their representation, which stood at 71.9% of the base in 2007, dropped to 58.7% in 2021, resulting in a decrease from 99.5 million core enthusiasts in 2007 to 96.4 million in 2021 across the U.S.

Furthermore, the 55+ age group experienced over 14% growth since 2019, with seniors aged 65 and above being the most rapidly growing segment at 16.9% since the pandemic's start. Alarmingly, despite a surge in participants, the overall number of outdoor outings is falling, continuing a decade-long trend, hinting that increased participation is not equating to sustained engagement.





* Hunting only includes hunting activities with a Rifle or Shotgun, as defined by ESRI's Market Potential Report. More information can be found here: https://doc.arcgis.com/en/esri-demographics/latest/regional-data/market-potential.htm

Rock Run Grist Mill in Susquehanna State Park, photo from Survey HABS MD-525, image courtesy of Library of Congress.

Historical Interpretation and Storytelling

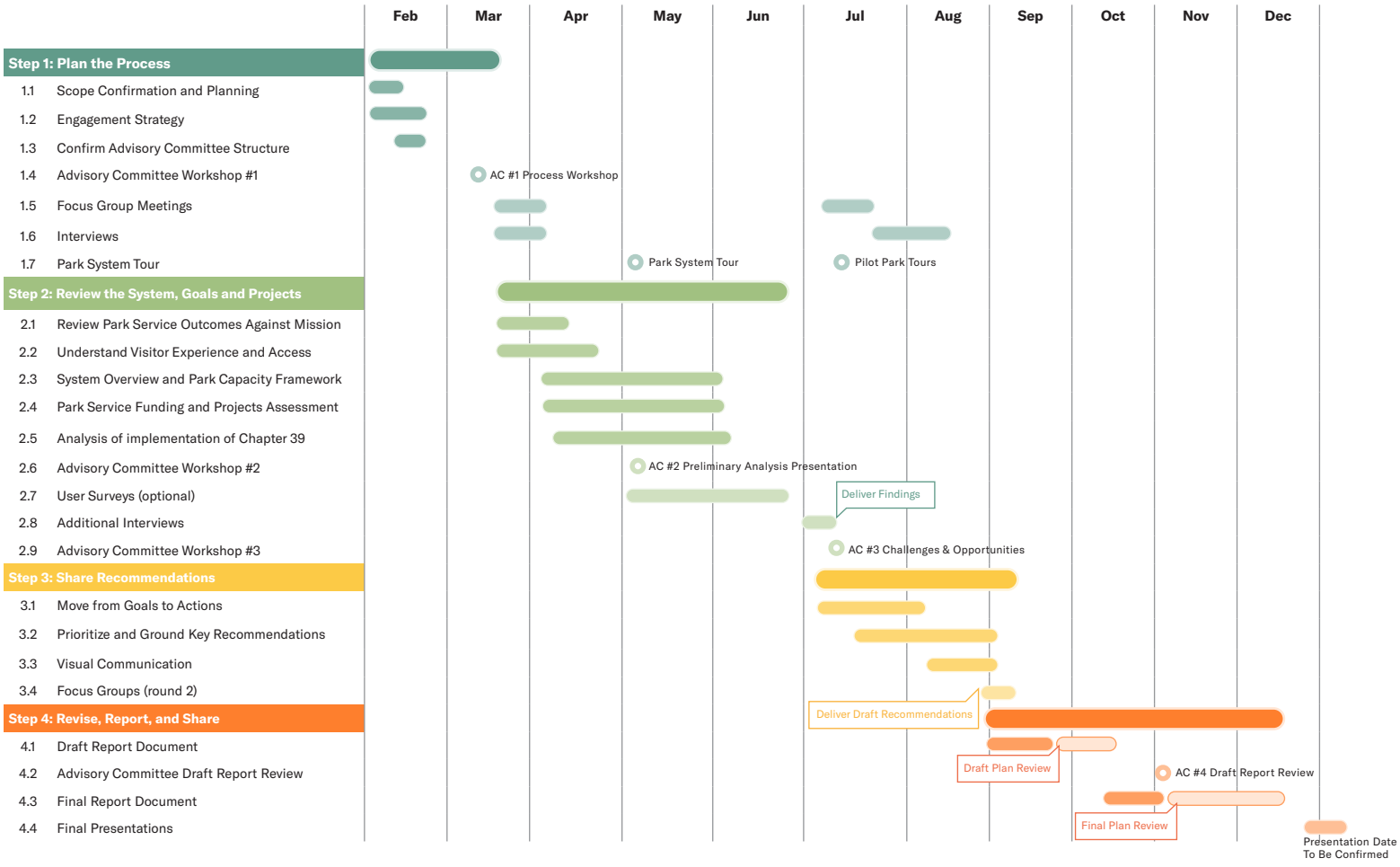
The history of Maryland's state parks (and forests) is in its own right worthy of preservation and celebration - as recognized by Robert Bailey's pictorial history *Maryland's Forests and Parks: A Century of Progress*, published through Arcadia Publishing's well-known Images of America series. For example, New Germany State Park is now recognized as a jewel of the park service with its extensive Civilian Conservation Corps-built park structures from the 1930s. Other state parks have been established to preserve older structures emblematic of Maryland's past, such as the iconic Rock Run Grist Mill, a flour mill built in 1798, at the heart of Susquehanna State Park. According to Robert Bailey, Historian and Historic Planner for MPS, state parks have preserved "significant watersheds and natural wonders and saved significant historic sites." By the 1970s, the system as a whole saw park development slow down, but according to Robert Bailey, "thanks to Program Open Space, the parks themselves continued to grow. Many lands, such as Soldiers Delight Natural Environmental Area and North Point State Park, were acquired because of their unique, rare and valuable ecosystems. As a result, Maryland's state parks, along with its forests and wildlife management areas, are now widely viewed as places that are protected from development, providing a place where wildlife can prosper."

Planning Process

The GMOA report process occurred over 10 months and included four steps.

In the first step, an initial review and confirmation of approach to the study included the following:

1. **Refining the Work Plan**. The team worked on developing a detailed schedule with specific dates and deadlines for project milestones, including meetings, check-ins, and materials. At this stage, the study also reviewed materials provided by DNR to understand the impacts of the pandemic on state parks and any responses to those challenges.
2. **Defining Roles and Responsibilities:** Clear roles were established for the project lead, DLS, and project partners like DNR and the Parks and Recreation Commission, as well as various other stakeholders such as County or City agencies, park visitors, and non-visitors. This also included creating the "Advisory Committee."
3. **Initial Engagement:** The team conducted early engagement efforts to understand the needs of organizations, groups, and communities beyond the initial data and reports. They aimed to include a diverse range of voices, particularly from in-park staff and internal and external partners.



4. **Regular Check-in Calls:** A schedule of regular check-in calls was established to discuss daily project logistics, interim products, and gather guidance. The proposed frequency was every other month, starting in late spring.
5. **Advisory Committee:** This committee played a vital role in sustaining engagement throughout the study, providing input, and building ownership of ideas and priorities.

As the study progressed, it focused on several key steps:

1. **Reviewing MPS's Missions:** The study considered the historical missions of MPS, as well as recent investments, to evaluate their impact on park usage, access, and quality of experience.
2. **Demographic Analysis:** The team analyzed current and projected demographics to understand future user needs, barriers to access, and communication strategies, with a particular focus on underrepresented and minority communities.
3. **Capacity Assessment:** The study assessed the capacity, cleanliness, and access aspects of the state parks. This involved a mix of focus group discussions, surveys, and data analysis.
4. **System Overview:** The physical system holdings, program types, and park capacities were reviewed, with a focus on location, demographics, transportation access, and climate resilience.
5. **Funding and Project Assessment:** The team examined funding sources, staffing capacity, and the alignment of projects (i.e. capital improvements, restoration) with climate change mitigation, adaptation, and public health goals.
6. **DNR Implementation Audit:** An audit of DNR's implementation of the GMOA was conducted, seeking to identify strengths and areas for improvement in processes, policies, and projects.
7. **Staffing Evaluation:** Staffing projections and historic growth were compared against current needs. Staffing structures, workflows, and systems were reviewed for potential enhancements.

May Park Managers and Assistant Park Managers meeting.

In the later stages:

1. **Developing Recommendations:** The team worked on developing recommendations rooted in a shared vision, including actions to enhance visitor experiences, identify funding opportunities, and support climate change initiatives.
2. **Community Engagement:** Focus groups and the Steering Committee were engaged to refine recommendations and ensure alignment with mission and goals. Focus groups were centered around the following topics:
    - Natural Resources
    - History & Storytelling / Interpretation
    - Visitor Experience & Recreation
    - Staffing
    - Equity
    - Climate Change
3. **Final Meeting:** The Advisory Committee convened for a final meeting to review, refine, and prioritize recommendations, setting the direction for the final report.
4. **Report Preparation:** The team prepared a final report document, which underwent two rounds of review—one with the client project team and another with the Advisory Committee.
5. **Presentation:** A high-level and graphic version of the final report was presented to the Parks and Recreation Commission and DNR.

Throughout this extensive process, the aim was to create a comprehensive framework to improve the State's park system, making it more accessible, inclusive, aligned with its mission and values, and informed by the goals and requirements of the GMOA.

Study Data and Assumptions

The majority of the data collected for this report was requested and received between when the project began in February, 2023 and May, 2023. Limited additional data requests were made in July, 2023 and November, 2023 to reflect additional communications with MPS and DNR. The report and all data supporting the report operate under the following assumptions:

- The focus of the study analysis and recommendations are on Maryland State Park sites and facilities.
- Any Maryland Park Service site (including NRMA, NEA, or other MPS-owned land) identified by the 2022 critical maintenance backlog, capacity-related closures datasets, and visitor count datasets were reviewed as it related to pertinent study topics and recommendations.
- The study reviewed and included recommendations based on visitor numbers and capacity-related closure datasets up to December 2022.
- Due to the outdated nature of the current Asset Management System (AIMS), the study relied on DNR-provided GIS mapping of all state parks, state park acreage, and facilities based on the AIMS system. DNR is currently undergoing a comprehensive update to the AIMS system to inventory and value all assets within Maryland State Parks.

Where is implementation of the GMOA today?

The following outlines the requirements pertinent to this study and the objectives of this study and State responsiveness to completing the requirements, especially for those with deadlines specified within the legislation.

GMOA Requirement	GMOA Deadline	Current Status	Study Related Actions
NR, § 5-1012(d) Freedman's State Historical Park will be owned by State, designated a partnership park, within the Northeastern Montgomery County.	January 1, 2023	DNR indicated that stakeholder advisory committee meetings are underway during the Joint Subcommittee on Program Open Space and Agricultural Land Preservation session on September 19, 2023. Established partnerships with Maryland Historical Trust and other historic based groups, including the Sandy Springs Slave Museum. DNR has initiated some conceptual master plan discussions and plans to engage a consultant to facilitate this effort.	Recommendations 9, 10, 11, 12, 20, 36, 74, 76, 77, 81
NR, § 5–2A–02(a) – (c) Department of Budget and Management (DBM) shall increase the number of full-time employees in the Department by 100 permanent positions and conduct a review of staff and salaries on a regular basis. Within these positions, 90 positions will be within the Park Service, including 1 volunteer management program coordinator; 5 positions will be in the Engineering and Construction unit; 5 positions will be in the Land Acquisition and Planning unit; and 2 assistant attorneys general assigned to the Department and designated by the Attorney General to advise on real estate and transactional matters.	October 1, 2023	The process is underway and a new Human Resources Director and Deputy Director have been hired. DNR is working to reduce hiring process timelines and communicate clear expectations about the hiring process to applicants, and reconfirm the role and expectations of long-term contractuals. Several positions have also been hired or are in the process of being filled as of October 23: - One of two attorney general positions has been filled - Engineering and Constructions positions are actively being filled - Converting contracted employees to PINS and focusing on filling vacancies based on historic park staffing levels while the GMOA study is finalized	Recommendations 2, 9, 22, 23, 24, 25, 26,27, 34, 36, 38, 71
NR, § 5–2A–04 (b) Conduct an independent study of: (i) whether the park service is producing outcomes consistent with its mission; (ii) the visitor experience for state parks, including: 1. Parking availability; 2. Cleanliness; and 3. Whether facilities, amenities, or areas are closed, including whether the closures are due to deferred maintenance; (iii) how funding can be used to enable the park service to produce outcomes consistent with its mission; and (iv) how park service projects can support: 1. Climate change mitigation, adaptation, and resiliency; and 2. Public health.	December 1, 2023	Process is underway and the study report on track to be completed in December 2023. Final presentations will occur early in 2024.	All recommendations are related to the independent study
NR, § 5-2A-04(a) Develop a five-year capital improvement plan and an updated one every five years thereafter	December 1, 2023	Engineering and Construction Division is overseeing this process and has completed the recent Fiscal Year 21-25 update for a September deadline.	Recommendations 12, 44, 45, 50, 66, 74

GMOA Requirement	GMOA Deadline	Current Status	Study Related Actions
NR, § 5-2A-05 (a)(b): Develop a Comprehensive Long-Range Strategic Plan	December 1, 2023	DNR issued an RFP that is more aligned with the goals for the LPRP/Strategic Plan, after pursuing other scenarios to develop the plans internally with the support of the Maryland Environmental Service (MES).	Recommendation 16, 72
NR, § 5-2A-03 (d) The Department shall annually provide the Parks and Recreation Commission with a briefing on the status of the Park Service and park system (annual capacity closures, critical maintenance backlog, vacant staff positions, condition of the park system's natural and cultural resources, etc).	December 1, 2024	The Parks and Recreation Commission has been assembled. A meeting to share the GMOA study is being planned for January 2024.	See Considerations for Implementation
NR, § 5-221(l) The Department was allocated $70,000,000 Critical Maintenance funds -- $5,000,000 of which can be used for infrastructure projects that mitigate the effects of climate change (Flood Barriers, Forest Buffers, Green Spaces, Building Elevation, Stormwater Infrastructure, Wetlands Restoration, Addressing Environmental Justice concerns.	July 1,2026	Several key projects that address climate change mitigation and adaptation have been identified with an emphasis on restoration projects that provide multiple benefits including enhancing habitat, improving water quality, sequestering carbon, and building overall ecosystem resiliency.	Recommendations 12, 44, 50, 51, 66, 74
NR, § 5-1012(g) DNR to establish the Port of Deposit State Historical Park as a partnership park to educate the public about the experiences of Black Americans both before and after the abolition of slavery.		DNR indicates that stakeholder advisory committee meetings are underway.	Recommendations 9, 10, 11, 12, 20, 36, 74
NR, § 5-210.1(a)(2)-(3) Department to develop a facility condition index assessment process for all park service sites and establish a dedicated team.		Engineering and Construction Division together with the Department of General Services is overseeing this process, which is underway. Several parks have been reviewed already, though E&C believes the process could take approximately one to two years to complete the assessment, dependent on recent hiring decisions and training of new staff.	Recommendations 10, 11, 40, 50, 57
NR, § 5-210.1(c)(1) The Department shall take inventory of all State land they manage.		Together with the facility condition index assessment, Engineering and Construction Division and the Department of General Services is overseeing this process, which is underway. Several parks have been reviewed already, though E&C believes the process could take approximately one to two years to complete the assessment, dependent on recent hiring decisions and training of new staff.	Recommendation 60, 67

GMOA Requirement	GMOA Deadline	Current Status	Study Related Actions
NR, § 5-210.1(c)(1) The Department shall develop a maintenance project prioritization process;5-210.1(C)(1) The Department shall develop and publish a list of maintenance projects on its website		Once the facility condition index is complete, MPS plans to revisit the existing maintenance project prioritization process to ensure life safety needs, visitor basic needs, and accessibility needs are prioritized. DNR is working to enhance regional communications between park complexes and staff audiences. DNR plans to engage Maintenance Supervisor staff in the evaluation and improvements to the project prioritization process.	Recommendation 71
NR, § 5-210.1(c)(2) The Department shall conduct a system wide survey of historical and cultural resources with a focus on racial and linguistic inclusivity.		The Department has executed an agreement with Preservation Maryland to fund an historic building and cultural resources site survey. Preservation Maryland issued a request for proposal (RFP), and a consultant has been hired. Field work will be initiated in January 2024.	Recommendations 10, 11, 67
NR, § 5-2A-02(e) The Department shall implement a volunteer management program to strategically manage volunteer services provided by individuals and state parks friends groups.		This requirement is underway. DNR is hiring an volunteer management coordinator.	Recommendation 35
NR, § 5-2A-04(c) The Department shall recognize as a formal policy that the state's forests, trees, and wetlands are a major tool for addressing climate change.		This requirement is underway and intent is informally incorporated in many existing policies and procedures already.	Recommendations 62-75
NR, § 5-2A-04(d) Park Service shall adopt universal design principles in its programming and amenities to ensure maximum access and safety for individuals with disabilities and seniors.		This requirement is underway. MPS is looking to NPS management models to inform next steps.	Recommendations 66, 74
NR, § 5-2A-04(f) The department's decisions related to the location and establishment of new state parks or amenities shall target areas in need of additional recreational opportunities, that would relieve overcrowding, and enhance cultural and ecological carrying capacities of State Park areas.		This requirement is underway and will be informed by the findings of this report.	Recommendations 1, 4, 5, 13, 20, 21

HOW TO USE THIS DOCUMENT

This study summarizes analysis, conversations with staff, partners, and other stakeholders, and benchmarking against peer agencies. As an independent study, this document identifies systemwide and park specific recommendations based on that review and in support of the implementation of requirements and recommendations laid out by the GMOA. This document will be used by the Parks and Recreation Commission, DNR and MPS to further support that implementation and to provide additional tools for DNR and MPS to make effective and strategic decisions.

The Recommendations chapter is divided into four sections, with systemwide recommendations included within each chapter, followed by park specific recommendations for 12 state parks, called pilot parks. The methodology for selecting pilot parks is described on the next pages. The pilot parks are distributed across the four sections based on the opportunities aligned with that park to provide an example of the section it is within.

Each pilot park includes a detailed accounting of capacity (including visitor counts, parking counts, and staff numbers), funding (critical maintenance backlog, revenues, and expenditures), and location and acreage information. Examples of similar parks, described as case studies, are shared as precedents that are similar to that particular park, and help to visualize the park's potential for investment in programs, policies, or projects. Each pilot park also includes park specific recommendations that apply systemwide recommendations from each of the four sections of the recommendations chapter - mission alignment; visitor experience; climate change, public health, and equity; and funding.

Evaluating Mission Alignment

40 systemwide recommendations
31 mission-specific park level recommendations

Pilot Parks:
Freedman's State Historical Park
Rocky Gap State Park
Tuckahoe State Park

Enhancing Visitor Experience:

10 systemwide recommendations
41 experience-specific park level recommendations

Pilot Parks:
Greenbrier State Park
Sandy Point State Park
Seneca Creek State Park
Newtowne Neck State Park

Climate Change, Public Health , and Equity Considerations:

25 systemwide recommendations
36 climate change, public health, and equity-specific park level recommendations

Pilot Parks:
Assateague Island State Park
Patapsco Valley State Park
Patuxent River Natural Resource Management Area and Merkle Natural Resource Management Area

Maximizing Funding Impact:

19 systemwide recommendations
28 funding-specific park level recommendations

Pilot Parks:
Harriet Tubman Underground Railroad State Park
Wolf Den Run State Park

PILOT PARKS

What are Pilot Parks?

Pilot Parks are 12 parks that our team has evaluated more closely and identified recommendations to respond to the challenges within DNR Parks. The 12 pilot parks (highlighted within the matrix and listed on page 23) selected reflect a balance of different park typologies and capacity challenges as identified by the matrix (page 21), as well as ensure geographic distribution across the state. These parks will be "pilots" for investments in policies, projects, and programs for all Maryland state parks, not just those evaluated in this study.

Evaluation Criteria

Comparable Parks

Comparable parks are parks that share similar natural features and recreational amenities or experiences. These comparable parks are often, but not always, located in the same region. For the purposes of the Study, comparable parks are places that the recommendations could be catalyzed by pilot parks and replicated in these parks based on their similar features.

Presences of Popular Amenities

The evaluation criteria shown in the matrix show the presence of trail access, water access, gathering and play, interpretive and historic sites, rare or imperiled species or ecologies, hunting and fishing access, and overnight amenities, summarized by park complex. Any amenity with a hatch was not publicly available during this study (described in more detail under each type below).

Water Access:

Water Access was discussed at length during site visits to the parks in May. Based on these visits, national trends in recreation activities, and data related to park visitation numbers, water access appears to be a primary driver of larger visitation numbers as well as capacity challenges in the State Parks. Water access can include any of the following:

- Beach access
- Boat Ramp / Boat Rentals
- Marina
- Swimming (natural)
- Swimming Pool
- Canoeing / Kayaking

Hatched entries indicate water access is limited in some way, for example:

- Access to Clopper Lake in Seneca Creek State Park is restricted at the time of this study due to an algal bloom.
- Franklin Point State Park requires a Gate Combination Request Form to access.

Trail Access:

This row highlights trail access within the State Parks.

Solid entries indicate any kind of freely accessible trail access including any of the following:

- Hiking/Walking Trails
- Biking Trails
- Mountain Biking Trails
- Equestrian Trails
- Off-Road Vehicle Trails
- X-Country Ski/Snowshoe

Hatched entries indicate trail access is limited in some way.

*Top 20 highest shown; top 10 are indicated by a darker shade. **Flood risk is determined by NOAA's Sea Level Rise Viewer (https://coast.noaa.gov/slr/).***Socioeconomic Score as Percentile by Census Tract above 50% (+/- 1%). Source: MD EJ Screening Tool (https://mdewin64.mde.state.md.us/EJ/). Hatched units indicate "limited" access. Specifically for "Hunting and Fishing," solid indicates the park offers both Hunting AND Fishing, hatched indicates either Hunting OR Fishing. Specifically for "Overnight Amenities," solid indicates the park offers both Camping AND Cabins, hatched indicates either

Highlights indicate Pilot Parks

Gathering & Play:

This row highlights gathering (specifically picnic areas) and play areas within the state parks.

Solid entries indicate a park has both picnic areas (picnic tables, shelters, or both) and at least one playground. Hatched entries indicate access is limited in some way, or the park only has picnic amenities or a playground, not both.

Interpretive / Historic Focus:

This row indicates whether a State Park has an important historic site, museum, or interpretive center.

Solid entries indicate a park has either a historic site, a museum, or an interpretive center. Hatched entries indicate access is limited in some way.

Rare or Imperiled Species/Ecologies:

This row indicates whether a state park's website highlights a rare or imperiled species or community within the park, for example:

- Plant Communities:
    - Salt Marsh at Assateague State Park and Janes Island State Park
    - Wooded marshland at Tuckahoe State Park and North Point State Park (Black Marsh Wildlands)
    - Freshwater Marsh at Hart-Miller Island State Park, Calvert Cliffs State Park, Franklin Point State Park, Hallowing Point State Park, and Newtowne Neck State Park
    - Hemlock forest at Rocky Gap State Park and Swallow Falls State Park
- Animal Communities:
    - Important fish habitat at Bill Burton Fishing Pier State Park, Susquehanna State Park (perch, striped bass, croakers, sea trout, and catfish), and Wolf Den Run State Park (cold water trout habitat)
    - Important birding habitat at Elk Neck State Park (Atlantic Flyway Zone), Hart-Miller Island State Park , Chapel Point State Park (Forest Interior Dwelling species habitat), and South Mountain State Park (Eastern Flyway)
    - 30 rare species (butterflies, freshwater mussels, bats, and numerous plants) at Sideling Hill Creek State Park

Hunting & Fishing:

This row highlights hunting and fishing within the state parks. Solid entries indicate a park offers both hunting and fishing opportunities. Hatched entries indicate a park only offers either hunting or fishing opportunities, not both. In some cases hunting or fishing may be available within neighboring conserved areas. For example, there are hunting opportunities on the public lands surrounding Pocomoke River State Park.

Overnight Amenities:

This row highlights overnight amenities such as camping and cabin rentals within the State Parks. This information was sourced from the "2022 Park Visitation as of 12-20-2022" spreadsheet provided by DNR.

Solid entries indicate a park offers both camping and cabin rentals. Hatched entries indicate a park only offers either camping or cabin rentals, not both.

Maintenance and Visitor Impacts

Identification of funding and visitor related topics were described as yearly visitors and approved work orders. For those topics, the matrix identifies the complexes that include the highest 20 state parks, with the top 10 indicated by a darker shade.

Yearly Visitors:

This row highlights the complexes that include the state parks with the top 20 highest annual visitation totals in 2022, according DNR provided 2020 through 2022 visitor numbers data. Complexes that include parks with the top 10 highest visitation totals are shown in a darker shade.

Approved Work Orders:

This row highlights the State Parks with the top 20 highest total dollar amounts set aside to address critical maintenance concerns as part of the critical maintenance back log data provided by DNR. Top 10 highest total dollar amounts are shown in a darker shade.

Resilience Considerations

Localized urban heat island information was limited for the state and made it difficult to ascertain the relationship of parks to reducing urban heat island in surrounding communities. Flood risk is also an important piece of the story moving forward, especially as climate change causes sea levels to rise and precipitation to increase in the Mid-Atlantic region. State Parks were determined to be at risk of flooding if their boundaries intersected with the area the National Ocean and Atmospheric Administration (NOAA) projects will be flooded with 1' of sea level rise.

Equity Considerations

In order to understand the relationship between state parks and equity considerations, the study uses the Environmental Justice Communities Screening Tool. This tool identifies potential Environmental Justice (EJ) or overburdened communities. To identify EJ communities, the Maryland Department of the Environment uses three socioeconomic indicators to screen locations and communities:

- Minority population of 50% or more (census tracts with a higher percentage of minority residents are scored higher)
- Poverty rate of 25% or more (census tracts with a higher percentage of low-income residents are scored higher)
- English proficiency of more than 15% of the population as having limited English proficiency (census tracts with a higher percentage of limited English proficient residents are scored higher)

Solid entries indicate a complex includes at least one park that has an intersecting Census Tract with a Socioeconomic score above 50%, according to the Environmental Justice Communities Screening Tool.

Selected Pilot Parks

- Assateague State Park
- Freedman's State Historical Park
- Greenbrier State Park
- Harriet Tubman Underground Railroad State Park
- Newtowne Neck State Park
- Patapsco Valley State Park
- Patuxent River Natural Resource Management Areas and Merkle Natural Resource Management Area
- Rocky Gap State Park
- Sandy Point State Park
- Seneca Creek State Park
- Tuckahoe State Park
- Wolf Den Run State Park

RECOMMENDATIONS

Report recommendations are organized around the following categories identified in the GMOA:

MISSION ALIGNMENT

VISITOR EXPERIENCE

CLIMATE CHANGE, PUBLIC HEALTH, AND EQUITY

FUNDING

Photo: Hiking near Kilgore Falls at Rocks State Park.

MISSION ALIGNMENT

Whether the Park Service is producing outcomes consistent with its mission

Current State

Mission of the Maryland Park Service

The mission of MPS is to manage the natural, cultural, historical, and recreational resources to provide for wise stewardship and enjoyment by people.

In support of its mission, MPS has a statewide initiative to develop a Strategic Management Plan (SMP) for each of its properties. The purpose of each park's SMP is to use a collaborative process to identify and evaluate natural resources, cultural and historic resources, recreational resources, human resources, and infrastructure. Using this background data, a "Strengths, Weaknesses, Opportunities, and Threats (SWOT)" analysis is performed. The SWOT analysis facilitates the identification of big-picture goals and targeted objectives that are used to develop a work plan for the park.

As part of its SMP Schedule, MPS identifies 52 parks for completion of an SMP. As of April 2023, there are completed SMPs for nine parks, with SMPs for another 13 parks partially-completed or in-progress. MPS manages 90 total parks including all park subdesignations. Staff report that park SMPs are useful resources, but that capacity challenges have made completion of plans for all parks slower than desired.

This report uses the following categories to structure this section, in close alignment with the Mission Statement of MPS. Information and recommendations related to infrastructure can be found throughout this report.

- Natural Resources
- Cultural and Historic Resources
- Recreational Resources
- Human Resources

Natural Resources

The MPS System

There are 142,228 total acres across 90 total parks in the Maryland State Park System, reflecting 7.75% of all Maryland protected lands.

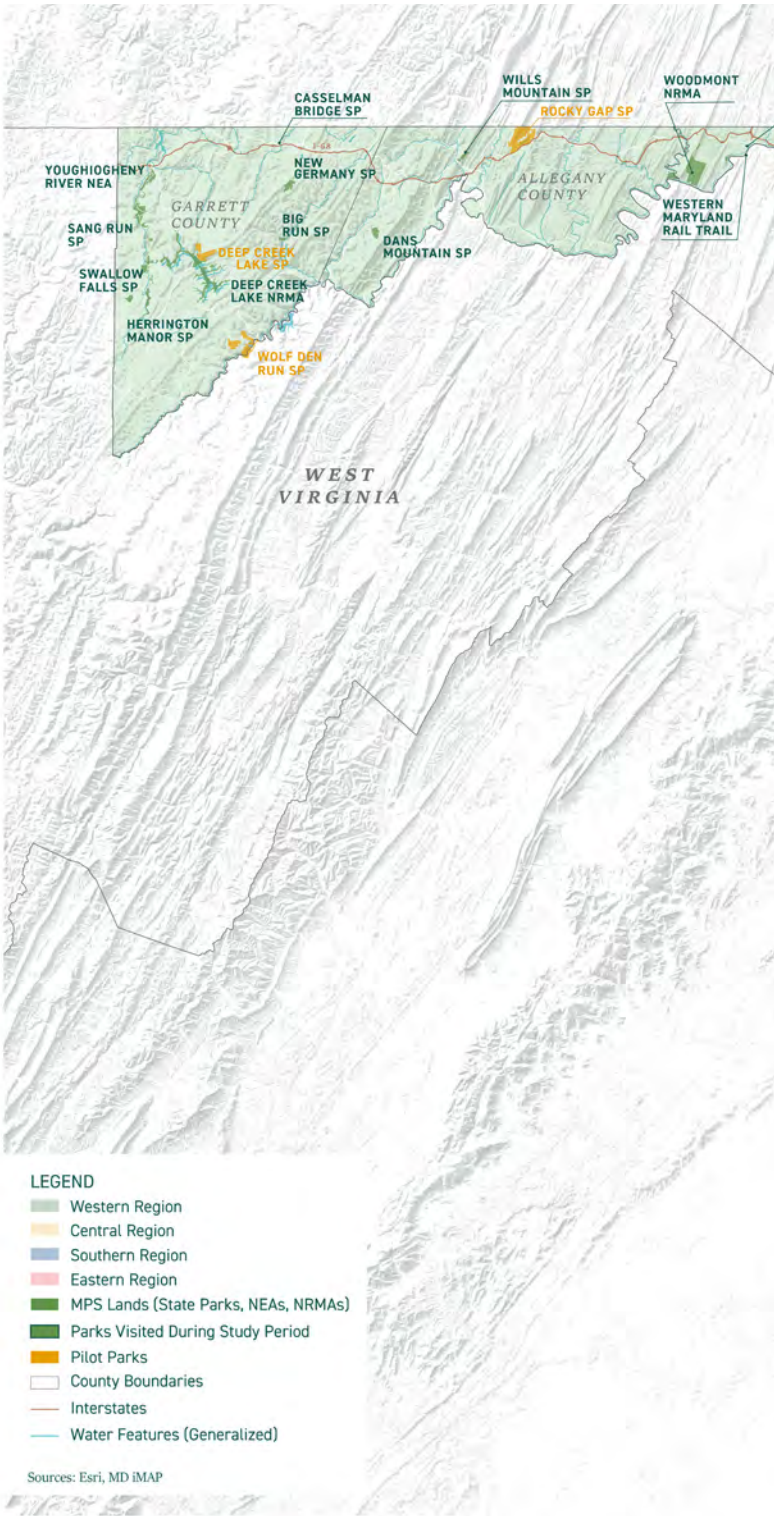
State Parks (SP): 98,196 acres / 53 sites
Managed to provide public benefits including natural resource conservation, cultural and historic preservation, watershed protection, and education and nature-based outdoor recreation (i.e. picnicking, boating, camping, cabins, hunting, fishing, and swimming).

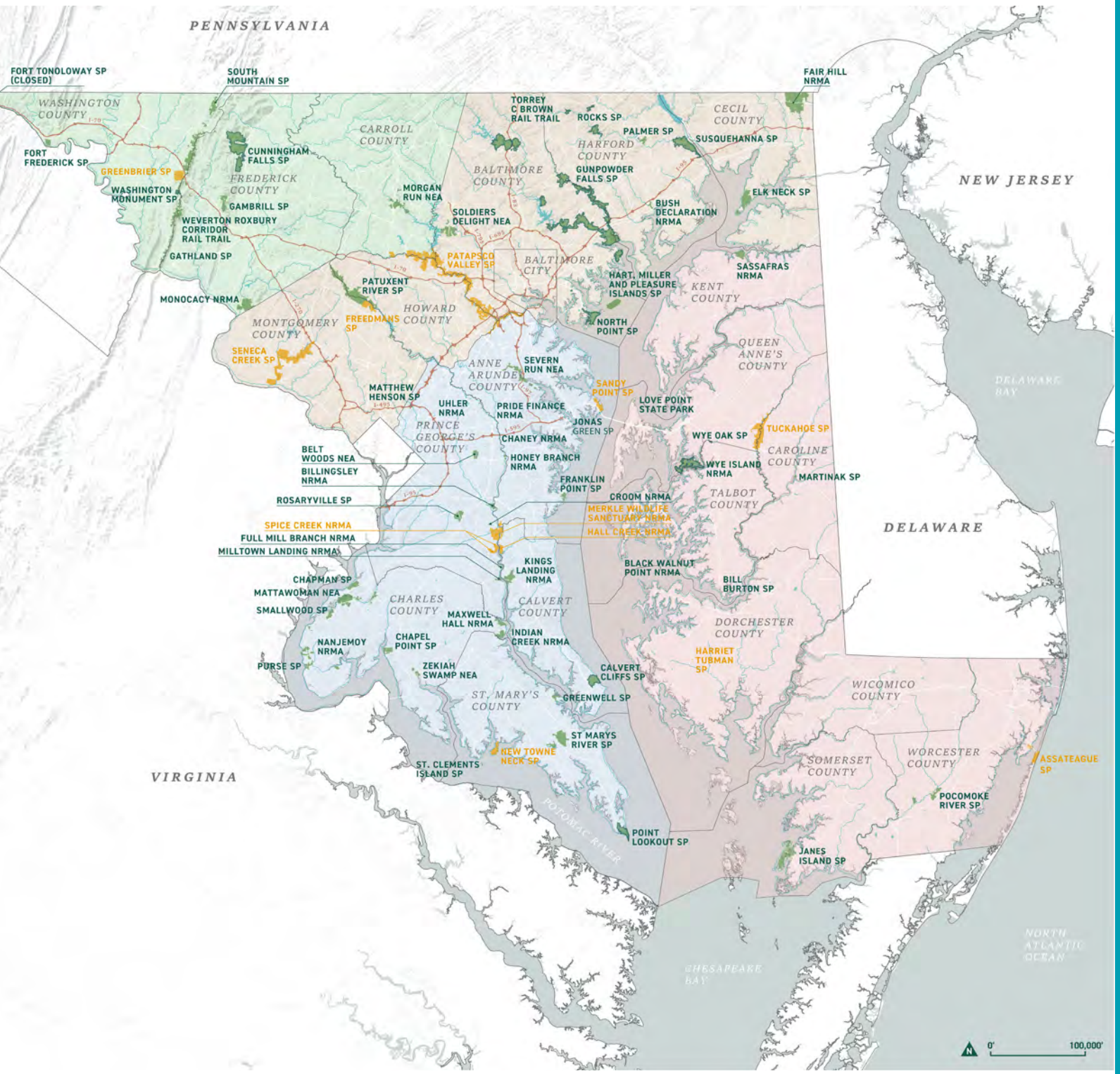
Natural Resource Management Areas (NRMA): 27,617 acres / 25 sites
Managed for the primary benefit of wildlife habitat, and sustainable farming, passive, nature-based recreation (i.e. hunting, fishing, wildlife observation, boat access). These areas can also provide non-motorized trail use, including hiking, equestrian uses, and mountain biking.

Natural Environment Areas (NEA): 12,975 acres / 7 sites
Managed in cooperation with the Wildlife & Heritage Service (WHS) to preserve and restore natural resources and biological diversity. Recreational development in these areas is secondary to preservation objectives, with a focus on interpretation and environmental education.

State Battlefields (SB): 2,543 acres / 2 sites
Managed to provide limited public access and interpretation while prioritizing preservation of battlefield grounds and historic features.

Rail Trails (RT): 897 acres / 3 sites
Managed to provide natural scenery, wildlife habitat, and natural and historic resource conservation through the acquisition of lands adjacent to the converted rail lines.





Note: The GMOA requires that the DNR establish a Port of Deposit State Historical Park. Planning for this park is ongoing and at the time of this report there was not enough information to include this park in the analysis.

Growth of the MPS System

By 1982, MPS had acquired over 70% of its current parkland. The remaining park system expansion primarily occurred between 1986 and 2013, marked by an average annual growth of 1,367.9 acres per year. This stands in stark contrast to the subsequent eight years (2014 to 2022), which witnessed a consistent decline in growth to an average of about 517.5 acres annually. Since 2018, the system has remained steadily at 90 parks, with only a modest increase of 1,467 acres.

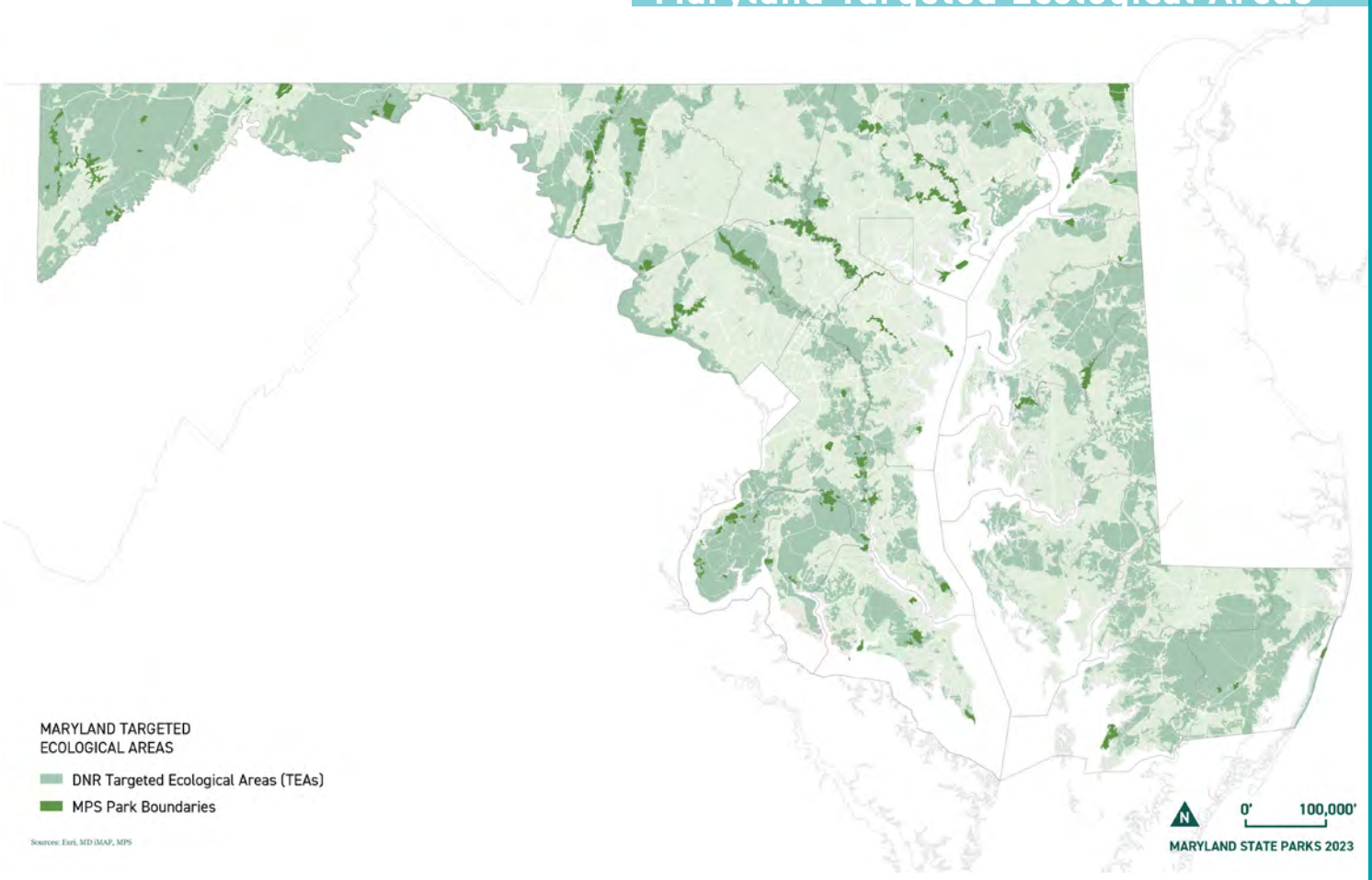
The park system's initial growth spurt was driven by the acquisition of new parks, and aligned with a continued period of suburbanization and migration into suburban and rural areas of the state from other places. The expansion of the park system was also fortified by significant state actions aimed at safeguarding critical ecological lands, exemplified by the establishment of the Chesapeake Bay Critical Areas Act in 1984. This pioneering legislation represented the first collaborative effort between state and local governments to address the environmental impacts of land development on habitat and aquatic resources within the Bay, designating all lands within 1,000 feet of tidal waters or adjacent tidal wetlands as Chesapeake Bay Critical Areas. Other actions that likely contributed to this growth in state parks and protected lands were legislation to require permits for wetland development, and limits to development on farmlands and coastal waterways. Recent growth of the park system has been through minor expansion of existing parks and park complexes, with the purchase of adjacent properties within existing parks rather than the acquisition of new ones, potentially leaving gaps in residents' access.

MPS park complexes — multiple state parks geographically located within proximity of each other and operated under a single management structure — were born out of the necessity to restructure during lean budget years to manage the growing acreage of state parks with limited staff and resources. The ongoing existence of these complexes is attributed to the persistent shortage of funds and staffing resources, hindering the ability to reallocate and establish separate operational units. While there are levels of efficiency that can be gained by operating multiple parks in close proximity to each other, the available resources and staff are not sufficient to operate them effectively within the complex model currently in place. Additionally, the travel time for staff to get from one park to another park within the complexes is so great that managing and operating all the parks effectively becomes impossible. Given the expanded (number of acres, number of parks, number of issues needing attention) span of responsibility for full-time staff of the complexes, they often feel overwhelmed and unable to effectively perform their roles.

As of 2022, there are significant geographic disparities in park acreage by region in Maryland. The Western region of the state, which in 2020 had the second lowest average population density (258 per square mile), houses the most State protected land acreage at 195,401 acres. The Eastern region, which in 2020 had the lowest average population density (121 per square mile) has the second highest State protected land acreage at 188,163 acres. Central Maryland, with the highest average population density (1,272 per square mile) has only 71,439 acres of protected lands. Finally, the Southern region, with the second highest average population density (1,182 per square mile) has only 47,390 acres of protected.

In terms of differences between park subdesignations, in 2022 Natural Environment Areas had the largest average acreage per park (1,853.43 acres), followed by State Parks (1,852.30 acres).

Maryland Targeted Ecological Areas



High Value Ecological Areas

According to DNR's Natural Heritage Program, Maryland is home to over 1,000 plants and animals designated as Rare, Threatened or Endangered by the Federal Endangered Species Act, as well as 200 additional animals of Greatest Conservation Need, and 200 Watch List plants. In addition, 27 of 75 ecological communities in Maryland are considered Rare. DNR uses set Targeted Ecological Areas (TEAs), identified in 2011 by using a combination of the most ecologically important areas from existing mapped datasets: Green Infrastructure and Important Forests, Biodiversity Conservation Network (BioNet) (Wildlife and Rare Species Habitat), Nontidal Streams and Fisheries, Wetland Adaptation Areas and Tidal Fisheries, Bay and Coastal Ecosystems. Developed areas and coastal areas subject to sea level rise (SLR) within a 0-2' elevation zone were then removed from TEAs to avoid encouragement of unsustainable investments.

In 2019, DNR developed a mapping tool called GreenPrint Parcel Evaluation, which displays TEAs (2011) and can be used to generate Conservation Benefits and Ecosystem Service Assessment Report

Cards for every land parcel in Maryland. This tool can be extremely useful in determining the most ecologically impactful land acquisitions DNR can make. It can also play a key role in determining spatial planning and carrying capacity for existing DNR lands.

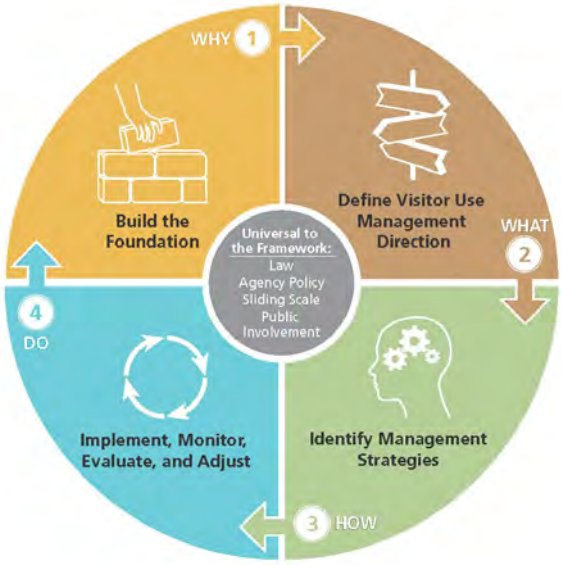
BioNet plays a crucial role in determining TEAs. It is used by DNR to track spatial data regarding the habitats of the state's rarest plants and animals, as well as high quality and rare natural communities and other living resources of conservation concern. BioNet serves as a tool for DNR's Natural Heritage Program and its conservation partners to use for proactive land conservation activities, such as targeting for acquisitions and easements, locating appropriate areas for project mitigation or habitat restoration, and planning for areas that require management to sustain dwindling species and habitats.

Nutrient Pollution

Nutrient pollution from surrounding communities has a negative impact on waterways in state parks and throughout the watershed. For example, Clopper Lake at Seneca Creek State Park had to close during the spring/summer of 2023 as a result of dangerous algal blooms.

Mapping & Information Sharing

According to park managers, trail maps are inconsistently updated and often contain inaccurate depictions of state park lands. Incorrect trail maps lead to unnecessary trampling of important resources, safety concerns, and miscommunication challenges internally.



Graphic illustrating steps to successfully managing visitor use from the Visitor Use Management Framework, Edition 1.

Carrying Capacity

Carrying Capacity is a balance between protection and visitation. The GMOA tasks DNR with considering the cultural and ecological carrying capacities of state park areas when examining the development of new amenities in state parks and recommends that DNR look to policies of the National Park Service (NPS).

NPS's policy is that "The Service will focus special attention on visitor enjoyment of the parks while recognizing that the NPS mission is to conserve unimpaired each park's natural and cultural resources and values for the enjoyment, education, and inspiration of present and future generations." NPS provides a Visitor Use Management Framework to guide in determining appropriate visitor capacity through the following steps:

- Determine the analysis area
- Consider where (geographically) the visitor capacity will be implemented
- Consider displacement and other factors within the analysis area
- Consider the effect of allocation of visitor capacity on the analysis area
- Review existing direction and knowledge
- Review applicable law and policy
- Review prior applicable planning and guidance
- Review existing conditions in the analysis area
- Review existing indicators, triggers, thresholds, and objectives
- Review applicable existing management strategies and actions
- Analyze use patterns for commercial and other allocation categories, if relevant
- Identify the limiting attributes (examples include sense of crowding by visitors, a historic building's structural integrity, or an imperiled species' habitat boundaries)

Identify capacity:

- Determine allocations of visitor use as subsets of visitor capacity, if necessary
- Administrative allocation
- Commercial allocation
- Group events allocation
- Individual noncommercial allocation
- Documenting the visitor capacity and any allocation of visitor capacity decision process

Key Accomplishments

- Significant natural resources are protected for current populations and future generations
- Restoration efforts are starting to make a difference, addressing issues such as reforestation, afforestation, stormwater management, and agricultural conversion.
- There is a focus on natural resource stewardship and mitigating impact of visitation on the environment, including system-wide strategies such as implementing finite parking and occasional capacity closures to mitigate visitor impacts, maintaining extensive trail systems to direct visitor usage, and designating areas for concentrated use (e.g. picnicking, camping, group programming, waterfront areas).

Areas for Improvement

- There is a need for consistent and frequently updated systemwide mapping and information tracking to enable broader understanding and protection of existing natural resources.
- Recent growth in the park system has been driven by minor expansion in existing parks, not acquiring new parks.
- Nutrient pollution from surrounding communities has a negative impact on waterways in state parks and throughout the watershed.
- Increases in urbanization have contributed to deforestation, intensified challenges in stormwater management, heightened sedimentation, and exacerbated the heat island effect.
- Recreational use and volume of visitors threatens natural resources in many parks.

Producing Outcomes Consistent with its Mission

The mission of MPS is to manage the natural, cultural, historical, and recreational resources to provide for wise stewardship and enjoyment by people.

Natural Resources Recommendations

#	Key Findings / Current State	Recommendation
1	There is a need for consistent, publicly-available, and frequently updated statewide mapping and information tracking to enable broader understanding and protection of existing natural resources.	**Update TEAs and the conservation mapping datasets, such as BioNet, that are used to determine TEAs at least every 5 years, or as major projects are undertaken, or when protections are extended to newly listed species.** Once these datasets are updated, integrate this data into ongoing and future individual Park Master Plans and SMPs, and utilize them to drive land acquisition decisions. Use these mapping updates to track locations of critical species and habitats and adjust management strategies to best protect known populations.
2		**Hire a conservation biologist to assist existing GIS staff in keeping these datasets as up to date and accurate as possible.**
3		**Update trail maps using accurate surveys** to ensure existing trails reduce impact on existing living resources, and limit intrusion by humans via unlawful trail creation through critical habitats and natural resources. These updated trail maps should be online, interactive, and shared with park complex managers and park managers for use in public materials and wayfinding.
4	Recent growth in the park system has been driven by minor expansion in existing parks, not acquiring new parks, which could help close gaps in access to residents. Since 2018, The system has sat steadily at 90 parks and grown by only 1,467 acres. Staff capacity is reported as a barrier to future expansion of the park system.	**Develop SMPs for recently acquired lands intended for future park use.** Through these SMPs, it is critical to determine their desired carrying capacities, develop appropriate management strategies, construct accessible trails, conduct invasive species removal, conserve areas with critical or imperiled species, and implement monitoring strategies.
5		**Partner with other agencies and organizations such as NPS, Friends groups, Chesapeake Conservancy to lighten DNR's upfront load when new lands are acquired.** These partnerships should be structured to enable DNR to identify when opportunities arise to initiate transactions, and rely on a partner to provide necessary capacity to complete and ensure an efficient transaction process. The existing relationship between NPS and MPS at the Harriet Tubman Underground Railroad State Park can be used to pilot such a relationship. At the Harriet Tubman URSP site, federal dollars can be leveraged to increase the footprint, protect the existing viewshed and use acquisition authorities by the Federal government. The NPS has ability to acquire development rights or take advantage of fee-simple purchase.

#	Key Findings / Current State	Recommendation
6	Nutrient pollution from surrounding communities has a negative impact on waterways in state parks and throughout the watershed. For example, Clopper Lake at Seneca Creek State Park had to close this year because of dangerous algal blooms.	**Implement watershed monitoring strategies at MPS-identified water access points** in order to determine whether water bodies within existing MPS park lands or future park sites are considered to be "healthy" or "unhealthy". Allocate dedicated funding to install new monitoring equipment at key locations in waterways, develop partnerships with reputable water quality testing facilities, and hire water quality experts to evaluate current health of waterways and how to best track that health over time. (Based on the Chesapeake Bay Program's Healthy Watersheds Outcome Management Strategy 2018-2025)
7		**Create and publish a public awareness campaign, informed by the most recent findings of DNR's Maryland Biological Stream Survey, about the current status of watersheds in Maryland and how Marylanders can do their part to help improve water quality in their everyday lives.** Nutrient pollution is a key topic the public can engage with in this area - inform local communities about the impacts of fertilizers, cleaning solutions, and pet waste on the nutrient content of runoff. Outreach should point to examples such as the dangerous algal bloom that caused the closure of Clopper Lake in Seneca Creek State Park this season. These challenges significantly affect wildlife, but they also limit water access for people and their families when it is needed most. This issue will only be further exacerbated by climate change. Refer to the Community Outreach Toolkit for Nutrient Pollution, created by the Environmental Protection Agency (EPA) when creating the public awareness campaign and use DNR digital marketing platforms like Instagram to reach DNR's active and attentive audiences.
8	There is a need for park-specific evaluations of carrying capacity to mitigate impacts of visitors on resources.	**Use established protocols developed by the NPS and other federal land management agencies for balancing the visitor experience with resource protection.** Incorporate a planning process for visitor use management into existing agency planning and decision-making processes based on the federal Interagency Visitor Use Management Council's Visitor Use Management Framework. The framework provides managers with flexibility to identify, interpret, and address visitor capacity issues based on site-specific conditions while encouraging both rigorous decision-making processes and thorough protection of natural and cultural resources.

Cultural and Historic Resources

Cultural and historic resources in Maryland parks include 55 structures registered on the National Register of Historic Properties (NRHP), 646 in the Maryland Inventory of Historic Properties (MIHP), and 12 Maryland Historical Trust (MHT) preservation easements. Fort Frederick is a National Historic Landmark, the nation's highest form of recognition for historic places.

Planning and Vision

There is currently no defining vision for historic and cultural resources in the state park system. Maryland currently employs no categorization scheme among its parks (not including DNR's sub-designation of State Parks, NEAs, and NRMAs). This "one size fits all" approach to state parks' needs does not allow for variation in management and resources to address the needs of certain kinds of parks, in particular those focusing on important historic and cultural resources.

Staffing & Resources

MPS staff report that there are inadequate resources to manage and maintain historic and cultural resources in the park system statewide (i.e. staffing, funding, maintenance, and interpretation). There are also inadequate staff to fulfill historical roles (limited planners and no archaeologists, classified interpreters, curators, collections managers, or structural preservation specialists etc.).

Historic Resources Conditions

Staff report that many unmaintained and abandoned structures are in a severe state of disrepair and decay. A loss of many key historic landscapes has already occurred (e.g. historic farms and viewsheds converted to other land uses incompatible with the historic resource). There has been a loss of historic materials through insensitive demolitions, whereby such resources could be recycled and reused in the park system. Facilities for artifact collections are inadequate and do not meet industry standards.

Mapping & Conditions Tracking

Staff report that there is a defined need to modernize parks in terms of tracking of historic and cultural resources, including mapping for web-based access and service. MPS staff report that MPS mapping has not been standardized across the entire system. MD iMAP and Medusa are great resources for GIS data across the state of Maryland, but some key pieces of information that we have found to be missing are:

- Park entry points
- Parking lots (boundaries and number of spaces)
- Locations of all historic and cultural assets within DNR lands (MHT and NRHP datasets are available, but not all historic and cultural resources are encapsulated within these)
- Topography (in the form of contours) for all parks
- Park infrastructure

New Historical Parks & Partnership Parks

The GMOA established the Freedman's State Historical Park, enables DNR to potentially establish the Port of Deposit State Historical Park, and authorizes the DNR to enter into a certain memorandum of understanding or partnership agreement to establish or manage a partnership park in the state with local jurisdictions.

Interpretation

Focus group and interview input highlighted the following interpretation challenges and needs:

- Expanding the narrative: There's so much history that's not being told and there is a need for telling of a more holistic history to include underrepresented stories, such as stories of Maryland's historic Black beaches.
- Equity / addressing visitor need: There's a need for interpretation efforts and accompanying training to provide interpretive elements for all audiences (a visitor who is blind, for example)
- Process & coordination: There is not a process for coordination of exhibits and interpretive elements across the system which can lead to duplication of efforts, underfunding, and limits in quality
- Missed opportunities: Maryland parks have a breadth of interpretation opportunities, including many sites that are available and ready for interpretation
- Training: It is important to have training available and defined expectations for staff knowledge and training.
- Funding: Inadequate funding allocated for interpretive exhibits poses a challenge in maintaining high-quality and contemporary displays within visitor and nature centers

Standards & Procurement

Different resources within state parks and other DNR lands require different skills and policies to assure proper treatment. Natural resources (water, ecosystems, wildlife, etc.) are the focus of the training and experience for DNR personnel. In the case of historic and cultural resources, however, both above- and below-ground, DNR and the outside agencies assisting in implementing capital improvements (primarily the Department of General Services (DGS)) lack the detailed guidance and expert staff to treat these resources effectively.

The MHT, a state agency housed within the Maryland Department of Planning, could be a supplementary source of expertise, but largely has been involved in carrying out its statutory environmental reviews under federal and state law once project planning is complete – a state government responsibility that can determine if a given project has run afoul of best practices, causing project delays and greater expense. This situation could be avoided through earlier involvement in project planning using MHT, DGS, and DNR-based personnel with preservation and archaeological expertise, combined with greater training and increased staffing for all departments involved in project planning.

The Maryland State Annotated Code has sections governing state property with regard to historic preservation. While these sections provide considerable detail, commitment to the Secretary of the Interior's Standards for the Treatment of Historic Properties would represent a higher standard. MPS staff have expressed that there is a need to ensure that outside agencies responsible for capital improvement projects in coordination with DNR are well versed in the needs of historic architecture and the requirements for restoration, rehabilitation, and repairs, generally as articulated under the federal Secretary of the Interior's Standards for the Treatment of Historic Properties and associated guidance.

This primarily applies to DGS, whereby the protection of sensitive resources should be the primary factor in the procurement process. DNR and DGS have no current policy outlining how projects treat historic resources; they rely solely on sections of the Maryland State Annotated Code governing state property with regard to historic preservation. While the state code provides considerable detail, it is not sufficient for the detailed project planning and maintenance protocols and assessments that DNR routinely undertakes and the many sensitive historic resources under DNR's

management. Commitment to the Secretary of the Interior's Standards would represent a higher level of commitment and care, especially if reinforced with an agency agreement(s) and periodic training for park personnel involved in maintenance and construction.

A critical limiting factor in project planning is gaining early access to knowledge of existing archaeological resources sufficient to avoid or properly plan for conserving those resources. While MHT has extensive information (although never complete) gained through archaeological surveys over the years, to prevent vandalism this information is hidden from all but professional archaeologists approved for access by MHT. MHT staff archaeologists do not guide project plans. They will only review them after plans are sufficiently in place for MHT to make a formal judgment about potential impacts – yet those impacts could be reduced or avoided if the information were to be available earlier in the planning process. The simplest solution is either for DNR to employ its own dedicated archaeologist, or pay for its share of an archaeologist position for DGS and/or MHT who can participate earlier in project planning (and help to contract for archaeological services when additional information must to be developed). In Pennsylvania, when the state historic preservation office (Pennsylvania Historical and Museum Commission, PHMC) fell behind in its environmental reviews for the Pennsylvania Department of Transportation (PennDOT) some years ago, the agency developed a closer relationship with PHMC whereby it supported a team of preservation reviewers based in PHMC but paid for by PennDOT and dedicated to its needs.

Since 2017, MPS and MHT have had an ongoing cooperative agreement that combines the strengths of both agencies and provides the basis for an annual combined work plan. While the formal agreement has expired, the collaboration remains ongoing. The program was spurred by needs of MHT's flagship Conservation Center, Maryland Archaeological Conservation Lab at the Jefferson Patterson Park and Museum. MPS also has also partnered with Preservation Maryland in order to advance the work being undertaken to survey historic resources in Maryland State Parks and the expectation of greater investment in park facilities.

Key Accomplishments

- A wealth of unique resources.
- Good partnerships with outside organizations, such as Preservation Maryland and the MHT.
- Enhancing use of archaeological remote sensing and expanding to include more parks.

Areas for Improvement

- A "one size fits all" approach to state parks' needs does not allow variation in management and resources to address the needs of certain kinds of parks.
- Loss of many key historic landscapes and resources.
- Underrepresented stories and opportunities to expand the narrative.
- There's a need for clear standards related to the preservation and interpretation of cultural historic resources, including buildings, structures, and archaeological sites.

Producing Outcomes Consistent with its Mission

The mission of MPS is to manage the natural, cultural, historical and recreational resources to provide for wise stewardship and enjoyment by people.

Cultural and Historic Resources Recommendations

#	Key Findings / Current State	Recommendation
9	Maryland currently employs no categorization scheme among its parks (not including DNR's sub-designation of State Parks, NEAs, and NRMAs). This "one size fits all" approach to state parks' needs does not allow for variation in management and resources to address the needs of certain kinds of parks, in particular those focusing on important historic and cultural resources.	**Establish a new category of "Historical Parks" to support budgeting and specialized staff training and positions.** Designating state parks as "Historical Parks" would allow for varied management direction and customized treatment concerning staff training, shared specialist positions, budgeting, and contracting. Historical designations would also heighten public attention to Maryland's signature historical locations, streamline investments in maintenance, planning, and facilities for interpretation and collections, and help prioritize land acquisition. In addition to the "Historical" park designation, DNR should consider adopting these additional categories: Natural (limited facilities, emphasis on trails and water access for fishing and boating, protection of threatened and endangered species and critical habitat); Environmental Education (focusing on providing K-12 educational opportunities including group camping), Recreational (picnicking, playgrounds, family and group camping, trails), and Swimming Access (beach and river access for swimming, and fishing and boating where appropriate). In adopting these designations, DNR should ensure even distribution of each type of park category across Maryland, especially addressing access for populations not currently readily able to access all categories. For more information, see appendix: "Categorizing State Parks"
10	Staff report that many unmaintained and abandoned structures are in a severe state of disrepair and decay. A loss of many key historic landscapes has already occurred. There is a need to modernize parks in terms of tracking of historic and cultural resources, including mapping for web-based access and service.	**Develop a system wide survey to inventory all historical and cultural resources in Maryland.** The survey should include the following elements: 1. Survey-level documentation for every resource, in context (organize by cultural landscapes, historic districts, and multiple-property approaches to "batch" the survey work as much as possible and generate context statements that enable evaluation of the importance of each property); 2. Survey-level assessment of historical significance and eligibility for the National and State Registers (if not already existing); 3. Up-to-date survey-level photographic and map documentation; 4. General treatment recommendations, in phases as needed (stabilize, preserve, rehabilitate, restore), including any opportunities for adaptive reuse; 5. A rough estimate of costs for treatment; 6. Priority level of the property in the park's facility planning and strategic planning (urgency for park use); 7. General life-cycle recommendations for keeping the property in service through proper ongoing maintenance; and 8. Prioritization for Historic Structure Reports and Cultural Landscape Reports as follow-up to determine full treatment recommendations (refer to NPS Historic Structure Reports Spotlight) The system wide survey data and inventory should be organized in a fully accessible GIS database application that is customized to MPS needs, and should be incorporated into the MHT'S MIHP.

#	Key Findings / Current State	Recommendation
11	There is so much history that's not being told and there is a need for telling of a more holistic history to include underrepresented stories and provide interpretive elements to all audiences.	**Undertake interpretive planning for the entire park system.** The Preservation Maryland/ DNR survey specifically addresses inclusivity and investigation of under-represented stories. However, this is just a first step. Interpretive planning for the entire park system should: 1. Assess existing programs in collaboration with park personnel, by requiring all parks to undertake a self-assessment of current interpretation; 2. Identify gaps (are programs serving all audiences?) and opportunities (inside/outside the system), as a collaboration among park personnel and state-level interpretive staff; 3. Suggest direction for renewing, revamping, and expanding programs and facilities, through creation of a short action plan by park personnel to help guide park-level interpretation; and 4. Set priorities system wide. A model for this assessment and planning process is one employed by Georgia State Parks & Historic Sites, which involved local park personnel in collaboration with state-level interpretive staff. For Georgia's self-assessment, all park managers were provided basic guidelines for reviewing the quality of all interpretive materials and services in a given park. The state's Cultural Interpretive Resources Unit then reviewed this data and prioritized any needed actions for improvement. In their survey assessment, over 300 historic and cultural items and materials were flagged for improvement; of those, 92 were corrected in the first six months and approximately 100 items were identified by the Cultural Interpretive Resources Unit as needing no action necessary. For more information see appendix: "Georgia model"

Partnership for Interpretive Planning

Among many possible partners with the potential to support individual parks as they assess and improve their interpretive programs, the 13 certified heritage areas served by the MHAA offer significant expertise. Like MPS, they have a deep interest in the landscape story of Maryland's cultural history, and many provide a wider landscape context in helping area visitors access that story. Several heritage areas have undertaken partnerships with individual state parks; notable long-term partnerships include the Heart of the Civil War Heritage Area with South Mountain State Park and Dorchester County with Harriet Tubman Underground Railroad State Park.

Heritage areas are supported by Program Open Space funds and routinely work to expand public access and interpretation for Maryland's open space and historic landscapes; they are, however, limited in their ability to spend funds directly on other state agencies' missions and furthermore may not use state funds to match their own state funds. Nevertheless, as state parks build their interpretive programs, they would be well advised to consult directly with the individual heritage area serving their region. They can support events, bring additional expertise and local partners, and undertake other projects that do not necessarily require extensive funding but which would greatly enhance park offerings and their ability to serve park users.

#	Key Findings / Current State	Recommendation
12	There is no current DNR policy outlining how projects treat historic resources.	**Establish a system-wide policy that mandates that projects undertaken to treat historic resources follow the Secretary of the Interior's Standards for the Treatment of Historic Properties (36 CFR Part 68, 1995).** While the Maryland State Annotated Code has two sections governing state property with regard to historic preservation (5A-325 and § 5A-326), a commitment to the Secretary of the Interior's Standards would represent a higher standard and could help ensure outside agencies, responsible for capital improvement projects in coordination with DNR, are versed in historic architecture and the requirements for restoration, rehabilitation, and repairs. Applying the Secretary of the Interior's Standards for the Treatment of Historic Properties would provide guidance to historic building owners and building managers, preservation consultants, architects, contractors, and project reviewers prior to beginning work. Full compliance with the Secretary of the Interior's Standards will increase project costs, necessitating additional critical maintenance and capital improvement funding. See appendix for more information, "Secretary of the Interior's Standards." A model for developing this policy can be found in Vermont, where the Department of Forests, Parks & Recreation (DPR) has recently completed a Memorandum of Agreement with the Vermont Division for Historic Preservation. Another agency that has established policies to address cultural resources, including specific adherence to the SOI Standards, is Washington State Parks.
13	Given that DNR has procured and safeguards some of the state's most sensitive environmental, historical, and cultural resources, it bears a significant responsibility among all other agencies in overseeing state-owned properties. DNR is particularly entrusted with the imperative task of preservation and stewardship of these resources.	**Develop memorandum/a of agreement for collaboration with and among MHT, DGS, and other agencies responsible for capital improvements involving DNR properties**.
14		**Develop detailed policies supporting DNR protocols and commitments to historic preservation,** reliant at their core on the best practices articulated by the Secretary of the Interior's Standards, supporting DNR's special needs and applying as well to other state agencies supporting DNR's capital improvements.

Recreational Resources

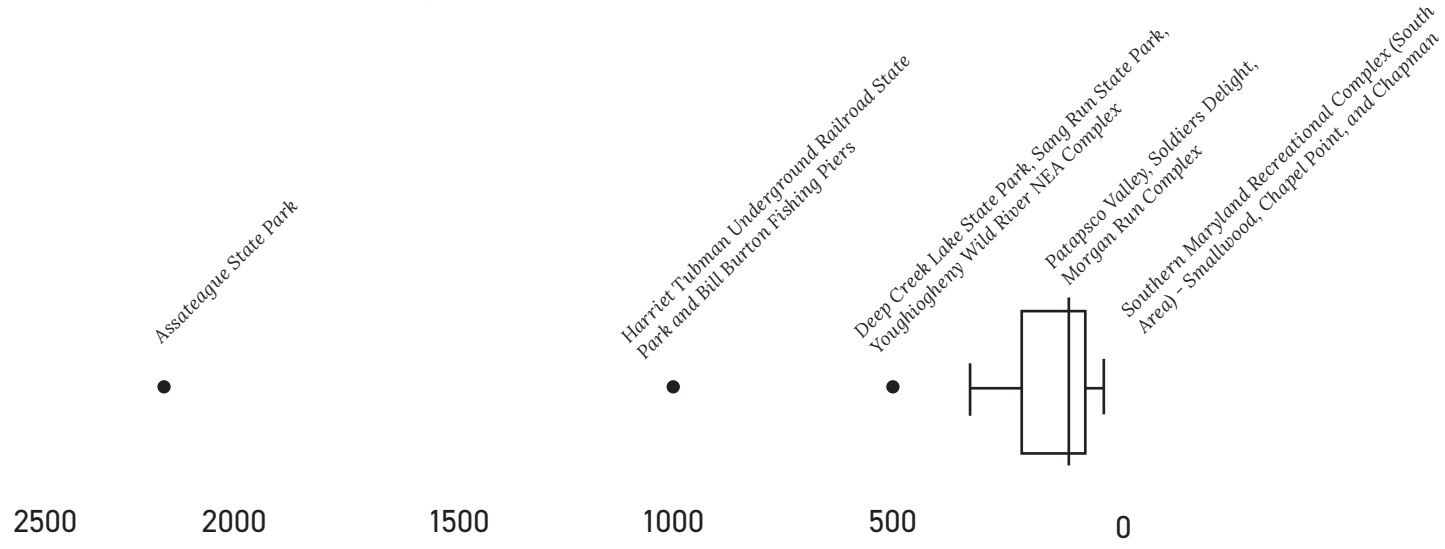
Park Acreage Per Person

The following peer comparisons were selected based on the direction of the America's State Parks and the National Association of State Park Directors organizations to identify both existing and aligned peers (e.g. Indiana) and aspirational peers (e.g. Texas). There is no single model for state park systems - all the state park systems are structured, operated and managed differently. As a result, it is impossible to identify peer state park systems that match the Maryland system. The peer states selected for benchmarking were state park systems that perform the best in their field in a variety of areas including approaches and strategies for revenue generation, law enforcement model agencies, non-law enforcement model agencies, Gold Medal Award winning agencies, and CAPRA Accredited agencies. CAPRA (Commission for the Accreditation of Park and Recreation Agencies) is the national accrediting body for park and recreation agencies across the United States through the National Recreation and Park Association (NRPA). CAPRA delivers quality assurance and improvement to accredited park and recreation departments throughout the United States by helping them build a comprehensive management system of operational best practices

Maryland, and the list of Peer Agencies, with their park acreage and state population, are as follows:

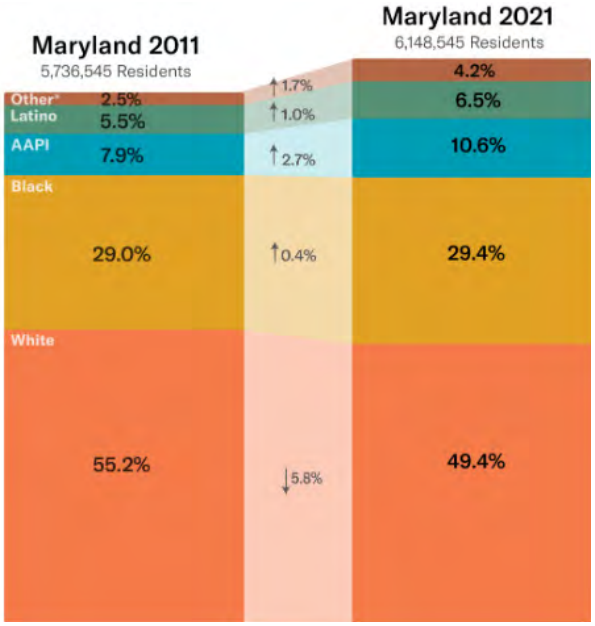
- Maryland: 0.023 acres per person (142,228 acres; 6,164,660 population)
- Delaware: 0.029 acres per person, (~30,000 acres; 1,018,396 population)
- Florida: 0.036 acres per person (~800,000 acres; 22,244,823 population)
- Indiana: 0.025 acres per person (173,363 acres; 6,833,037 population)
- Maine: 0.505 acres per person (700,000 acres; 1,385,340 population)
- Pennsylvania: 0.023 acres per person(~300,000 acres; 12,972,008 population)
- Texas: 0.021 acres per person (640,000 acres, 30,029,572 population)

Ratios of annual visitors to park acreage range from approximately 19 visitors per acre to 2,151 visitors



This chart shows the overall distribution of the ratio of number of visitors to each park complex per acre of park.

Children enjoy beachfront at Sandy Point State Park.



*Other includes those who self-identified as Native American/ Indigenous, two or more races, or other race. Source: 2021-2017 ACS 5-Year Estimates Detailed Tables and 2011-2007 ACS 5-Year Estimates Detailed Tables.

per acre but mostly cluster around 200 visitors per acre or less in Maryland. The outlying DNR parks with the highest visitor to acreage ratio offer "unique" experiences, typically on smaller footprints: Assateague State Park and Harriet Tubman Underground Railroad State Park and Bill Burton Fishing Piers.

Maryland's Changing Population

Maryland's population has increased by over 7% over the last decade, from 5,736,545 residents in 2011 to 6,148,545 in 2021. The uptick in the state's population is predominantly driven by an increase in Maryland's BIPOC population (Black, Indigenous, and people of color), which grew by over 21.2%, from 2,569,013 BIPOC residents in 2011 to 3,112,738 BIPOC residents by 2021. The biggest growth came from the Latinx population, which grew by 43.9% over this time period, from 451,861 residents in 2011 to 650,357 by 2021. Today, 49.4% of the state's population is white, over 29% Black, 10.6% AAPI, and 6.5% Latinx.

"Visitors are about 80% Spanish-speaking"

- MPS Staff at Sandy Point State Park

Demographic analysis of park visitors in a subset of 12 pilot parks over the course of June 2022-June 2023 indicates that the state's population is slightly more diverse than the state's park goers, suggesting that the park system could still make improvements to park access. However, among the subset of parks analyzed, Asian residents are particularly underrepresented among park visitors, making up less than 6% in 5 out of the 12 parks, and under 10% for 10 out of 12 of the parks. Similarly, Black residents made up less than 20% of park visitors in 5 out of the 12 parks analyzed. On the other hand, Latinx appear well represented among park visitors.

According to customer satisfaction surveys from 2021-2022, parks are an important way for Marylanders to escape from the stress and demands of daily life. However,

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State Parks have **Water Access Amenities**

How Marylanders Accessed Water in 2023

(From June 2022 - June 2023)

Source: ESRI (2023), "Sports and Leisure Market Potential - Maryland"

How the U.S. Accessed Water in 2008

(by race and ethnicity)

	Went Swimming in lakes, streams, etc	Went Swimming in Outdoor Pool	Went to Visit a Waterside	Went Boating
Everyone (16yrs +)	41.5%	43.3%	24.0%	19.6%
White	**46.7%**	46.3%	**27.1%**	20.7%
Black	18.6%	28.8%	12.5%	12.1%
AAPI	35.3%	39.5%	---	**25.9%**
Latino	---	**45.9%**	20.0%	---

Source: Cordell, Ken H., (2012) Outdoor Recreation Trends and Future: A Technical Document Supporting the Forest Service 2010 RPA Assessment. U S Department of Agriculture Forest Service reports. https://www.fs.usda.gov/research/treesearch/40453#

Water Access amenities include public access to any of the following: Beach access, Boat Ramp/Boat Rentals, Marina, Swimming (natural), Swimming Pool, Canoeing/Kayaking. Data source: DNR's Maryland State Park Amenities (https://dnr.maryland.gov/publiclands/Documents/MD_StateParksMap-Amenities.pdf

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State Parks have **Gathering and/or Play Amenities**

How Marylanders Played & Gathered in 2023

(From June 2022 - June 2023)

Top 3 Outdoor Sports:
1. Golf 8.4%
2. Basketball 5.8%
3. Tennis 4.4%

Source: ESRI (2023), "Sports and Leisure Market Potential - Maryland"

How the U.S. Played & Gathered in 2008

(by race and ethnicity)

	Went Family Gatherings	Went Picnicking	Went Developed camping
Everyone (16yrs +)	74.0%	51.7%	23.8%
White	73.6%	45.3%	26.6%
Black	77.3%	45.3%	8.8%
AAPI	**79.0%**	**57.5%**	15.0%
Latino	--	--	**26.7%**

Source: Cordell, Ken H., (2012) Outdoor Recreation Trends and Future: A Technical Document Supporting the Forest Service 2010 RPA Assessment. U S Department of Agriculture Forest Service reports, https://www.fs.usda.gov/research/treesearch/40453#

Gathering and/or Play amenities include public access to any of the following: Picnic Shelters, Picnic Tables, Playgrounds. Data source: DNR's Maryland State Park Amenities (https://dnr.maryland.gov/publiclands/Documents/MD_StateParksMap-Amenities.pdf

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State Parks have **Trail Access Amenities**

How Marylanders Accessed Trails in 2023

(From June 2022 - June 2023)

Source: ESRI (2023), "Sports and Leisure Market Potential - Maryland"

How the U.S. Accessed Trails in 2008

(by race and ethnicity)

	Went Hiking/Backpacki	Went to Wilderness	Went Horseback Riding
Everyone (16yrs +)	33.9%	33.6%	6.8%
White	**37.9%**	**37.3%**	**7.5%**
Black	12.1%	15.7%	3.0%
AAPI	29.4%	20.8%	4.8%
Latino	34.0%	--	--

Source: Cordell, Ken H., (2012) Outdoor Recreation Trends and Future: A Technical Document Supporting the Forest Service 2010 RPA Assessment. U S Department of Agriculture Forest Service reports, https://www.fs.usda.gov/research/treesearch/40453#

Trail Access amenities include public access to any of the following: Hiking/Walking Trails, Biking Trails, Mountain Biking Trails, Equestrian Trails, Off-Road Vehicle Trails, X-Country Ski/Snowshoe. Access is defined by DNR's Maryland State Park Amenities document https://dnr.maryland.gov/publiclands/Documents/MD_StateParksMap-Amenities.pdf. In analysis of changing recreational trends in Maryland and Nationwide, "--" indicates data is not available, due lack of statistical significance.

the current MPS survey provides limited opportunity for individuals to share what amenities attract them to the state parks and to self-disclose demographic data for internal analysis on equity and access.

Changing Recreational Trends

In Maryland, as elsewhere, water-based recreational opportunities are in high demand. Nationally, over 41% of recreationists went swimming in a natural body of water in 2012; in Maryland, the most comparable statistics suggest that 30.5% of the state's residents went to the beach in 2023. Moreover, decades of research on Latinx in California find that Latinx outdoor recreationists prefer forested sites with water features and amenities to support a day-long, extended-family social outing. Based on customer satisfaction surveys and conversations with MPS staff, water access is a large determining factor for high visitor numbers and closure rates. High visitation and closure rates and timing (focused in the summer months and in parks like Assateague State Park, Cunningham Falls State Park, Greenbrier State Park, Gunpowder Falls State Park, Rocky Gap State Park, Sandy Point State Park, and Patapsco Valley State Park) align with staff and visitor feedback.

"Water access is super important, especially for Latino communities"

- MPS Staff at Greenbrier State Park

Nationally, family gatherings are one of the most popular park activities, with a reported 74% of recreationists over the age of 16 visiting parks for family gatherings. Studies suggest that participation rates are significantly higher among Latinx, who treat outdoor recreation as a day-long family bonding activity and prefer fully-developed picnicking areas for passive recreation, such as barbecuing, picnicking, and day camping.

Key Accomplishments

- The park system continues to sustain its post-COVID surge in visitors, marked by increased and more frequent visitations. This trend could serve as a valuable countermeasure against national declines in sustained engagement among "core" participants, characterized as individuals who participate in outdoor recreation 51 times or more annually in the U.S.
- Maryland parks offer many options in terms of recreational opportunities, amenities and unique landscapes to enjoy.
- The Latinx community's comfort in utilizing the provided park amenities available park amenities.

Areas for Improvement

- Recent growth in the park system has been driven by minor expansion in existing parks, not acquiring new parks, which could help close gaps in access to residents. New parks with developed areas and water access in populated areas would help ease the burden on existing parks
- The MPS Customer Satisfaction Survey could be improved to provide a better sense of park visitors' needs and preferences.
- Water access in developed areas with lifeguards is a large determining factor for high visitor numbers and closure rates.
- Language barriers can create challenges communicating with park visitors.

Producing Outcomes Consistent with its Mission

The mission of MPS is to manage the natural, cultural, historical and recreational resources to provide for wise stewardship and enjoyment by people.

Recreational Resources Recommendations

#	Key Findings / Current State	Recommendation
15	The current MPS survey represents perspectives of a limited audience and provides limited opportunity for individuals to share what amenities attract them to the state parks and to self-disclose demographic data, for internal analysis on equity and access.	**Improve the yearly MPS Customer Satisfaction Survey to assess and benchmark the demographic by race/ethnicity, gender, ability, income, age nuances of a park goers' experience in Maryland Parks.** Future Customer Satisfaction Surveys should include: 1. A section where customers can self-disclose pertinent demographic information (e.g., race/ethnicity, sex, age); 2. A question about what specific outdoor recreational activity the customer participated in; 3. A section dedicated to assessing the condition of water access and water-based facilities; 4. A section dedicated to assessing the types of outdoor recreational amenities the customer would like to see.
16		**Improve the reliability of data collected by MPS Customer Satisfaction Survey by increasing the overall sample size of survey respondents, the diversity of demographic responses, and the range of experiences at specific parks.** In 2020 and 2021, only about .025 to .05% of the total number of visitors into state parks responded to customer satisfaction surveys, in large part, because those visitors had a direct point of sale relationship with MPS. DNR should provide ample opportunities for visitors to complete surveys by advertising the surveys using QR codes throughout park facilities, including in restrooms, visitor centers, ranger stations, and at entry gates. For inclusion of people with digital literacy barriers or visual barriers, paper and phone survey options should also be advertised. Even reaching a 1% response rate, or 160,000 responses, will provide DNR with a useful amount of data to guide program, policy, and investment decisions.
17	Differences in participation rates across race and ethnicity may be due to a mismatch in public facility investments and the varied recreational preferences of racial groups.	**Develop a standing, community-based advisory body within DNR to bring a community-led racial equity perspective to current and future park planning and investment.** Peer communities such as Oregon, have developed more localized equity groups such as the Metro Parks and Nature Equity Advisory which provides equity oversight to the Metro's Parks and Nature Department's planning, policy and park investment outcomes. Committee representatives self-nominate and have long-standing roots and connections to the public and existing communities of color. They receive a $200 compensation per monthly meeting. DNR should charter the development of an advisory group, which may be a sub group of the Parks and Recreation Commission, to help provide equity oversight to current and future park investments. This group should be made up of diverse individuals with a strong cross-representation of various currently underrepresented groups (Black, Latinx, Asian, disability community, LGBTQIA, etc). Focus group outreach should be used to supplement underrepresented perspectives where needed. This group should immediately be tasked with supporting DNR in the drafting and creation of a Strategic Plan for Racial Equity, Diversity and Inclusion, which would outline actions DNR should take to provide more equitable access to parks and create more welcoming park environments for all Maryland residents. The new Strategic Plan for Racial Equity, Diversity and Inclusion would serve as a benchmarking tool and plan for future work.

#	Key Findings / Current State	Recommendation
18	Based on customer satisfaction surveys and conversations with MPS staff, water access is a large determining factor for high visitor numbers and closure rates.	**Distribute Visitor Park Attendance using the data collected from counties and the City of Baltimore as part of the local 5-year Maryland Land Preservation and Recreation Plan (LPRP) process to create an interactive map of State, County and City parks and their amenities for online access by the public.** Mapping could be in concert with Google Maps and Google reviews, or as a stand alone app. Given that stand alone applications can be expensive to create and maintain, MPS should consider partnering with county systems to co-create an app for the state, and build on the NPS application framework. The NPS app is free and offers interactive maps of each park, self-guided tours curated by park rangers, and news and current events, along with lists of amenities, and all this information is available offline by park, if downloaded ahead of time. Additionally, the NPS app gives real-time updates on conditions within the park—such as road closures, long entry lines, weather advisory warnings, and details about necessary reservations to enter, or park hours.
19	Creating a park in Baltimore would help broaden the system's interpretive scope.	**Initiate outreach to the City of Baltimore to discuss the feasibility or potential of a partnership park in a pre-existing Baltimore park space.** Places that might support this type of space include Middle Branch Park, Gwynn Falls, or Leakin Park.
20	Recent growth in the park system has been driven by minor expansion in existing parks, not acquiring new parks, which could help close gaps in access to residents	**Add parks and acreage to Maryland's state park system in order to increase its current service of 0.023 acres of park per resident to at least 0.036 acres of park per person by 2030.** This would allow the Maryland state park system to surpass most of its peers (Delaware, Indiana, Texas, and Pennsylvania) and join the ranks of Florida. Particular focus should be made to 1) expand park acreage and park acquisitions to the state's Southern and Central regions, which tend to have less available acreage, 2) follow patterns of growth that occur across the state, adding park acreage where density is increasing, and 3) use mapping of target ecological areas and assets aligned with community demand based on the future LPRP community engagement process to prioritize site selection. Given Maryland's projected growth to 6,413,690 by 2030, this would mean that Maryland should have at least 231,000 acres of state park lands, which means DNR should acquire or reallocate existing DNR holdings that are not currently publicly accessible at least 88,600 acres of park land by 2030. Given Maryland's projected growth to 6,873,330 by 2045, Maryland should have at least 247,000 acres of state park lands (an additional increase of 16,000 acres from projected 2030 need).
21	As of 2022, there are significant geographic disparities in park acreage by region in Maryland.	**Expand park acreage and park acquisitions to the state's Southern and Central regions,** which tend to have less available acreage, and use mapping of target ecological areas and assets aligned with community demand based on the future LPRP community engagement process to prioritize site selection.

Human Resources

Passionate & Dedicated Workforce

There is overwhelming positive energy from a committed, energized workforce that has faced many challenges. MPS staff do a lot with a little and are incredibly dedicated and show a great amount of care.

"We get many compliments on our kind and friendly staff."

– Focus Group Discussion, Visitor Experience & Recreation

MPS Staff at Point Lookout State Park.

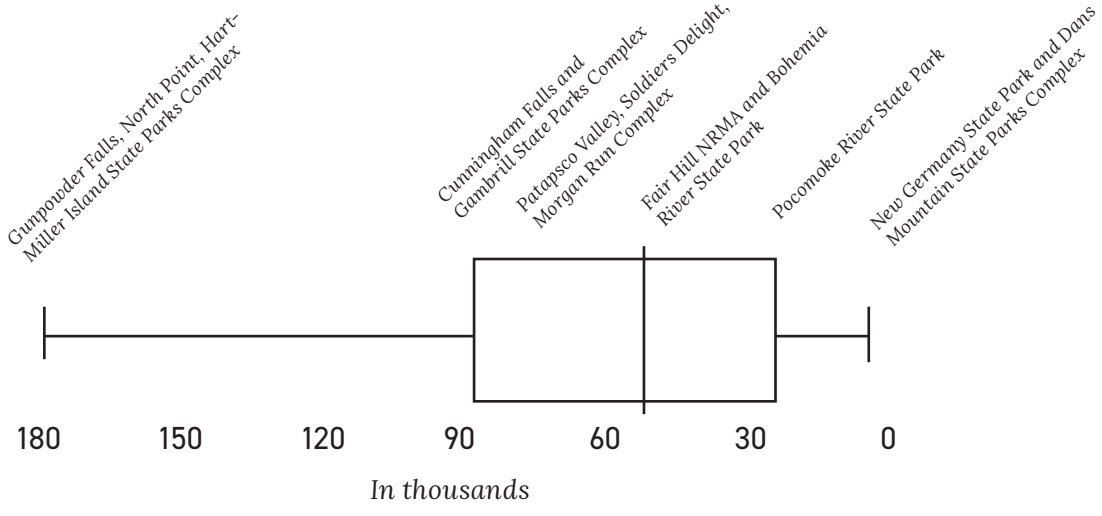
Staffing Shortages

Between 2003-2022, permanent positions authorized in the budget for MPS were reduced by 69 positions (approximately 20%). During that same time period, total park acres have increased by roughly 10,000 acres (approximately 7%) and annual park visitors grew by around 7,400,000 people (approximately 73%).

Park Staff per Visitor

Ratios of visitors to total full-time positions range from approximately 5,800 visitors per park staff to 179,885 visitors per park staff, with Gunpowder Falls, North Point, Hart-Miller Island State Parks Complex recording the highest ratio. A visitor frequency and volume driven staffing model for all park complexes generally aligns with the current distribution of staff across park complexes, and while Gunpowder Falls, North Point, Hart-Miller Island State Parks Complex is an outlier, these staff numbers only take into account full-time contracted and permanent positions.

Based on peer comparisons, one full-time park staff for every 35,000 visitors would put MPS within range of peer organizations. Using this metric, 13 of the park complexes are deficient in their number of positions. The most significant are Gunpowder Falls, North Point, Hart-Miller Island State Parks Complex; Seneca Creek, Patuxent River, Freedman



This chart shows the overall distribution of the ratio of number of full-time staff in each park complex to number of annual visitors.

State Historical and Monocacy NRMA Complex; and Assateague State Park (see Park Complex table for full list). While park capacity shut downs are connected primarily to parking space availability and in some cases infrastructure capacity (e.g., bathrooms), the number of staff impact each park's ability to be responsive to visitor needs, especially on high volume days. Recalibrating the number of staff (even part time, seasonal staff) to align with visitor volume peaks will enable the Park Service to more readily understand when parking is available and when to close parks and how to respond to bathroom and park cleanliness challenges that could lead to closures. Aspiring to one park staff for every 30,000 visitors would enable redundancy and support staff growth and capacity.

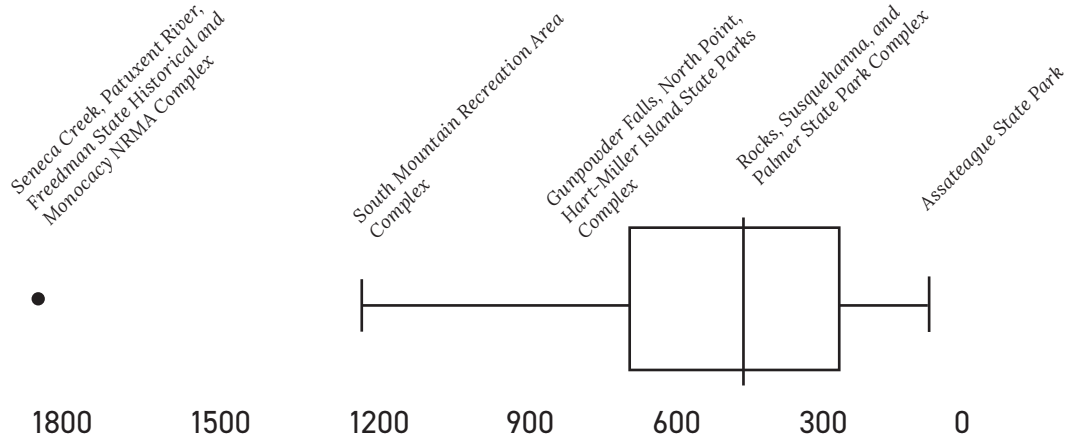
Park Staff per Acre

Ratios of complex acres to total full-time positions range from approximately 78 acres per park staff to 1,878 acres per park staff. Apparent models for park staff size and structure appear to apply across the system, which makes the largest park complexes outliers, including Seneca Creek, Patuxent River, Freedman State Historical and Monocacy NRMA Complex and South Mountain Recreation Area Complex (Gathland, Greenbrier, South Mountain, Washington Monument State Parks, South Mountain State Battlefield, Weverton-Roxbury Railroad Corridor, The Maryland Portion of the Appalachian Trail).

Using an internal evaluation of all Maryland park complexes and state parks, four complexes are outliers with regards to the number of park acres managed against park staff. The below box and whisker plot expresses the high end and low end of park acres to staff in each park, and expresses a range for the middle majority of parks. Most parks and park complexes have one staff member for every 253 to 676 acres. The parks in which staff are responsible for managing more than 732 acres are Seneca Creek, Patuxent River, Freedman State Historical and Monocacy NRMA Complex; South Mountain Recreation Area Complex; Southern Maryland Recreational Complex (South Area) - Smallwood, Chapel Point, and Chapman; Patapsco Valley, Soldiers Delight, Morgan Run Complex and Gunpowder Falls, North Point, Hart-Miller Island State Parks Complex.

"The inability to adequately staff any State park function compromises public safety, resource protection, and the visitor experience."

- MPS Staff, Park Managers Meeting



This chart shows the overall distribution of the ratio of number of full-time staff in each park complex to number of park acres.

*Note: Freedman's State Historical Park currently has a staff value of 0.

Park Complex	Sum of Total Visitors (2022)	Sum of Park Acreage (2022)	Full Time Positions	Vacant/ Acting Positions	Ratio of Park Visitors to Full Time Positions	Ratio of Acres to Full Time Positions
Gunpowder Falls, North Point, Hart-Miller Island State Parks Complex	3,597,705	17,022	20	4	179,885	851
Seneca Creek, Patuxent River, Freedman State Historical and Monocacy NRMA Complex	1,346,917	15,027	8	2	168,365	1,878
Assateague State Park	1,839,363	855	11	0	167,215	78
South Mountain Recreation Area Complex (Gathland, Greenbrier, South Mountain, Washington Monument State Parks, South Mountain State Battlefield, Weverton-Roxbury Railroad Corridor, The Maryland Portion of the Appalachian Trail)	1,046,405	12,184	10	2	104,641	1,218
Sandy Point, Franklin Point, Severn Run NEA, Belt Woods NEA, Corcoran Woods ESA, Tawes Garden Complex	1,196,081	3,676	12	1	99,673	306
Cunningham Falls and Gambrill State Parks Complex	1,002,430	7,364	11	1	91,130	669
Patapsco Valley, Soldiers Delight, Morgan Run Complex	1,672,745	18,304	21	3	79,655	872
Rocky Gap State Park	639,585	3,119	9	1	71,065	347
Deep Creek Lake State Park, Sang Run State Park, Youghiogheny Wild River NEA Complex	579,286	1,169	9	2	64,365	130
Elk Neck State Park	516,458	2,370	9	0	57,384	263
Rocks, Susquehanna, and Palmer State Park Complex	543,107	4,403	10	1	54,311	440
Fair Hill NRMA and Bohemia River State Park	474,745	6,108	9	2	52,749	679
Herrington Manor, Swallow Falls, Wolf Den Run, Jennings Randolph Complex	516,092	2,653	10	2	51,609	265
Point Lookout State Park Complex; Greenwell, Newtowne Neck, St. Clements Island, St. Mary's River State Parks Complex	407,266	5,178	12	1	33,939	432
Deep Creek Lake NRMA	248,538	4,707	8	2	31,067	588
Southern Maryland Recreational Complex (East Area) - Merkle, Hallowing Point State Park and Calvert Cliffs	137,659	2,634	5	1	27,532	527
Southern Maryland Recreational Complex (North Area) - Cedarville State Forest and Rosaryville	134,439	3,025	5	0	26,888	605
Tuckahoe State Park Complex: Tuckahoe, Martinak, Cypress Branch, Love Point and Wye Oak State Parks, Black Walnut Point, Sassafras, Bridgetown Ponds, Hollingsworth, Andover Flatwoods, and Wye Island NRMAs	402,841	4,001	16	1	25,178	250
Pocomoke River State Park	173,843	916	7	1	24,835	131
Southern Maryland Recreational Complex (South Area) - Smallwood, Chapel Point, and Chapman	95,466	4,934	5	0	19,093	987
Fort Frederick State Park / Sideling Hill Creek State Park / Western MD Rail Trail Complex	156,388	4,532	9	0	17,376	504
Janes Island State Park	103,355	3,160	7	1	14,765	451
Harriet Tubman Underground Railroad State Park and Bill Burton Fishing Piers	41,895	42	6	1	6,983	7
New Germany State Park, Dans Mountain State Parks, Casselman River Bridge and Big Run State Park Complex	58,224	990	10	0	5,822	99

All data received from MPS: This data reflects a snapshot in time as of May 2023 and are as complete as possible based on available data. DNR should continue to evaluate and update these ratios annually in its reporting.

Regional Distribution

Four complexes, deficient in staffing using the visitor count metric, are also in the central/southern part of the state. (1) Gunpowder Falls, North Point, Hart-Miller Island State Parks Complex, (2) Seneca Creek, Patuxent River, Freedman State Historical and Monocacy NRMA Complex; (3) Sandy Point, Franklin Point, Severn Run NEA, Belt Woods NEA, Corcoran Woods ESA, Tawes Garden Complex, and (4) Patapsco Valley, Soldiers Delight, Morgan Run Complex. Adding positions to these three complexes will help to ensure increased demand for services is met and provide better daily operations and maintenance and overall public service.

Seasonal Positions

Seasonal positions in the MPS play a vital role in supporting park operations, providing visitor services, ensuring safety, maintaining and conserving park facilities and natural resources, supporting educational programs, managing campgrounds and recreational facilities, and engaging with local communities. These positions serve as a flexible and temporary workforce, making state parks accessible and enjoyable for visitors while contributing to the preservation of Maryland's natural and cultural heritage. Seasonal staff are generally hired for 3-10 month periods, and in accordance with the Fair Labor Standards Act.

The MPS has sufficient seasonal positions available compared to benchmarked peers. Addressing the bottleneck, making hiring of these casual labor positions easier, more efficient and more within the scope of individual complex managers' authority is key to improving the MPS, and to a certain extent, employee morale and workload. Staff report that discrepancies in pay between MPS seasonal employees and other seasonal/hourly positions can make hiring particularly challenging.

Hiring

Hiring data as of January 2023 indicates that between 2008 and 2022 there were 274 hiring actions for regular full-time employees and 85 hiring actions for contractual full-time equivalent employees. Hiring actions describe filling positions and the same positions may have been filled and vacated several times. Seasonal hires are only reflected in this dataset beginning in 2022, but in 2022 alone there were 653 hiring actions for seasonal employees.

Since the majority of hiring in MPS is for seasonal positions, there is a need to streamline the DNR Human Resources recruitment process and give rangers and maintenance supervisors greater authority with hiring decisions for the overall success of the MPS. Staff report that hiring processes cause a long lag, particularly for seasonal employees, that impacts ability to hire.

> **"The timeline to hire a seasonal employee is approximately two months."**
>
> *- MPS Staff at Park Managers Meeting*

Housing Shortages

There are approximately 200 houses within state parks across the state that are actively occupied by MPS employees. This housing is free for staff and is intended to be used as operational housing, in which staff occupancy needs to benefit DNR and the State as the landlord. These benefits include snow and debris removal, closing or opening entry gates, on-call services related to emergent park needs, and upkeep of the house and area surrounding the house. Park managers are responsible for allocating, monitoring, and assessing housing within their parks.

DNR created a policy and series of requirements for staff occupying operational housing, though elements of the policy have not actively received oversight by DNR. DNR is currently revising the policy and requirements to make housing availability more equitably distributed and allocated, and to centralize decision making and oversight. The goals of the changes to the housing policy are to ensure decisions about housing and staff access to housing are unbiased, fair, and responsive to staff needs for affordable housing.

Staff Training & Specialized Knowledge

The MPS Training Division offers training including emergency medical responder, water safety, firearm training, maintenance training, compliance training, trail training, and much more. MPS may require an employee to successfully complete and maintain annual recertification requirements in a specific area based on an assigned job function (e.g. NAI Certified Interpretive Trainer, Leave No Trace Trainer, Lifeguard certification, Civilian Firearms, or Traffic Direction Instructor). While some of these certifications provide financial compensation, the majority of them do not. MPS reports that in 2021 MPS instructors provided 629 hours of in-person instruction and taught a total of 781 students at courses throughout the state. MPS offers opportunities to apply for funding to support Out-of-Service Training opportunities.

Staff report challenges related to training, including the lack of sufficient training for personnel and inconsistent policies for training staff. As an example, all rangers attend Ranger School but not all maintenance staff have access to formalized maintenance training. Training only happens once per year and is not standardized across the system, with inefficiencies resulting from changes to the curriculum every cycle. The training backlog could be rooted in the uptick in hires following 2020, which was largely due to the need to fill essential positions or address personnel changes amid the pandemic's challenges.

Staff report that there is a need for more specialized knowledge (professional expertise) in key areas based on conversations with park rangers, maintenance supervisors, and park managers.

"Well established attitude of 'jack of all trades' rangers"

– MPS Staff at Park Managers Meeting

Staff Turnover

Focus groups and interviews with staff highlighted that staff retention and staff hiring are main concerns that have many facets. The facets that impact staff retention and hiring of staff include lack of appropriate compensation to compete with other options in the field and, often, the inability for staff to be able to live in their park's surrounding area due to cost of living. Additionally, the extraordinary hiring timeline (resulting in long periods of positions being vacant) significantly impacts filling vacant positions, compounding the institutional knowledge lost, and the training needs of the newly hired staff. Staff also reported a lack of work-life balance and stress from working beyond capacity that leads to burnout and a high turnover rate. Staff expressed that there is a lack of incentives for good performance, extra certifications, or specialized skills and a lack of clear career pathways within existing park leadership structure that also lead to turnover. MPS should consider opportunities for succession planning and ways to allow for effective transitional training.

"Staff turnover leads to shortfalls in experiential knowledge and institutional knowledge"

– MPS Staff at Park Managers Meeting

Pay Discrepancies

The Maintenance Committee reported the following discrepancies in salary between maintenance staff and ranger staff at each level (as of July 1, 2023):

- Trainee Level: Ranger Trainee makes $47,364, Park Tech Trainee makes $39,421 ($7,973 discrepancy)
- Level I: Ranger I makes $50,392, Park Tech I makes $41,890 ($8,502 discrepancy)
- Level II: Ranger II makes $53,627, Park Tech II makes $44,534 ($9,093 discrepancy)
- Lead Level: Ranger Lead makes $57,095, Park Tech Lead makes $47,364 ($9,731 discrepancy)
- Supervisor Level: Park Service Supervisor makes $60,801, Park Tech Supervisor makes $53,627 ($7,174 discrepancy)

There are differences in requirements for education and experience between Ranger and Maintenance roles. At a minimum, a Ranger I is required to have 1) five years of relevant experience; or 2) a Bachelor's degree plus one year of experience; or 3) a Master's degree; or 4) relevant U.S. Armed Forces military service experience. A Park Technician I is required to have a high school degree or equivalent (may be substituted by experience) as well as one of the following: 1) one year of relevant experience, or 2) relevant education, or 3) relevant U.S. Armed Forces military service experience.

MPS staff consistently reported challenges with the discrepancy between comparable positions at nearby county park systems or NPS, contributing to hiring challenges and high levels of staff turnover. Testimony from the Maryland Rangers Association as part of an October 19, 2021 State Park Investment Commission meeting identified comparable positions across MPS, NPS, and county positions.

The below table highlights a few of the comparisons made as part of the 2021 Maryland Rangers Association testimony and updates with equivalent values from 2023. This data indicates that while the gaps have lessened since 2021, salary discrepancies remain a challenge, particularly at the manager level.

Position (as of November 2023)	Annual Salary (2021)	Annual Salary (2023)
MPS State Park Ranger I	$42,294 - $67,106	$50,392 - $80,551
NPS Park Ranger (Interpretation, Grade 9)	$60,129 - $78,167	$64,957 - $84,441
Anne Arundel County Park Ranger I	$46,376 - $73,283	$50,885 - $80,410
MPS State Park Technician II	$34,858 - $54,732	$44,534 - $70,751
NPS Maintenance Worker (Grade 5)	$39,684 - $51,592	$42,870 - $55,736
Montgomery County Park/General Maintenance Worker	$37,438 - $68,461	$39,717 - $70,342
MPS Park Services Manager I	$54,279 - $87,106	$60,801 - $97,940
NPS Superintendent (Grade 14)	$122,530 - $159,286	$132,368 - $172,075
Anne Arundel County Facility Superintendent	$59,384 - $106,028	$65,158 - $122,989

Data Sources: Maryland Rangers Association Testimony to the State Park Investment Commission (October 19, 2021), Maryland DBM, USAJobs.com, GovernmentJobs.com, local government websites.

Diversity of Park Staff

While the study was not able to obtain specific breakdowns of demographic data for MPS staff, conversations with DNR and MPS leadership confirmed that MPS continues to be a primarily male, white organization and hiring practices do not appear to increase diversity of park staff in alignment with the diverse nature of the state's resident population. Potential barriers include uncompetitive compensation, lack of affordable housing in communities adjacent to parks, lack of intake/pathway programs to get potential applicants involved earlier (e.g. in high school or college), confusing application process, and lack of diverse community at MPS/feeling unwelcome or unsafe.

MPS is required by GMOA Section NR, 5-2A-05(b)(7) to provide ongoing updates on the creation and implementation of workforce development programs, including programs in collaboration with the State's Historically Black Colleges and Universities (HBCUs), programs modeled on the NPS diversity strategy, and programs focused on creating a pipeline of new rangers and other full-time staff from volunteers, the State foster youth system, and historically underserved communities.

Volunteer Ranger Program

Generations of volunteers have helped to operate, preserve, and maintain the State Park system. The Volunteer Ranger Program started in 1992, comprised of dedicated volunteers committed to the mission of the MPS and to teaching citizens about natural resources protection and assisting with activities, maintenance, and events at state forests and parks. The MPS Volunteer Ranger Program includes:

- Youth Volunteer Opportunities
- Public Volunteer Events
- Corporate Group/Community Organization/ Partnership Volunteer Opportunities
- Internships
- Individuals and families
- Volunteer Naturalist/Interpreter
- Volunteer Ranger, Volunteer Mounted Patrol, or Volunteer Bike Patrol
- Camp Hosts

MPS is required by GMOA Section NR, 5-2A-02(e) to develop a volunteer management program modeled on the NPS's Volunteers-In-Parks in order to leverage volunteer support.

Key Accomplishments

- MPS staff comprise a dedicated and passionate workforce.
- MPS staff do a lot with a little!
- MPS staff are known to be highly skilled and well trained.
- MPS gets many compliments on its kind and friendly staff.

Areas for Improvement

- Difficult to compete with outside organization wages, including public and private employers.
- Over 60 days for hiring actions, limited hiring decision communication, and limited engagement by parks to review applicants.
- Staff turnover leads to shortfalls in experiential knowledge and institutional knowledge

A Note About Staffing Recommendations

This report considers staffing recommendations in a couple of different ways.

Recommended Allocation of GMOA PINS

Based on the recommendations of the GMOA (91 PINS), this report considers one way these PINS might be allocated across the Park system to provide an objective and defensible method for distribution. Criteria included the level of visitor counts, acres of parkland to maintain and manage, a minimum balance in distribution across the entire Maryland state park system, (ensuring each complex received at least one new position), anticipated expansion and visitor increases in the future, central office support (needs for administrative support of field and park operations), and the level of deferred preservation support and backlog in maintenance. Each of the criteria were reviewed independently although in several instances, if a complex was deficient based on more than one criteria, the number of positions allocated for one criteria, may have been used to satisfy both or all of the deficiencies in the complex. The recommended allocation is based on the understanding that any new hires should follow the below breakdown:

- Visitor count: 56.0%
- Acres to maintain and manage: 5.5%
- Balanced distribution: 13.2%
- Expansion and anticipated visitor increases 6.6%
- Central office support: 5.5%
- Deferred preservation support, and backlog in maintenance 13.2%

This threshold attempts to accommodate those needs identified by GMOA. However, any new investments will require more staff and funding, which is evaluated in the funding chapter.

Returning to Baseline

Based on peer comparisons, one MPS staff for every 35,000 visitors would put MPS within range of peer organizations. Moreover, one MPS staff for every 33,585 visitors and for every 401 acres would return MPS to being in line with the ratios from its 2003 staffing levels, which staff report as a time when the park system had better access to resources and sufficient staffing.*

Based on current PINS as reported in the Governors Budget Books, MPS has 261 total PINS as of FY23. Increasing this value to 440 total PINS (an increase of 179 PINS) would allow MPS to return to this 2003 ratio of one staff per every 33,585 visitors and for every 401 acres.

New investments and growth of the system will still require more staff and funding, which is evaluated in the funding chapter.

	FY03	FY23	Calculations to Match 2003 Ratios
PINS	330	261	440
# of Visitors to 1 PIN	33,585	67,433	525
# of Acres to 1 PIN	401	545	356

*Note: this report recognizes that 2003 represents a time before NRP was broken out from MPS staffing. However, demands on park staff have increased and given the alignment with the target ratios from analysis of peers, this report recommends using this threshold for returning to baseline support.

Producing Outcomes Consistent with its mission

The mission of MPS is to manage the natural, cultural, historical and recreational resources to provide for wise stewardship and enjoyment by people.

Human Resources Recommendations

#	Key Findings / Current State	Recommendation
22a	The GMOA required the creation of 91 new PINS to support MPS staff capacity challenges.	**The GMOA required the creation of 91 new PINS to support MPS staff capacity challenges. The following articulates one manner in wich staff deficiencies could be accommodated, based on considerations of visitor counts, acres of parkland to maintain and manage, a minimum balance in distribution across the entire a minimum balance in distribution across the entire Maryland state park system, (ensuring each complex received at least one new position), anticipated expansion and visitor increases in the future, central office support (needs for administrative support of field and park operations), and the level of deferred preservation support and backlog in maintenance.** • Assateague State Park: 6 • Cunningham Falls and Gambrill State Parks Complex: 3 • Deep Creek Lake NRMA: 1 • Deep Creek Lake State Park, Sang Run State Park, Youghiogheny Wild River NEA Complex: 2 • Elk Neck State Park: 1 • Fair Hill NRMA and Bohemia River State Park: 2 • Fort Frederick State Park / Sideling Hill Creek State Park / Western MD Rail Trail Complex: 1 • Gunpowder Falls, North Point, Hart-Miller Island State Parks Complex: 17 • Harriet Tubman Underground Railroad State Park and Bill Burton Fishing Pier State Park: 1 • Herrington Manor, Swallow Falls, Wolf Den Run, Jennings Randolph Complex: 1 • Janes Island State Park: 1 • New Germany State Park and Dans Mountain State Parks Complex: 1 • Patapsco Valley, Soldiers Delight, Morgan Run Complex: 8 • Pocomoke River State Park: 1 • Point Lookout State Park Complex; Greenwell, Newtowne Neck, St. Clements Island, St. Mary's River State Parks Complex: 1 • Rocks, Susquehanna, and Palmer State Park Complex: 1 • Rocky Gap State Park: 3 • Sandy Point, Franklin Point, Severn Run NEA, Belt Woods NEA, Corcoran Woods ESA, Tawes Garden Complex: 5 • Seneca Creek, Patuxent River, Freedman's State Historical Park, Monocacy NRMA Complex: 17 • South Mountain Recreation Area Complex (Gathland, Greenbrier, South Mountain, Washington Monument State Parks, South Mountain State Battlefield, Weverton-Roxbury Railroad Corridor, The Maryland Portion of the Appalachian Trail): 8 • Southern Maryland Recreational Complex (East Area) - Merkle, Hallowing Point, Calvert Cliffs: 1 • Southern Maryland Recreational Complex (North Area) - Cedarville State Forest, Rosaryville: 1 • Southern Maryland Recreational Complex (South Area) - Smallwood, Chapel Point, Chapman: 3 • Tuckahoe State Park Complex: Tuckahoe, Martinak, Cypress Branch, Love Point and Wye Oak State Parks, Black Walnut Point, Sassafras, Bridgetown Ponds, Hollingsworth, Andover Flatwoods, and Wye Island NRMAs: 1 • Main Office (Headquarters): 5 **Total Position Distribution: 91**

#	Key Findings / Current State	Recommendation
22b	Approximately 1 full-time MPS staff for every 33,585 visitors and for every 401 acres, or 440 full-time staff, would return MPS to being in line with the ratios from its 2003 staffing levels, which is also in line with peer comparisons. One MPS staff for every 30,000 park visitors, or 716 total staff, could be a good aspirational benchmark to support future staff growth and capacity.	**To reach this baseline threshold, this report recommends an increase of 179 PINS from FY23 levels, or 440 total staff (see the Funding Chapter for more information). The following articulates one manner in which staff deficiencies could be accommodated, based on considerations of visitor counts, acres of parkland to maintain and manage, a minimum balance in distribution across the entire a minimum balance in distribution across the entire Maryland state park system, (ensuring each complex received at least one new position), anticipated expansion and visitor increases in the future, central office support (needs for administrative support of field and park operations), and the level of deferred preservation support and backlog in maintenance.** • Assateague State Park: 21 • Cunningham Falls and Gambrill State Parks Complex: 9 • Deep Creek Lake NRMA: 1 • Deep Creek Lake State Park, Sang Run State Park, Youghiogheny Wild River NEA Complex: 4 • Elk Neck State Park: 3 • Fair Hill NRMA and Bohemia River State Park: 3 • Fort Frederick State Park / Sideling Hill Creek State Park / Western MD Rail Trail Complex: 1 • Gunpowder Falls, North Point, Hart-Miller Island State Parks Complex: 45 • Harriet Tubman Underground Railroad State Park and Bill Burton Fishing Piers: 1 • Herrington Manor, Swallow Falls, Wolf Den Run, Jennings Randolph Complex: 2 • Janes Island State Park: 1 • New Germany State Park and Dans Mountain State Parks Complex: 1 • Patapsco Valley, Soldiers Delight, Morgan Run Complex: 16 • Pocomoke River State Park: 1 • Point Lookout State Park Complex; Greenwell, Newtowne Neck, St. Clements Island, St. Mary's River State Parks Complex: 1 • Rocks, Susquehanna, and Palmer State Park Complex: 3 • Rocky Gap State Park: 6 • Sandy Point, Franklin Point, Severn Run NEA, Belt Woods NEA, Corcoran Woods ESA, Tawes Garden Complex: 12 • Seneca Creek, Patuxent River, Freedman's State Historical Park, Monocacy NRMA Complex: 23 • South Mountain Recreation Area Complex (Gathland, Greenbrier, South Mountain, Washington Monument State Parks, South Mountain State Battlefield, Weverton-Roxbury Railroad Corridor, The Maryland Portion of the Appalachian Trail): 13 • Southern Maryland Recreational Complex (East Area) - Merkle and Calvert Cliffs: 1 • Southern Maryland Recreational Complex (North Area) - Cedarville State Forest, Rosaryville: 1 • Southern Maryland Recreational Complex (South Area) - Smallwood, Chapel Point, Chapman: 3 • Tuckahoe State Park Complex: Tuckahoe, Martinak, Cypress Branch, Love Point and Wye Oak State Parks, Black Walnut Point, Sassafras, Bridgetown Ponds, Hollingsworth, Andover Flatwoods, and Wye Island NRMAs: 1 • Main Office (Headquarters): 5 **Total Position Distribution: 179**

#	Key Findings / Current State	Recommendation
23	MPS is already in line with the number of seasonal positions compared to peer agencies.	**Maintain the current distribution of seasonal positions and focus on the allocation of new full-time positions.**
24		**Create a Staff Advisory Committee (SAC) to review each PIN, which would be responsible for reviewing PINs and providing management with recommendations for whether to fill permanent full-time positions.** Review and feedback from SAC would help ensure both equity (DEI) and a balanced approach in the requirement and hiring of PINs. As recommended in other parts of the study (equity), it is important to account for future growth in the system. Rangers in each complex can provide invaluable insight to the new directions, challenges, and retention of new positions.
25	There are excessive delays in the recruitment and hiring process for filling full-time and seasonal positions. These delays have also resulted a significant backlog in unfilled budgeted positions.	**Allocate additional positions to DNR Human Resource and Administrative positions, which currently bottleneck the hiring and recruitment DNR process.** This will help ensure that the new positions are filled efficiently and that service is not hindered by DNR or MPS administrative delays.
26	There is a need for more specialized knowledge (professional expertise) in key areas based on conversations with park rangers, maintenance supervisors,and park managers.	**Prioritize hiring staff with more specialized or professional expertise to support existing staff with more "jack-of-all-trades" skill set.** While many of these staff currently work within DNR, their broad roles across all of the Department's holdings and responsibilities mean that MPS could benefit from MPS specific positions to focus on state park specific needs. This includes but is not limited to; specialized maintenance technicians (plumbing, electrical, mechanical), and scientists (ecosystem management including invasive species management, conservation biologist, archaeologist, climate change adaptation monitoring).
27		**Address personnel needs for Cartographers and Historians:** Boost the personnel specialized in interpretation available at both the central office and park levels; train at least one full-time, year-round staff member in each park and assure that each park at all times has at least one staff member who has received this interpretive training; and support continuing ed in interpretation for staff to pursue individually. Encourage Certified Interpretive Guide certification under the aegis of the National Association for Interpretation.
28	Many staff report that they work many more hours than they are able to receive payment for.	**Adopt temporary policies to support additional overtime for existing staff as DNR works to fill PINs.** A policy could include overtime up to a certain number of hours for all in-field and supportive staff. This policy should include supervisory staff and increase overall the number of overtime hours ranger, maintenance, and human resources staff have access to.
29	In general, training is not standardized, and there are inefficiencies with changes to the curriculum every cycle. Training often only happens once a year which limits who is able to participate.	**Develop a standardized training curriculum for both ranger training and maintenance training that training personnel will utilize consistently, implement a review process for this curriculum every two years to ensure the curriculum is up-to-date with the latest DNR policies**. To enhance operations, DNR should bolster the staffing in its training division to meet growing demands. Additionally, it's imperative to strategize around the expansion of new training programs tailored for Administrative Specialists and Managers as well.

#	Key Findings / Current State	Recommendation
30		**Continue to host on-site ranger trainings (Ranger School) once a year for hands-on field training and testing, but also supplement this with more frequent (at least twice a year), virtual training sessions for less hands-on, written study and testing.** This will allow both rangers and maintenance technicians to receive adequate training and expedite their certification process, ensuring staff are better equipped to meet the challenges of their positions earlier in their field service.
31	There are current discrepancies in salary between maintenance staff and ranger staff at each level (as of July 1, 2023)	**Provide grade and compensation equality between maintenance staff and ranger staff.** There is currently a significant salary discrepancy between maintenance staff and ranger staff with comparable job titles (i.e. Trainee, Tech I, Lead, Supervisor, etc), while the positions and responsibilities require similar skill levels. Providing more equal compensation would help with current retention issues and overall maintenance staff quality of life.
32	All rangers attend Ranger School, but not all maintenance staff have access to formalized maintenance training.	**Formalize the maintenance training program, similar to the existing park ranger training program.** This training program should be offered on an annual basis and will be in-person and should be offered during a focused period, over the course of a few weeks. This will improve the efficiency and consistency of maintenance staff expertise across the entire system. Upon completion of the maintenance training program, staff should be issued a certification, stating that basic needs have been met to mitigate, identify, and eliminate maintenance issues within parks without using outside agencies or contractors.

Precedent: California State Park System Inclusive Hiring Strategies

1. Diversity Outreach: California State Parks actively engages in outreach efforts to attract candidates from diverse backgrounds. They partner with community organizations, colleges, and universities to broaden their recruitment pool.

2. Inclusive Job Postings: Job postings are crafted to be inclusive and free of biased language. They emphasize the agency's commitment to diversity and encourage individuals from underrepresented groups to apply via more user friendly job applications.

3. Diverse Hiring Panels: Interview panels are intentionally diverse, consisting of individuals from various backgrounds, genders, and ethnicities. This diversity helps mitigate unconscious bias and ensures a more equitable evaluation of candidates.

4. Training and Education: Those involved in the hiring process, including hiring managers and interviewers, receive training on diversity, equity, and inclusion to increase awareness of biases and promote fair hiring decisions.

5. Equity in Compensation: California State Parks regularly reviews compensation practices to ensure that wages and benefits are fair and competitive for all employees, regardless of their background or position.

6. Leadership Development Programs: The park system offers leadership development programs that provide employees from diverse backgrounds with opportunities for advancement and career growth within the organization.

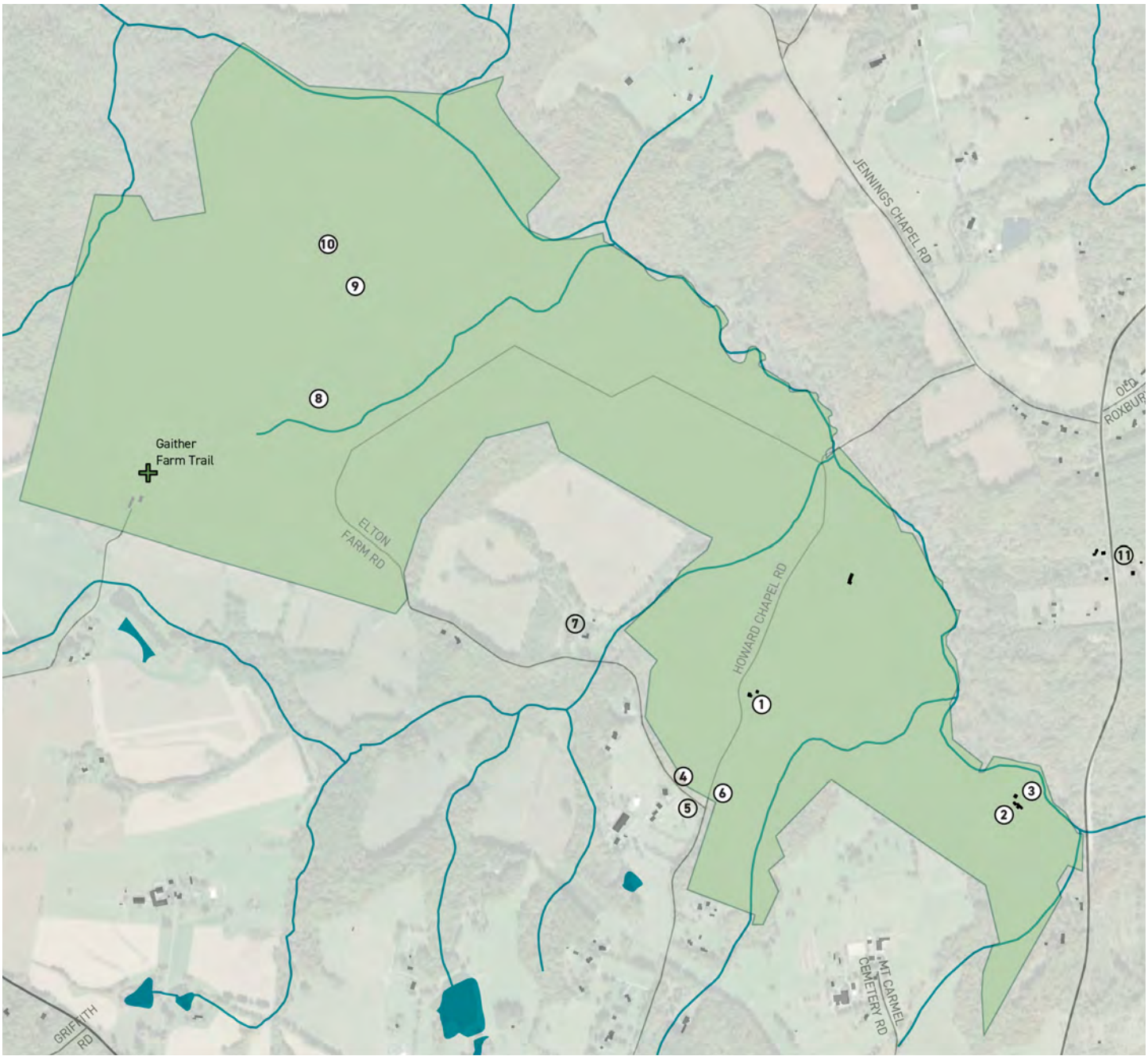
7. Employee Resource Groups (ERGs): ERGs focused on diversity and inclusion topics are active within the park system. These groups provide a platform for employees to connect, share experiences, and contribute to positive changes within the organization.

8. Diversity Metrics and Reporting: California State Parks tracks diversity metrics in its workforce and regularly reports this data to stakeholders. This transparency helps set goals and measure progress toward diversity and inclusion objectives.

#	Key Findings / Current State	Recommendation
33	MPS staff highlighted a need for more senior level career pathways for maintenance staff.	**Create more maintenance supervisor and senior level career pathways for maintenance staff.** Create new senior staff positions (Regional Maintenance Coordinator, Maintenance Assistant Manager) dedicated to giving maintenance staff a "seat at the table", so maintenance concerns can be considered equally with other concerns within the Department and to ensure that the maintenance classification structure is commensurate with the ranger classification structure.
34	Lack of retention is a primary concern, especially for employees of color. Staff report that there is a lack of appropriate compensation to compete with other options in the field, sometimes not even adequate for staff to be able to live in their park's surrounding area.	**Increase compensation to be competitive with other job prospects within the field.**
35		**Obtain short-term affordable housing.** To expand housing access for short-term housing for seasonal staff, DNR should put out a call to local residences interested in subletting or renting space to seasonal staff, similar to announcement made by NPS for its seasonal staff housing needs in 2023. This has been raised as a particular challenge for lifeguards in resort towns.
36		**Expand or build new partnerships with local organizations dedicated to the upward mobility of communities of color.** To build and reinforce existing partnerships, DNR should partner with local high schools and colleges to formalize pathways and apprenticeship programs for careers in Maryland's Parks system. To improve the retention of employees of color, employees of color need to feel they are a part of the MPS/DNR team, they need to feel included and valued; they also need to see that there are opportunities for upward mobility within MPS/DNR.
37		**Create more spaces for staff of similar ethnic backgrounds or affinities to interact and help each other feel welcomed and heard,** similar to NPS's employee resource groups which provides staff with the opportunity to join voluntary affinity groups that celebrate employees' identities and values.
38	MPS continues to be a primarily male, white organization. Hiring practices do not appear to increase diversity of park staff	**Fill vacant in-park staff positions at parks within communities of color first. DNR should aim to have park staff be reflective of those communities they are serving.** It is also important to put resources in place to support these new hires and help them feel safe, welcomed, and supported by their cohorts. To that end, DNR should consider implementing the following: • Establish strong relationships with diverse organizations across the state and region to help attract diverse applicants for vacant positions.. • Set up employee resource groups to provide spaces that are safe and collaborative for staff of similar ethnic backgrounds. • Create an office of Diversity, Inclusion, Equity and Access (DEIA) for management of these employee resource groups, running equity training for all staff, and hire an ombudsman to act as a safe, voluntary and confidential connection between staff and upper management. • Look to NPS for existing models of these programs. For instance NPS's Office of Relevancy, Diversity, and Inclusion (RDI) was established to foster and diversify organizational culture. The Office partners with NPS stakeholders to embed equity and inclusion best practices into the organization's culture through initiatives such as the Employee Resource Groups and Allies for Inclusion DNR can look towards peers such as the California State Parks system, which in an effort to promote diversity and inclusion in its workforce, has implemented strategies to ensure that their hiring practices are inclusive and representative of the state's diverse population. See opposite page for more detailed description of the California State Park System's inclusive hiring strategies.

#	Key Findings / Current State	Recommendation
39	Staff report that there is a need for incentives for training and certification to encourage retention and high quality training.	**Conduct a complete review of the training and certification incentive compensation program to ensure it is equitable, appropriately compensates staff, and is implemented appropriately and in a timely manner for the training and certifications achieved by staff to improve their work performance.** See below for examples of certifications that should be compensated for: • Completion of a foreign language course (aligned with the top 10 spoken languages per the American Community Survey in Maryland) • First Aid, CPR, EMR and EMT certifications • S212 sawyer, Feller 2 or 3, advanced chainsaw classes • Certified tradesmen/women - Electricians, Plumbers, Mechanics, HVAC technicians • Pesticide Applicators and Landscape Professionals • NAI Certified Interpretive Guides and Leave No Trace Trainers • Wildlife Firearms Instructors and Historic Weapons Safety Officers • Boat operators, lifeguards, small watercraft instructors • MRPA Maintenance Operations University graduates • Commercial vehicle A and B operators, dump truck and boom lift operators • Arborist certifications • Certified Play Safety Inspector (CPSI) certification • Certified Park and Recreation Professional (CPRP) Certification • GIS Mapping training • Other certifications to be reviewed on a case-by-case basis **Provide additional salary, or increased seniority to staff with degrees and expertise in areas where competencies are not required, but contribute to the organization's mission.** Those competencies include, but are not limited to: • Higher education attainment (Associate, Bachelors, Masters degrees) • Proficiency in a language other than English • Certain licenses including CDL, etc
40	Generations of volunteers have helped to operate, preserve, and maintain the State Park system.	**Strengthen the State Park System volunteer program, with particular focus on creating a strong volunteer system at each state park.** Examples of centralized systems that provide excellent oversight and balance include the Florida State Parks Americorps Program, which operates in partnership with Americorps, encompasses a wide range of opportunities that cater to various skill sets and is conducive to flexible schedules. Additionally, California has one of the largest and most organized volunteer programs in the country, offering a wide range of opportunities from park maintenance, interpretation, trail maintenance, and special events support. Other examples are Texas, Minnesota, and Oregon.

PILOT PARKS
Freedman's State Historical Park: Existing Conditions



Legend

Freedmans SHP Boundary*

TRAILS

MDOT RTP Trail Projects

STRUCTURES

DNR Building Footprints

Other Building Footprints

ROADS

Maryland Local and Other Roads

Maryland Routes

WATER

Waterbodies

POINTS OF INTEREST

1. John Howard House
2. Former Desilva House - Environmental Studies Center
3. Patuxent River State Park Lodge & Office
4. Howard Chapel & Cemetery
5. Howard Chapel Archeological Site
6. Schoolhouse Archeological Site
7. Historic Elton Farm (Rural Legacy Area)
8. Greenbury Howard House
9. Howard Family Cemetery
10. Gaither-Howard House "Locust Villa"
11. Former Ricker Property

0 430 860 1,720 2,580 Feet

*Freedmans State Historical Park Boundary sourced from DNR's Project Review and Planning Department

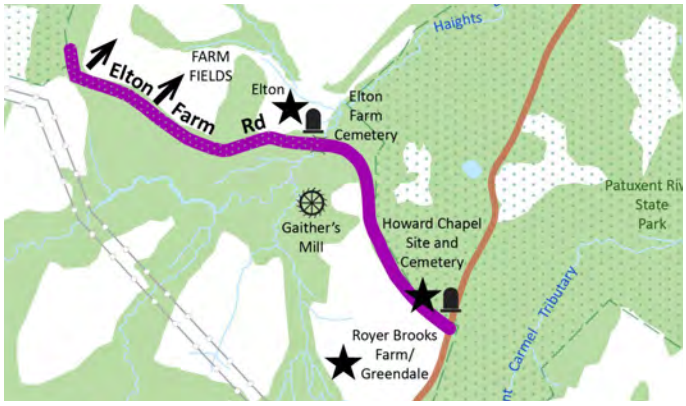
Why This Park?

- Unique ground-up planning process
- Historical narrative and resources
- New park presents an opportunity to model long-term upkeep plan & budget

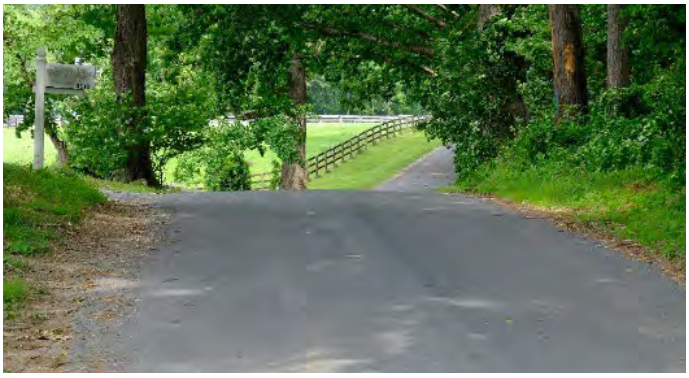
Facts & Recommendations

Pilot Park Name	Freedman's State Historical Park
County	Montgomery
Area (Acres)	1,014
Region	Central
Visitors (2022)	No Data
Closures (2022)	No Data
Existing Parking Spaces	No Data
Recommended Additional Parking	NA
Total Expenditures (2022)	No Data
Total Revenue (2022)	No Data
5-Year Critical Maintenance Improvement Program	No Data
Current Full-Time Staff*	8
Recommended Additional Full-Time Staff*	17-23

*Staffing numbers reflect totals for the entire park complex



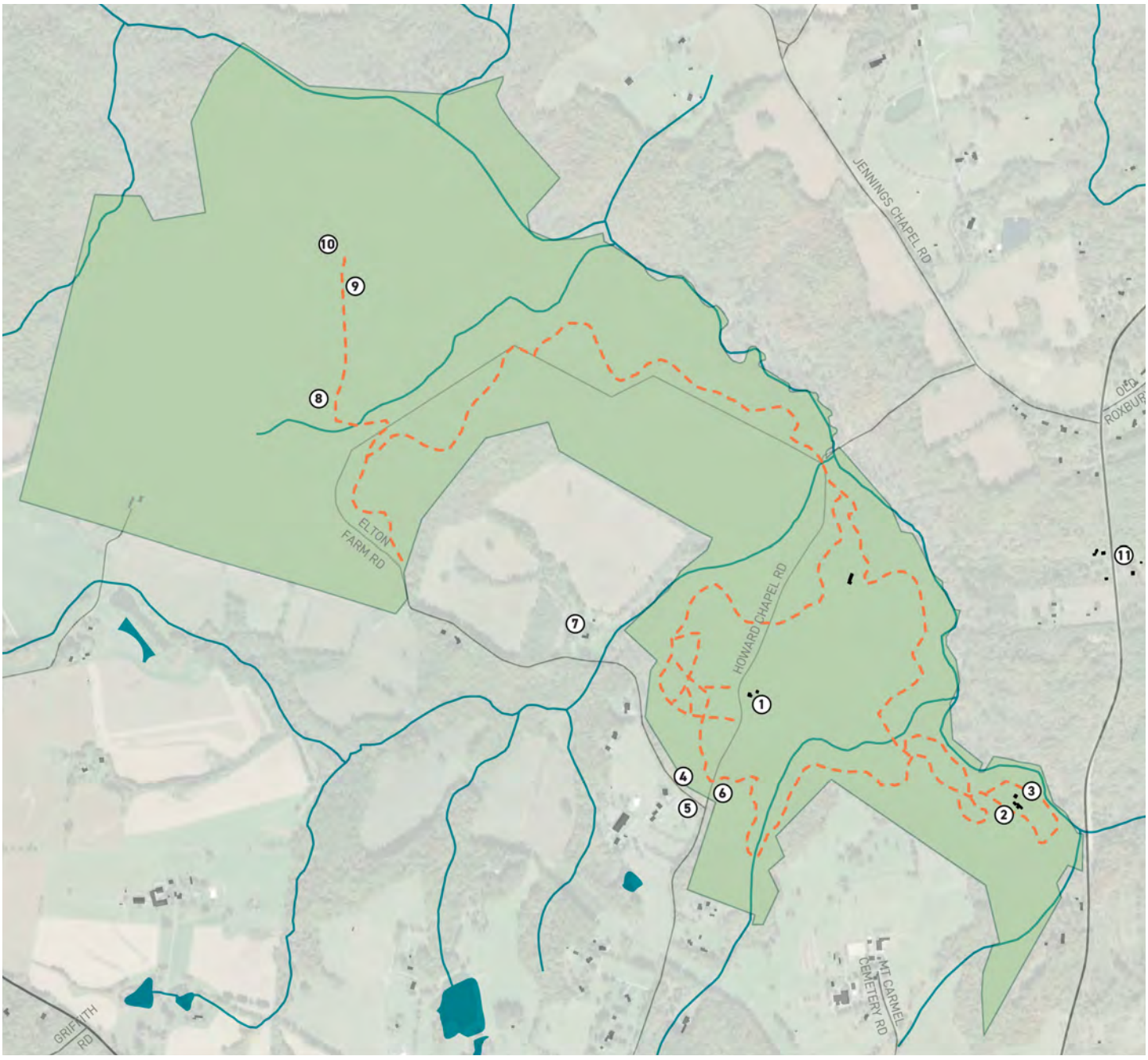
Site access map from the Rustic Roads Functional Plan, MNCPPC.


View looking northwest on Elton Farm Road, MNCPPC.

CASE STUDY: Cedar Hill Mansion, D.C.

There are over 95,000 entries on the National Register of Historic Places, which is the list of landmarks protected for preservation by the federal government. Of those sites, less than two thousand sites, or two percent, are dedicated to the experiences of Black Americans. State and Federal preservation are important to the long-term preservation and investment of important sites of Black history - as exemplified by the Frederick Douglass House in Washington, D.C. In 1917, the National Association of Colored Women initiated the first example of African-American historic preservation by raising funds to clear the mortgage on Cedar Hill, Frederick Douglass's former Gothic Revival residence in Washington, D.C. Cedar Hill is presently under the management of the National Park Service, and was renovated in 2023 with funding from the National Park Foundation to make critical infrastructural upgrades including accessible entries and air conditioning. A non-profit partner or foundation can be a valuable resource for sustained capital investment in Freedman's State Historic Park.

Freedman's State Historical Park: Future Conditions



Legend

Freedmans SHP Boundary*

STRUCTURES

DNR Building Footprints

Other Building Footprints

ROADS

Maryland Local and Other Roads

Maryland Routes

WATER

Waterbodies

PROPOSED

ADA Accessible Trail

POINTS OF INTEREST

1. John Howard House
2. Former Desilva House - Environmental Studies Center
3. Patuxent River State Park Lodge & Office
4. Howard Chapel & Cemetery
5. Howard Chapel Archeological Site
6. Schoolhouse Archeological Site
7. Historic Elton Farm (Rural Legacy Area)
8. Greenbury Howard House
9. Howard Family Cemetery
10. Gaither-Howard House "Locust Villa"
11. Former Ricker Property

0 430 860 1,720 2,580 Feet

*Freedmans State Historical Park Boundary sourced from DNR's Project Review and Planning Department

Recommendations

Mission Alignment

- Incorporate opportunities for a wide variety of visitors - from researchers and historians to local residents, youth, and families.
- Use national and state standards for future site interpretation. Interpretation should include appropriate and expanded programming for school groups and youth-oriented programs.

Visitor Experience

- Make necessary improvements to site access, including working with Montgomery Planning to properly drain Elton Farm Road in locations where significant roadway flooding and deterioration occurs. The road is currently identified as a Montgomery County "rustic road" - a designation program that protects other roads running through or connecting to the park and limits improvements.
- Share the full history of the Enoch George Howard family, Baltimore Afro American's origin story, and the history of Maryland African Americans before and after the abolition of slavery (to topics such as sundown towns, the civil rights movement, urban renewal, and the impacts of historic decisions on today's communities of color. Current school-aged visitors prefer authenticity at historic sites and are willing to engage more with tough stories.
- Incorporate interpretive and program elements into the park that support the local school curriculum and include lessons about geography, history, civics and government, behavioral sciences, and economics.
- Engage with local artists to create temporary or permanent places for reflection.

Funding

- Create memorandum of understanding (MOU) with all partners to set expectations regarding programming, management, and funding roles and responsibilities. Consider revisiting the MOU every five years.
- Allocate four of the eight staff recommended by this report towards the Seneca State Park Complex to the maintenance, management, programming, and preservation of the park.
- Consider a localized non-profit organization that is specific to the park to lead fundraising, or craft a non-profit foundation for all of the Maryland Park Service, but prioritize an allocation of funding to amplifying undertold histories, like this one.

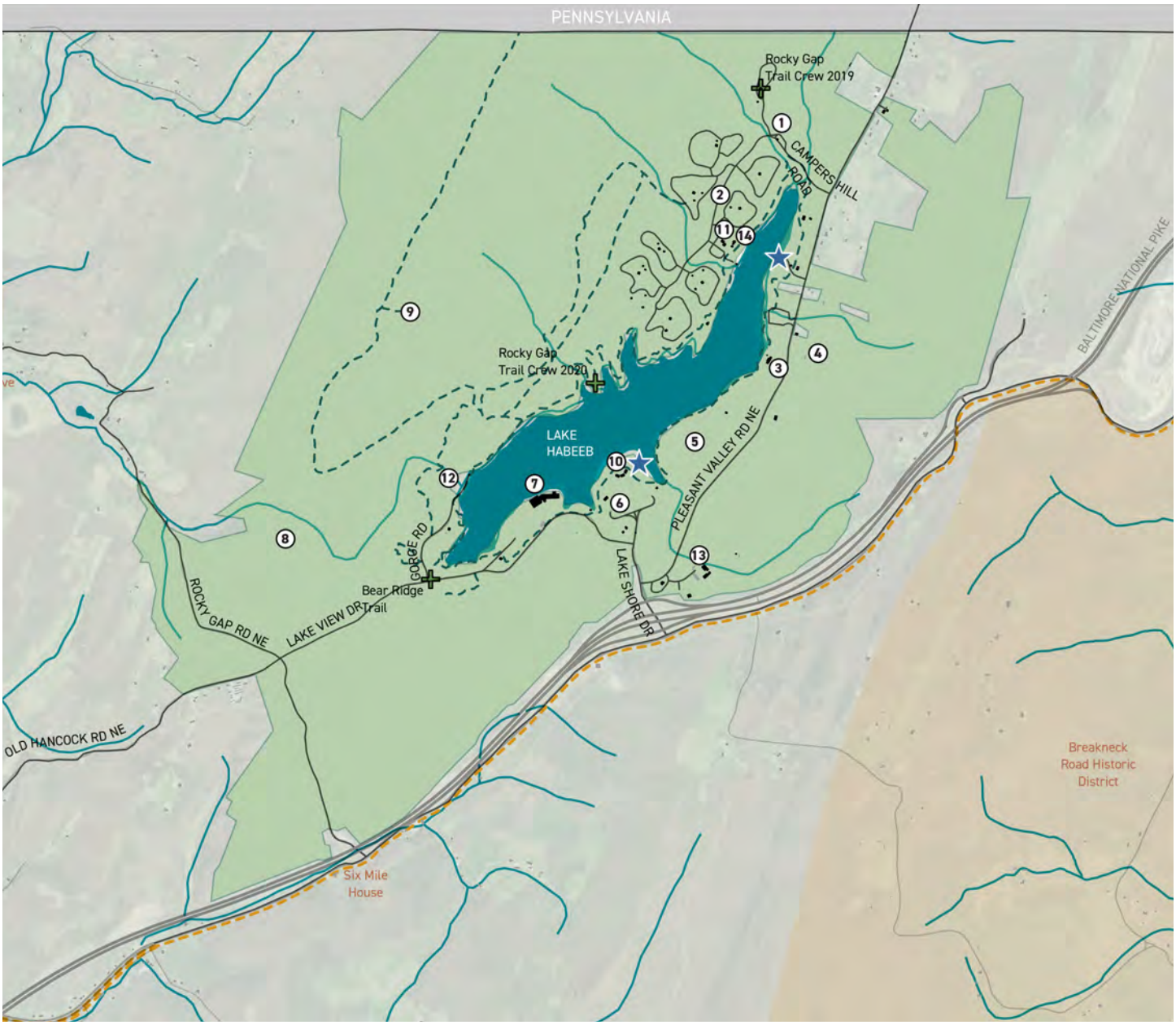
Climate Change, Public Health and Equity

- Prioritize the Black experience in investments. Former sites of enslavement can be difficult for many BIPOC (Black, Indigenous, and People of Color) visitors. Improvements to Freedman State Historical Park must incorporate this understanding and ensure the park is welcoming and inclusive.
- Create a parallel online experience. The sites should be clearly branded with DNR and MPS branding and incorporate accessibility features.

Comparable DNR Parks

- Harriet Tubman Underground Railroad State Park (historical narrative and resources, partnership opportunities)
- Fort Frederick State Park (historical narrative and resources)

PILOT PARKS
Rocky Gap State Park: Existing Conditions



Legend

Rocky Gap SP Boundary
Maryland State Boundary
Other States

TRAILS
DNR Land Trails
MDOT RTP Trail Projects
MDOT SHA Bike Spine

STRUCTURES
DNR Building Footprints
Other Building Footprints

ROADS
DNR Roads
Maryland Local and Other Roads
Maryland Routes
Interstates

WATER
Water Access Site - Small Scale
Waterbodies

HISTORY
MHT Preservation Easements
National Register of Historic Places

POINTS OF INTEREST
1. Campground Registration
2. Rocky Gap State Park Campground
3. Amphitheater
4. Easter Hill Chalet (currently offline)
5. Golf Course
6. Hawk's Nest
7. Rocky Gap Casino Resort
8. Monkey's Head Rock
9. Evitt's Homesite
10. Park Office
11. Camp Store
12. Dam
13. Maintenance Complex
14. Nature Center

0 500 1,000 2,000 3,000 Feet

N

Why This Park?

- Far West location
- Range of diverse activities, including water access
- Presence of food and activities concessionaires & revenue generation
- Gateway / opportunities to explore tourism generation at a Western state park

Facts & Recommendations

Pilot Park Name	Rocky Gap State Park
County	Allegany
Area (Acres)	3,119
Region	Western
Visitors (2022)	639,585
Closures (2022)	5
Existing Parking Spaces	1,238
Recommended Additional Parking	0
Total Expenditures (2022)	$1,537,563.06
Total Revenue (2022)	$1,290,414.81
5-Year Critical Maintenance Improvement Program	$6,545,000.00
Current Full-Time Staff*	9
Recommended Additional Full-Time Staff*	3-6

*Staffing numbers reflect totals for the entire park complex

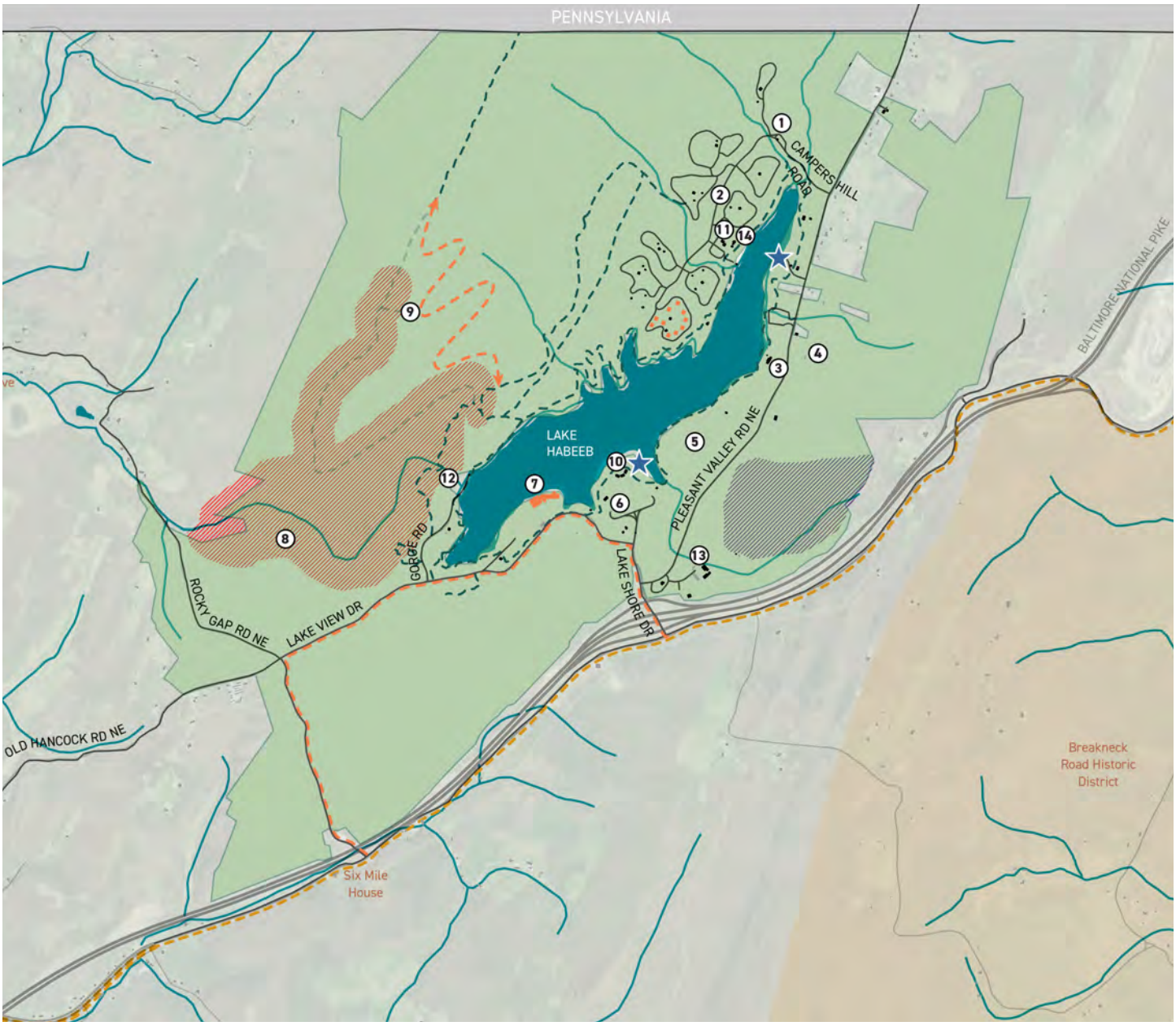
Rocky Gap Casino Resort and Lake Habeeb

Flooding after a major storm event in 2018 (Friends of Rocky Gap State Park)

CASE STUDY: Gulf State Park, AL

Alabama's Gulf State Park originally included a hotel and series of cabins. Critical deferred maintenance and natural disasters challenged the State Park's hoteling operations and financial solvency. In 2015, with funding through oil spill recovery funds, the State of Alabama rebuilt the new lodge, campsites with prefab comfort stations, and reinvestments in natural shoreline infrastructure. The 6,150-acre coastal park will bolster its resilience and sustainability. A decade post-spill, its implementation has made Alabama a global model for sustainable tourism, balancing economic and environmental goals. After facing challenges like Hurricane Ivan in 2004 and the 2010 B.P. Oil Spill, the region realized the link between environmental health and economic vitality. The park, boasting seven ecosystems, 15 miles of new trails and boardwalks, a 350-room hotel and series of luxury cabins, is vital for the area's tourism-driven economy. With almost $7 million in critical deferred maintenance funds for Rocky Gap State Park, MPS should diversify the housing amenities in the park to meet a range of incomes and audiences and consider renovations to facilities to expand economic development opportunities for the area.

Rocky Gap State Park: Future Conditions



Legend

Rocky Gap SP Boundary
Maryland State Boundary
Other States

TRAILS

DNR Land Trails
MDOT SHA Bike Spine

STRUCTURES

DNR Building Footprints
Other Building Footprints

ROADS

DNR Roads
Maryland Local and Other Roads
Maryland Routes
Interstates

WATER

Water Access Site - Small Scale
Waterbodies

HISTORY

MHT Preservation Easements
National Register of Historic Places

MD LIVING RESOURCES

BioNetTier
Tier 1
Tier 2

PROPOSED

ADA Accessible Trails

POINTS OF INTEREST

1. Campground Registration
2. Rocky Gap State Park Campground
3. Amphitheater
4. Easter Hill Chalet (currently offline)
5. Golf Course
6. Hawk's Nest
7. Rocky Gap Casino Resort
8. Monkey's Head Rock
9. Evitt's Homesite
10. Park Office
11. Camp Store
12. Dam
13. Maintenance Complex
14. Nature Center

0 500 1,000 2,000 3,000 Feet

N

Recommendations

Mission Alignment

- Provide infrastructure and signage for boat cleaning close to all boat ramps to help curb hydrilla levels, and to reduce opportunities for zebra mussel introduction.
- Increase awareness of hunting programs and consider hunting events to help reduce the impact of white tailed deer on plant diversity, especially in Tier 1 areas of the park (Winter Tank Hill).
- Expand partnership with DNR's Resource Assessment Service and hire a Chesapeake Conservation Corps intern to support invasive species research and control methods.
- Close trails through Tier 1 habitats and reroute the trails to create new experiences and encourage repeat visits.
- Improve and maintain pollinator habitat and increase efforts to educate visitors on the importance of pollinators.
- Take action to preserve, protect and inventory all historic documents, photos and artifacts.
- Revisit the SMP for Rocky Gap State Park and align action plan objectives with the recommendations of the GMOA study.

Visitor Experience

- Increase the number of electrical hookups at camp sites to meet technology needs of today's visitors.
- Increase the number of human powered craft ramps and install kayak/canoe/paddleboard storage units to maximize their lifespan.
- Implement consistent signage and wayfinding in accordance with the State Park Trail standards.
- Incorporate guided hikes into peak seasons and advertise hikes in campsites and at the Casino. The purpose of these hikes will be to engage novice hikers in the benefits of hiking and teach them about the state's natural resources, threats to their protection, and opportunities for visitors to help steward these resources in the future.

Funding

- Earmark annual funds for hydrilla management, especially during more mild winters.
- Allocate 5 PINS to the Rocky Gap State Park Complex to support the increase in the number of visitors and to rebalance the number of staff within the complex to the number of acres each staff effectively manages.
- Consider hiring part-time staff to work beyond the peak seasons as shoulder seasons become increasingly popular and put a strain on full time staff.

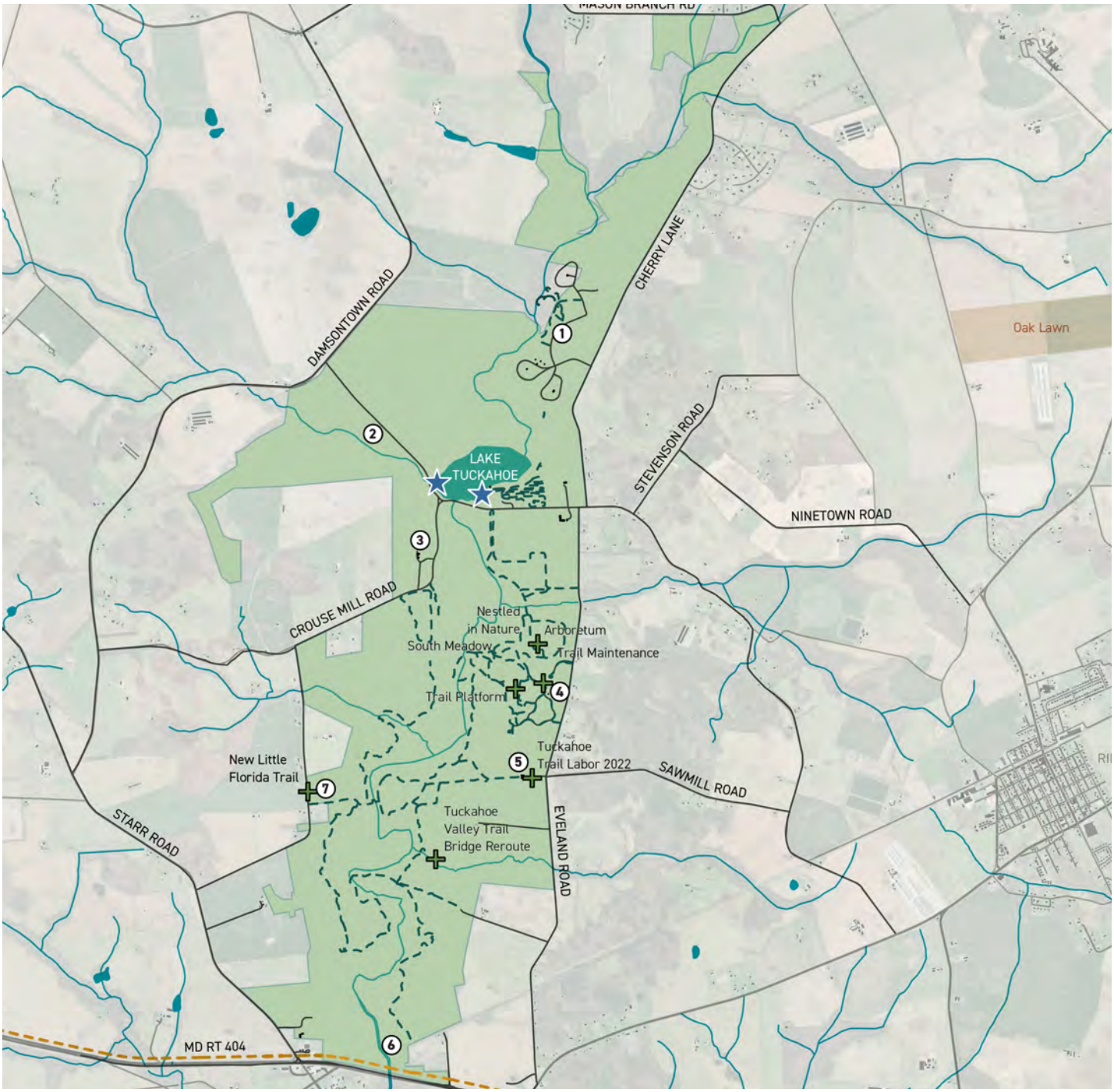
Climate Change, Public Health and Equity

- As climate change leads to less annual snowfall and frozen lake periods, adapt winter programming in the short term to limit impacts to winter recreation activation.
- Make significant investments to campground and day-use infrastructure including regular deep cleaning of bathhouses, comfort stations, cabin furniture, and trash cleanup, and more robust electrical and plumbing infrastructure to reduce impacts to visitor hygiene and public health.

Comparable DNR Parks

- Big Run State Park (water access, far west location)
- Cedarville State Forest (range of activities & similar water access)

PILOT PARKS
Tuckahoe State Park: Existing Conditions



Legend

Tuckahoe SP Boundary

TRAILS
- DNR Land Trails
- MDOT RTP Trail Projects
- MDOT SHA Bike Spine

STRUCTURES
- DNR Building Footprints
- Other Building Footprints

ROADS
- DNR Roads
- Maryland Local and Other Roads
- Maryland Routes

WATER
- Water Access Site - Small Scal
- Waterbodies

HISTORY
- National Register of Historic Plac

POINTS OF INTEREST
1. Tuckahoe State Park Campground & Disc Golf Course
2. Tuckahoe Archery Range
3. Clifton and Esther Crouse Farm
4. Adkins Arboretum
5. Former Eveland Farm - Current Office & Ranger Station
6. Tuckahoe Railroad Bridge
7. Tuckahoe State Park - Hunter Parking

0 1,000 2,000 4,000 6,000 Feet

N

Why This Park?

- Flagship park for a major complex
- Unable to close to visitors
- Challenges of informal parking & park access

Facts & Recommendations

Pilot Park Name	Tuckahoe State Park
County	Queen Anne's and Caroline
Area (Acres)	3,994
Region	Eastern
Visitors (2022)	192,284
Closures (2022)	No Data
Existing Parking Spaces	190
Recommended Additional Parking	0
Total Expenditures (2022)	$1,398,464.44
Total Revenue (2022)	$440,229.77
5-Year Critical Maintenance Improvement Program	$2,230,000.00
Current Full-Time Staff*	16
Recommended Additional Full-Time Staff*	1

*Staffing numbers reflect totals for the entire park complex

Recent in-park restoration project.

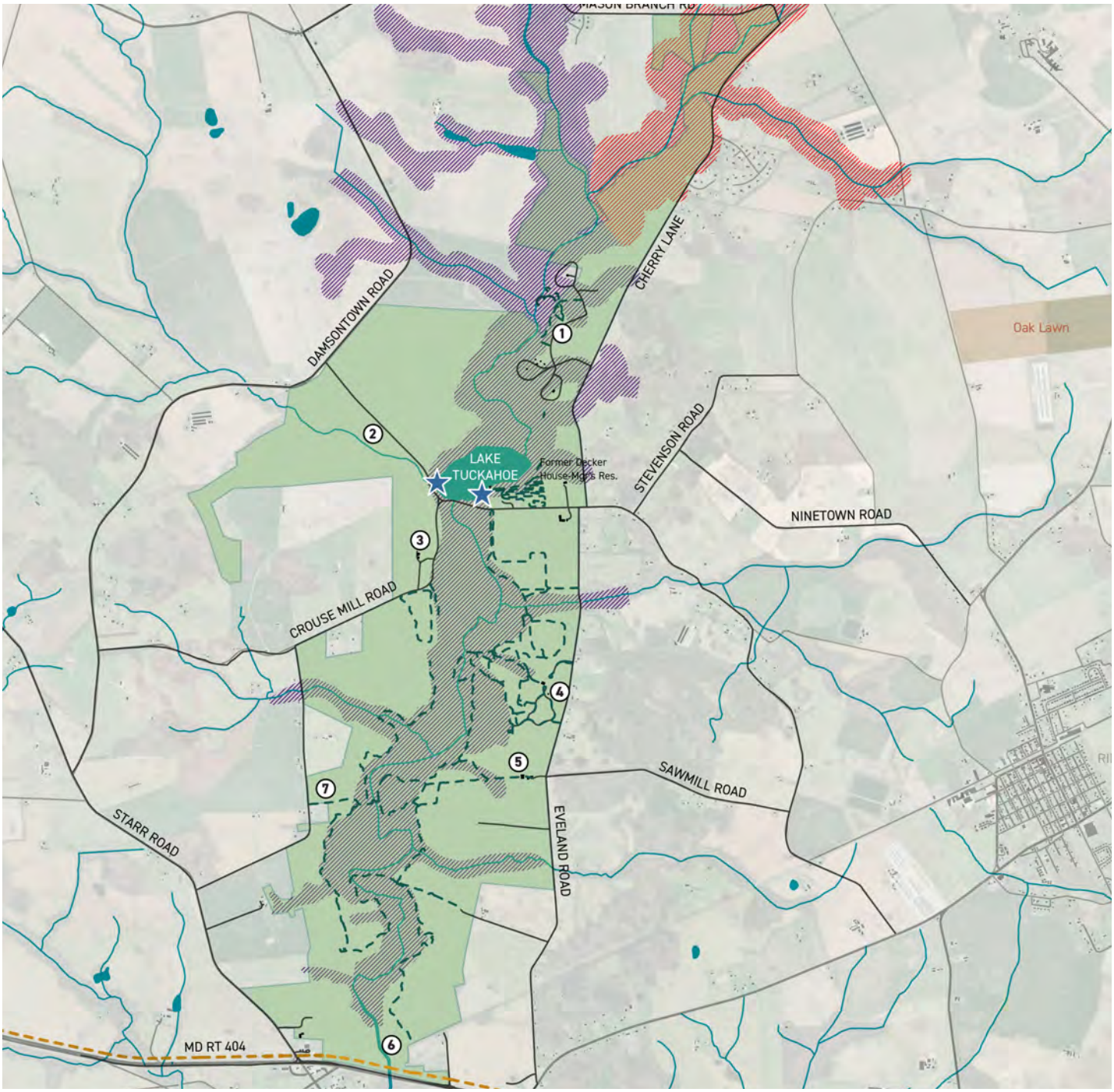
Adkins Arboretum.

CASE STUDY:
Shirley Chisolm State Park, NY

New York's Penn and Fountain landfills, active from the 1950s-1980s, were transformed into an ecological marvel with diverse ecosystems after covering the trash with soil. However, they remained inaccessible to the public. In 2017, with a budget of $35 million and limited abilities to make significant infrastructure improvements, the project focused on low cost investments in native and adaptive plantings, recycled materials, shoreline improvements, accessible pathways, an artist-created mural, and temporary mobile classrooms.

The size and varied nature of Tuckahoe State Park mean that investments in the park often need to cover more ground. Reuse of local materials from other DNR properties or from the surrounding area to incorporate outdoor art pieces throughout the park on a temporary basis could expand awareness and engagement by residents locally and regionally, and connect people to the legacy and culture of Eastern Shore communities.

Tuckahoe State Park: Future Conditions



Legend

Tuckahoe SP Boundary

TRAILS
- DNR Land Trails
- MDOT SHA Bike Spine

STRUCTURES
- DNR Building Footprints
- Other Building Footprints

ROADS
- DNR Roads
- Maryland Local and Other Roads
- Maryland Routes

WATER
- Water Access Site - Small Scale
- Waterbodies

HISTORY
- National Register of Historic Places

MD LIVING RESOURCES

BioNetTier
- Tier 1
- Tier 2

POINTS OF INTEREST
1. Tuckahoe State Park Campground & Disc Golf Course
2. Tuckahoe Archery Range
3. Clifton and Esther Crouse Farm
4. Adkins Arboretum
5. Former Eveland Farm - Current Office & Ranger Station
6. Tuckahoe Railroad Bridge
7. Tuckahoe State Park - Hunter Parking

0 1,000 2,000 4,000 6,000 Feet

N

Recommendations

Mission Alignment

- Provide infrastructure and signage for boat cleaning close to all boat ramps to reduce opportunities for zebra mussel introduction.
- Communicate protected species along trails where Tier 2 habitats exist and reroute the trails as needed to create new experiences and encourage repeat visits (e.g. during periods of migration by certain bird populations, or nesting periods).
- Improve and maintain pollinator habitat and increase efforts to educate visitors on the importance of pollinators.

Visitor Experience

- Create programs to support novice anglers and youth interested in fishing at Lake Tuckahoe, especially among demographics within which recreational fishing is gaining popularity (Black/ African American, Latinx).
- Add vehicle and person counters at parking lots and trailheads throughout the park complex to more effectively understand visitor numbers throughout the year.

Funding

- Increase the number of PINS by two in support of reducing the ratio of park staff to acres managed.
- Prioritize the creation of a new trails map with surveyed trails in GIS to ensure visitors and park staff can safely find their way through the park complex. Partner with publicly accessible trails map providers to ensure all online maps are up to date.
- Install solar-powered parking fee kiosks at all parking lots to increase funding and better understand the number of visitors, patterns of park visits, and as a way to understand where visitors are coming from (through credit card and debit card information).
- Work with DNR leadership to confirm how parking kiosks should be enforced. The Sandy Point State Park model of random Natural Resource Police visits and ticketing appears to work well (NRP are stationed at Sandy Point).
- Consider changes to the existing partnership with Adkins Arboretum to support strengthened communication between the two organizations, and clearer separation of maintenance, programming, and management roles.

Climate Change, Public Health and Equity

- Partner to create a public exhibit to inform the public on climate change impacts on the ecosystem.
- Provide targeted funding to improve shade and temperature cooling structures for visitors, such as park-provided shade tents, tree planting in public spaces, and retrofit the visitors center for the general public to use as a cooling center within the park area.

Comparable DNR Parks

- Greenwell State Park (water access, historic uses, and proximity to other more frequented State Parks)
- Severn Run State Park (numerous entry locations along a more linear park, similar visitors per acre)

VISITOR EXPERIENCE

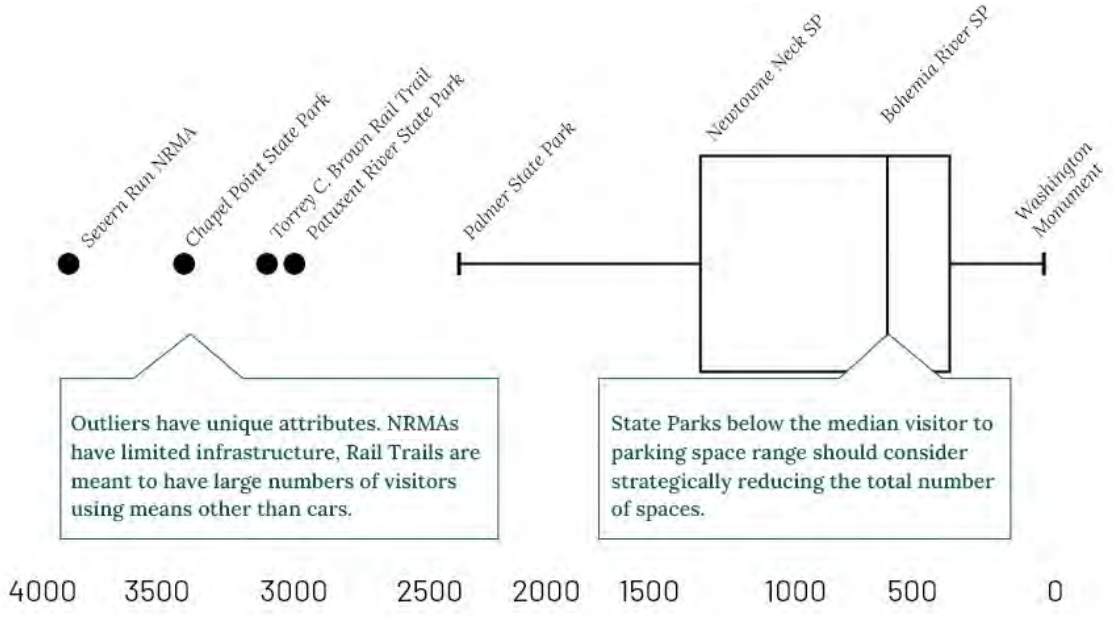
The visitor experience for state parks regarding Parking Availability & Visitor Management, Cleanliness, and Facility/Amenity Closures.

Parking & Carrying Capacity

Parking capacity defines most park closures. This means that MPS uses the number of available parking spaces to determine when a park has reached capacity and is closed to additional visitors. Ideally, parking levels are designed to accommodate the greatest number of people with minimal environmental impacts and unsafe crowding conditions. Park staff report that when parking is full, however, the park has often already exceeded peak visitor capacity. The impacts of this approach to closures are that infrastructure like restrooms are taxed and ecological areas and hydrological systems are compromised. According to parking inventory data provided by DNR, the number of parking spaces in each park ranges between five public parking spaces (i.e. Sideling Hill Creek State Park) to over 1,970 public parking spaces (i.e. Gunpowder Falls State Park). The inventory data has a number of flaws. For example, Sandy Point State Park was listed as only having 85 public parking spaces. For the purposes of the study, the numbers for the top twenty most visited parks were confirmed with park staff and in-person site visits. As an example, Sandy Point has approximately 750 permanent spaces in South and East Beach, an additional 150 spaces in a temporary grass lot, and 180 boat ramp spaces that were temporarily converted to 360 spaces for general parking during the summers of 2020 and 2021.

On busy days, park staff report that they are often pulled away from other priorities to staff parking areas. In many cases, entrance back-ups create unsafe conditions on adjacent roadways, sometimes causing state parks to let cars through gates without paying. There is not a centralized location for real-time information on parking availability and wait times for each park, which results in visitors being turned away all together after a park has reached capacity.

When turned away at the entrance, some visitors will park nearby and enter the park by foot. Additionally, if and when visitors increasingly leverage public transit to access the parks, vehicle parking lot capacity will not serve as a primary indicator for park visitor capacity.



This chart shows the overall distribution of the ratio of number of visitors to each park per parking space available.

State Parks, NRMAs, Rail Trails	Total Visitors (2022)	Current Regular Parking Spaces	Parking to visitor ratio (2022)	Net New Parking Need* (for ratio of 1500 visitors to spaces)	Total Spaces (1500 ratio)	Net New Parking Need (for ratio of 1350 visitors to spaces)	Total Spaces (1350 ratio)
Assateague	1,839,363	1,221	1,506	5	1,226	141	1,362
Big Run	9,403	43	219	-37	6	-36	7
Bill Burton	50,801	88	577	-54	34	-50	38
Bohemia River	10,871	18	604	-11	7	-10	8
Calvert Cliffs	118,828	86	1,382	-7	79	2	88
Casselman	4,794	9	533	-6	3	-5	4
Cedarville	58,954	170	347	-131	39	-126	44
Chapel Point	65,933	20	3,297	24	44	29	49
Chapman	26,889	60	448	-42	18	-40	20
Cunningham Falls	681,221	782	871	-328	454	-277	505
Dans Mountain	15,045	185	81	-175	10	-174	11
Deep Creek Lake	579,286	637	909	-251	386	-208	429
Elk Neck	516,458	960	538	-616	344	-577	383
Fair Hill	474,745	249	1,907	67	316	103	352
Franklin Point	8,030	15	535	-10	5	-9	6
Ft. Frederick	61,718	245	252	-204	41	-199	46
Gambrill	321,209	190	1,691	24	214	48	238
Gathland	98,200	68	1,444	-3	65	5	73
Greenbrier	718,379	885	812	-406	479	-353	532
Greenwell	53,178	32	1,662	3	35	7	39
Gunpowder Falls	1,624,299	1,971	824	-888	1,083	-768	1,203
Hallowing Point	45,527	60	759	-30	30	-26	34
Harriet Tubman UGRR	41,895	210	200	-182	28	-179	31
Herrington Manor	140,052	151	927	-58	93	-47	104
Janes Island	103,355	325	318	-256	69	-248	77
Martinak	126,812	92	1,378	-7	85	2	94
Merkle Sanctuary	15,611	25	624	-15	10	-13	12
Monocacy	20,895	43	486	-29	14	-28	15
Morgan Run	128,756	136	947	-50	86	-41	95
New Germany	43,179	195	221	-166	29	-163	32
Newtowne Neck	77,891	57	1,367	-5	52	1	58
North Point	171,069	212	807	-98	114	-85	127
Palmer	22,645	10	2,265	5	15	7	17
Patapsco Valley	1,478,158	1,480	999	-495	985	-385	1,095
Patuxent	12,668	25	507	-17	8	-16	9
Patuxent River	312,145	108	2,890	100	208	123	231
Pocomoke	173,843	602	289	-486	116	-473	129

State Parks, NRMAs, Trails	Total Visitors (2022)	Current Parking Spaces	Parking to visitor ratio (2022)	Net New Parking Need* (for ratio of 1500 visitors to spaces)	Total Spaces (1500 ratio)	Net New Parking Need (for ratio of 1350 visitors to spaces)	Total Spaces (1350 ratio)
Point Lookout	237,251	586	405	-428	158	-410	176
Rocks	219,704	348	631	-202	146	-185	163
Rocky Gap	639,585	1,131	566	-705	426	-657	474
Rosaryville	36,512	273	134	-249	24	-246	27
Sandy Point	1,093,818	600	1,823	129	729	210	810
Sang Run	30,278	65	466	-45	20	-43	22
Sassafras	13,327	12	1,111	-3	9	-2	10
Seneca Creek	1,013,877	949	1,068	-273	676	-198	751
Severn Run	94,233	25	3,769	38	63	45	70
Sideling Hill Creek	64	14	5	-14	0	-14	0
Smallwood	44,837	266	169	-236	30	-233	33
Soldiers Delight	65,831	101	652	-57	44	-52	49
South Mountain	198,526	122	1,627	10	132	25	147
St. Clement's	4,832	25	193	-22	3	-21	4
St. Mary's	34,114	77	443	-54	23	-52	25
Susquehanna	300,758	709	424	-508	201	-486	223
Swallow Falls	366,586	281	1,305	-37	244	-9	272
TCB Rail Trail	873,688	292	2,992	290	582	355	647
Tuckahoe	192,284	157	1,225	-29	128	-15	142
Washington Monument	31,300	82	382	-61	21	-59	23
Wolf Den Run	3,694	108	34	-106	2	-105	3
Woodmont	9,787	16	612	-9	7	-9	7
Wye Island	68,038	40	1,701	5	45	10	50
Wye Oak	2,380	6	397	-4	2	-4	2
Youghiogheny	84,441	230	367	-174	56	-167	63
Zekiah Swamp	844	4	211	-3	1	-3	1
Sideling Hill Creek	64	14	5	(14)	0	(14)	0

* Net New Parking Needs are calculated based on current park visitor counts, but should vary in implementation due to the environmental features and carrying capacity of a given park.

Parking Ratios

There is no rule or best practice for what makes a "good" parking ratio, because each land use has unique visitor needs and uses. Typically parks and open spaces allocate parking based on the level of activity or regional draw of that park. As an example - many county park systems in Maryland allocate on average 10 to 20 parking spaces per playing field within a park. This same benchmark does not yet exist for state parks. Only three state parks have public transportation access within a half mile of the park, which makes parking an essential element of most state parks. However, parking can also have adverse environmental, aesthetic, and financial impacts on the parks and MPS. These adverse impacts can be largely mitigated through increased attention to management and design and by looking internally to existing parking allocations, individual park capacity histories, environmental impacts,

Case Study: Miami Beach Cleanliness Index

In 2005, Miami Beach launched a Cleanliness Index to establish an objective measurement process and program to assess cleanliness, based on national and international best practice review. The Index ranks on a scale from 1 (Extremely Clean) to 6 (Extremely Dirty) and evaluates for four factors: Litter/Trash, Organic Material, Fecal Matter, and Garbage Cans. Assessments using standardized definitions are conducted each quarter, with photographs taken of unacceptable conditions (scoring 3 or higher). Public areas assessed include streets, sidewalks, alleys, parks, parking lots, beaches, and waterways. Between FY2005 and FY2013, the City reports that overall City cleanliness scores improved by 29%. Community Satisfaction Surveys have reflected similar feedback; in 2005, 62% of residents rated the cleanliness of streets in neighborhoods as excellent or good compared to 74% in 2012, which is a 19% increase.

Case Study: New York City Park Inspection Program

The Parks Inspection Program (PIP) is New York City's Parks Department's comprehensive, outcome-based performance measurement system that generates frequent, random, and specific inspections of parks and facilities in the city. The Parks Department's Operations Division deploys inspectors using tablet computers and digital cameras and create park ratings through three features: cleanliness, landscape, and structures. All reviews are used to allocate resources for daily maintenance. The reviews are summarized on an online database for public viewing and tracking.

and staffing levels. The above ratios (1500 and 1350 visitors to a parking space) are based on current parking availability according to existing parking inventory and current visitor counts from MPS' records. A ratio of 1350 reflects the median value across the system, while 1500 explores what it would look like to increase parking ratios.

Park Closures & Visitor Management

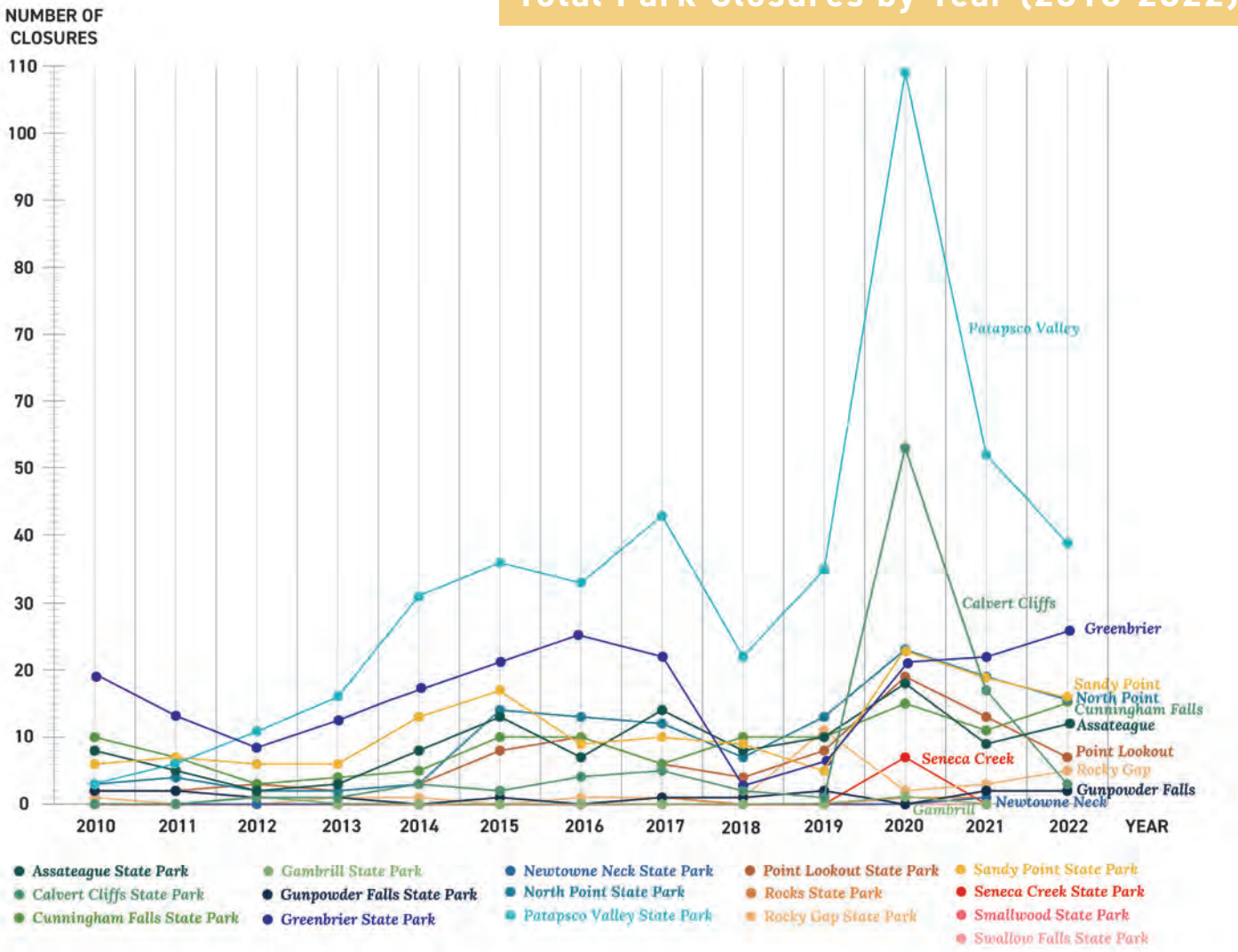
According to customer satisfaction surveys from 2021-2022, state parks are an important way for Marylanders to escape from the stress and demands of daily life. In 2020, 21.5 million people visited state parks, a 45% increase from the 14.9 million in 2019. There is no unified system for counting visitors across all parks in the system, which makes it difficult to get an accurate estimate of how many people are visiting state parks and the timing of those visits.

Facility Conditions

Within the critical maintenance backlog that was allocated funding by the GMOA, about thirty percent of the deferred maintenance projects were buildings that support public access, including bathrooms, outdoor pavilions, and ranger stations, as well as support spaces for maintenance and ranger staff. Without additional surveying and focus groups, it is difficult to assess particular patterns or aspects of cleanliness that are leading to lower satisfaction. This level of facility need is also expressed through MPS survey findings on customer satisfaction for facility conditions in both 2020 and 2021, which communicate a need for improvement.

- Satisfaction rankings for cleanliness and overall conditions of furnishings, beds, kitchen, bedroom, and decor was 78% in 2020 and 76% in 2021.
- The lowest rated facilities at picnic facilities were grills, with only 52% satisfaction in 2020 and 59% in 2021.
- Restroom Cleanliness was also rated quite low, with only 68% customer satisfaction in 2020 and 72% in 2021.

Total Park Closures by Year (2010-2022)



Length of Stay

Certain park activities, including family gatherings, grilling, and swimming, are especially popular for longer-duration stays.

Placer.ai is an advanced foot traffic analytics platform that leverages mobile location data to better understand current and potential users, usage patterns, and local and national competitors. The data provides detailed insight into how people move in and out of physical spaces such as parks, recreation centers, stores, shopping malls, and other public spaces.

Placer.ai visitor data (from June 2022-June 2023) for 11 Maryland parks indicates that some parks see long-duration visits.* In particular, Assateague State Park (averaging 496 minute visits) and Rocky Gap State Park (436 minute visits), see stays averaging more than 8 hours each, putting increased demand on facilities and infrastructure.

** Note: The 11 parks referenced are 11 of the 12 Pilot Parks from this report. As a future park, data was not available for the 12th Pilot Park - Freedman's State Historical Park.*

Case Study: Day Use Reservation Pilot at Kilgore Falls

Reservations are required to visit the Rocks State Park - Kilgore Falls Falling Branch Area on weekends and holidays from May 6th through Labor Day. YourPassNow data from May-September 2021 indicates a 99.2% overall customer satisfaction rate.

Approximately 43% of passes were booked after hours and approximately 64% were reserved by Maryland residents. This data indicates a 47% no-show rate. While data on show rates only reflects scanned QR codes and doesn't count onsite license plate lookups, some users report frustration with being turned away while many parking spaces are empty and suggested asking users to confirm their plans on the day of the reservation via text.

Park Closures

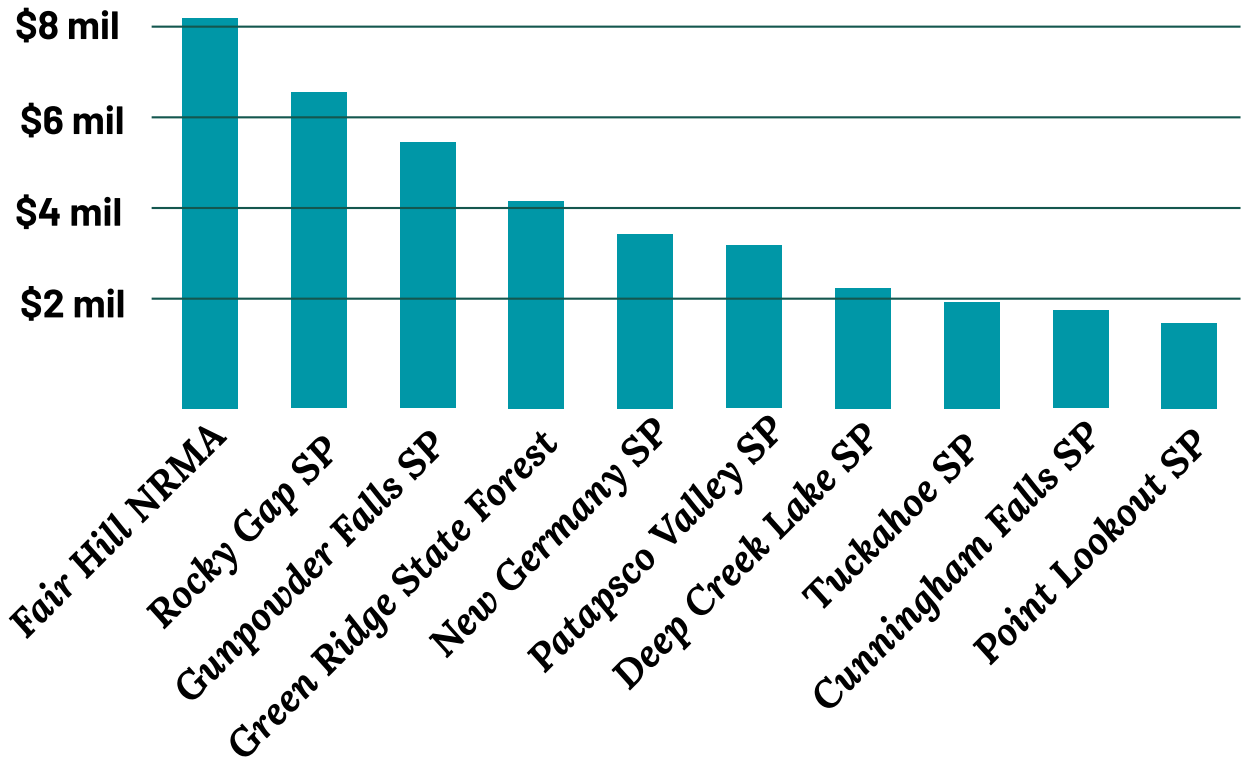
In 2020, there were 292 closures due to capacity limits in 12 parks across the state. Since 2020, that number has reduced by a dozen closures a year. In 2022, closure numbers were down to 130 — close to 2017 levels of 122 — as a result of people being able to gather indoors and have more options for recreation, as well as through the Department's efforts to effectively manage and reduce closures. While most parks have not returned to pre-pandemic closure rates, 2023 has already had 145 closures so far, and popular parks such as Sandy Point, Patapsco, North Point, Greenbrier, Assateague, and Cunningham Falls are all seeing closure rates that are particularly higher than pre-pandemic.

Facilities & Infrastructure

The MPS system has a significant Deferred Maintenance Backlog — with estimates of between $150 - $300 million — on top of the critical maintenance needs as referenced in the GMOA, resulting in aging infrastructure (maintenance, rehabilitation, and capital). While this amount is low in the range of deferred maintenance needs for peer state park systems, $252 million to $1 billion, MPS is smaller than all but two of the peer systems and this infrastructure (maintenance, rehabilitation, and capital) need is far greater than originally anticipated. Funding for park improvements is concentrated outside of state identified environmental justice communities, in older, less diverse communities that are typically higher income than the state average. MPS should develop a data driven equitable investment strategy to ensure the parks, and the communities with the greatest need, are prioritized for investment.

Ten Highest Funded DNR Projects (FY24)

593 critical maintenance projects worth $75 million are funded for FY24



Key Accomplishments

- The Day Use Reservation Pilot at Kilgore Falls has been successful.
- DNR is investing in providing more interpretive and educational programming.
- Visitors seem to be enjoying the park and are invested and involved in the community.
- The park provides a wide range of amenities and visitor experiences.

Areas for Improvement

- Communication of real-time information about parking and wait times
- Standardized counting of visitors
- Streamlined entrance fee collection
- Providing information in Spanish: signs, websites, social media, personnel
- Method of determining park carrying capacity
- Distribution of visitors to less crowded parks
- Upgrading infrastructure
- Look to peers for strategies to mitigate capacity challenges

The visitor experience for states parks regarding Parking Availability & Visitor Management, Cleanliness, and Facility/Amenity Closures.

Visitor Experience Recommendations

#	Key Findings / Current State	Recommendation
Parking availability & visitor management		
41	Parking capacity defines most closures, but when parking is full the park has often already exceeded peak visitor capacity, impacting infrastructure and ecological areas. Desired carrying capacity for each area of parks is not well-defined or is outdated compared to recent visitor numbers.	**In the short-term, use the most recent year's data for annual visitor numbers to understand the average number of visitors per parking space.** For all state parks with ratios that exceed between 1,350 annual visitors to 1,500 visitors, add additional parking spaces to accommodate visitors, while also considering the staffing, and carrying capacity of comfort station infrastructure and ecological sensitivity of the park itself. In the long-term, DNR should take a more localized approach to redefine DNR's desired carrying capacity for each unique area (day use, overnight amenities, wildlands, preserved areas) within publicly accessible parks in order to determine the appropriate management strategies to employ there. This could be implemented as a part of the SMP Framework. Leverage resources in the NPS's Visitor Use Management Framework for guidance on this process. See relevant NPS Visitor Use Management Framework Guidance below.

NPS Visitor Use Management Framework Guidance

- Determine visitor/carrying capacity through the following steps:
  - Determine the analysis area
  - Consider where (geographically) the visitor capacity will be implemented
  - Consider displacement and other factors within the analysis area
  - Consider the effect of allocation of visitor capacity on the analysis area
  - Review existing direction and knowledge
  - Review applicable law and policy
  - Review prior applicable planning and guidance
  - Review existing conditions in the analysis area
  - Review existing indicators, triggers, thresholds, and objectives
  - Review applicable existing management strategies and actions
  - Analyze use patterns for commercial and other allocation categories, if relevant
  - Identify the limiting attributes(e.g. sense of crowding by visitors, historic building structural integrity, imperiled species' habitat boundaries)
- Identify capacity:
  - Determine allocations of visitor use as subsets of visitor capacity, if necessary
  - Administrative allocation
  - Commercial allocation
  - Group events allocation
  - Individual noncommercial allocation
  - Documenting the visitor capacity and any allocation of visitor capacity decision process

42		**Implement management strategies for adjusting visitor counts to meet desired carrying capacity.** This could include: 1. Informational campaigns through park websites encouraging visitors to visit less frequented parks during peak times and providing mapping of less busy alternatives with similar amenities. 2. Real-time online information about parking availability and wait times. 3. Timed reservation systems that would require visitors to sign up for a specific time window ahead of their visit. 5. Lottery system using a random selection process to choose who is able to visit a park during peak times.
43	Incomplete data for parking and visitor access makes it difficult to ascertain how many people actually visit state parks, and capacity challenges create unsafe conditions on adjacent roadways, causing state parks to let cars through gates without paying. Park rangers report they are often pulled away from other priorities to staff parking.	**Standardize approaches to visitor counts across all park complexes.** Using a mix of trailhead monitors and vehicle counters across the system, MPS can gain a better understanding of visitor use, timing of visits, and areas where capacity challenges can be addressed more readily with real time data. DNR should look to Patapsco Valley Avalon's trailhead monitors as a replicate model to scale up. Like Patapsco, DNR could look to place monitors in the highest traffic areas in its initial implementation, before fully monitoring access to all aspects of park recreational activities.

Examples of Systems That Have Implemented Technology to Assess and Manage Capacity

New York State Parks (NYSP): New York State Parks introduced an online reservation system to manage park capacity during the COVID-19 pandemic. Visitors were required to make reservations in advance for day-use visits to certain parks. The system allowed park staff to monitor and control the number of visitors to ensure social distancing and safety.

Texas State Parks: Texas State Parks implemented a similar reservation system during the pandemic to manage capacity and facilitate social distancing. They also used technology to provide real-time updates on park closures and capacity status through their website and social media channels. (https://tpwd.texas.gov/state-parks/parks-map)

California State Parks: California State Parks introduced a system called "ReserveCalifornia" that allows visitors to make camping and day-use reservations online. This system not only helps manage capacity but also improves the overall visitor experience by reducing wait times and providing information on availability.

Colorado Parks and Wildlife: Colorado's park system has employed technology to provide live updates on park capacity through its website and mobile app. Visitors can check real-time data on how crowded parks are before heading out. (https://cpw.state.co.us/placestogo/parks/boydlake/Pages/Conditions.aspx)

Oregon State Parks: Oregon State Parks launched a pilot program called "Go Play" to provide real-time information about parking and trailhead availability in some parks. The program uses sensors and data analytics to help visitors plan their trips more effectively.

NPS: NPS has adopted technology to assess capacity in national parks. For example, during the COVID-19 pandemic, some national parks used reservation systems for entry, and the NPS launched a "Recreate Responsibly" campaign that included the use of apps and websites to provide visitors with information on park conditions and capacity. (https://www.nps.gov/planyourvisit/recreate-responsibly.htm)

44		**Limit park ranger time monitoring parking and traffic.** Automated gates that enable access through computerized fees will enhance cost recovery in parks with vehicle access. Where gates are not accessible, MPS should consider solar powered parking kiosks that produce in-dash tickets and rely on an honor system that can be enforced in random NRP lot sweeps. Standardizing gate and entry system across all state parks would be helpful in making the entry process more visitor friendly and allowing for consistent data collection across parks. DNR should look to peers such as South Dakota Parks, which leveraged CARES Act funding to purchase 96 self-serve kiosks that visitors can use to purchase daily passes and annual entrance stickers. The kiosks relies predominantly on solar power, with support from backup batteries.
Cleanliness & park conditions		
45	Nationally, family gatherings are one of the most popular park activities; 74% of recreationists over the age of 16 visited parks for family gatherings. Studies suggest that participation rates are significantly higher among Latinx recreationists, who are more likely to treat outdoor recreation as a day-long family bonding activity and are, therefore, more likely to prefer fully-developed picnicking areas for passive recreation, such as barbecuing, picnicking, and day camping.	**Assess whether existing passive camping and recreational facilities in parks can cater to day-long family visitation and gatherings.** Priority should be given to high-visitor pilot parks identified in this report, specifically Assateague and Rocky Gap, where park visits average over 8 hours each: 496 minutes for Assateague and 436 minutes for Rocky Gap. An immediate assessment and action plan should be developed for these parks to expand existing recreational infrastructure and ensure facilities can manage long-term visitation.
46	MPS survey findings on customer satisfaction for facility conditions in both 2020 and 2021, suggest room for improvement. On average, customers in 2020 were 76% satisfied with the overall cleanliness of DNR's cabins, lodges, and cottages and 59% in 2021. With limited data, it is difficult to assess what aspect of cleanliness and these amenities are leading to lower satisfaction.	**Expand MPS customer satisfaction survey to include a short answer component following any inquiry into the customer's satisfaction with existing conditions of park facilities.** This would ask customers to share what aspects of the park facility failed to meet their expectations and how DNR might better invest in these facilities to improve its current conditions.
47	Conditions and cleanliness are not tracked in a consistent manner across the system.	**Establish a cleanliness standard and develop a matrix of standards to rate and score the cleanliness of public spaces in parks such as beaches, sidewalks, facilities, and parking lots.** These standards should be clearly defined to allow for consistent evaluation across the system. Data should be reported and tracked regularly to allow for observation of trends over time and identification of additional needs. Proactive monitoring can be a form of preventative maintenance. DNR might consider completing these standards as part of the facility condition index. Case Study: City of Miami Beach Public Area Cleanliness Index Case Study: New York

Whether facilities, amenities, or areas are closed		
48	There was a spike in closures across the park system in 2020 due to the COVID-19 pandemic. Patapsco Valley State Park and Calvert Cliffs saw particularly significant spikes in 2020. These closures interrupt high visitor demand; given that Patapsco had the highest visitation numbers of the 12 pilot parks analyzed (with 1.1M visitors in from June 2022-June 2023).	**Provide real-time online information about parking availability and wait times.** Strategies could include: 1. Aspira day use reservation system (https://aspiraconnect.com/state-park-reservation-system) 2. Diverting guests to other parks / promoting lesser used parks 3. Automated fee machines See Communication Models below.
49	For regulating recreational activity, the State currently uses the same recreational license for surf fishing (in the Atlantic) and fishing in the Bay and its tributaries.	**Explore an alternative approach for recreational licenses for surf fishing, with caps on the number sold.** While there are limited opportunities to engage in surf fishing in Maryland state parks — since Assateague State Park is the only ocean-front park and it does not allow people to drive vehicles onto the beach for surf fishing — there may be opportunities for revenue generation through specialized license for surf fishing.
50	The YourPassNow day use reservation pilot at Kilgore Falls had a 99.2% overall customer satisfaction rate. User quotes indicate frustration with being turned away when many spaces are empty and suggest asking users to confirm their plans on the day of the reservation via text.	**Expand the day use reservation pilot at Kilgore Falls to other Maryland parks.** Consider a mechanism for confirming use of reserved spaces day-of to prevent no shows while also incorporating strategies that allow for a percent of walk ups. Look to peer communities for models of system improvements, including their approaches to providing equitable access. See Reservation Models below.

Communication Models

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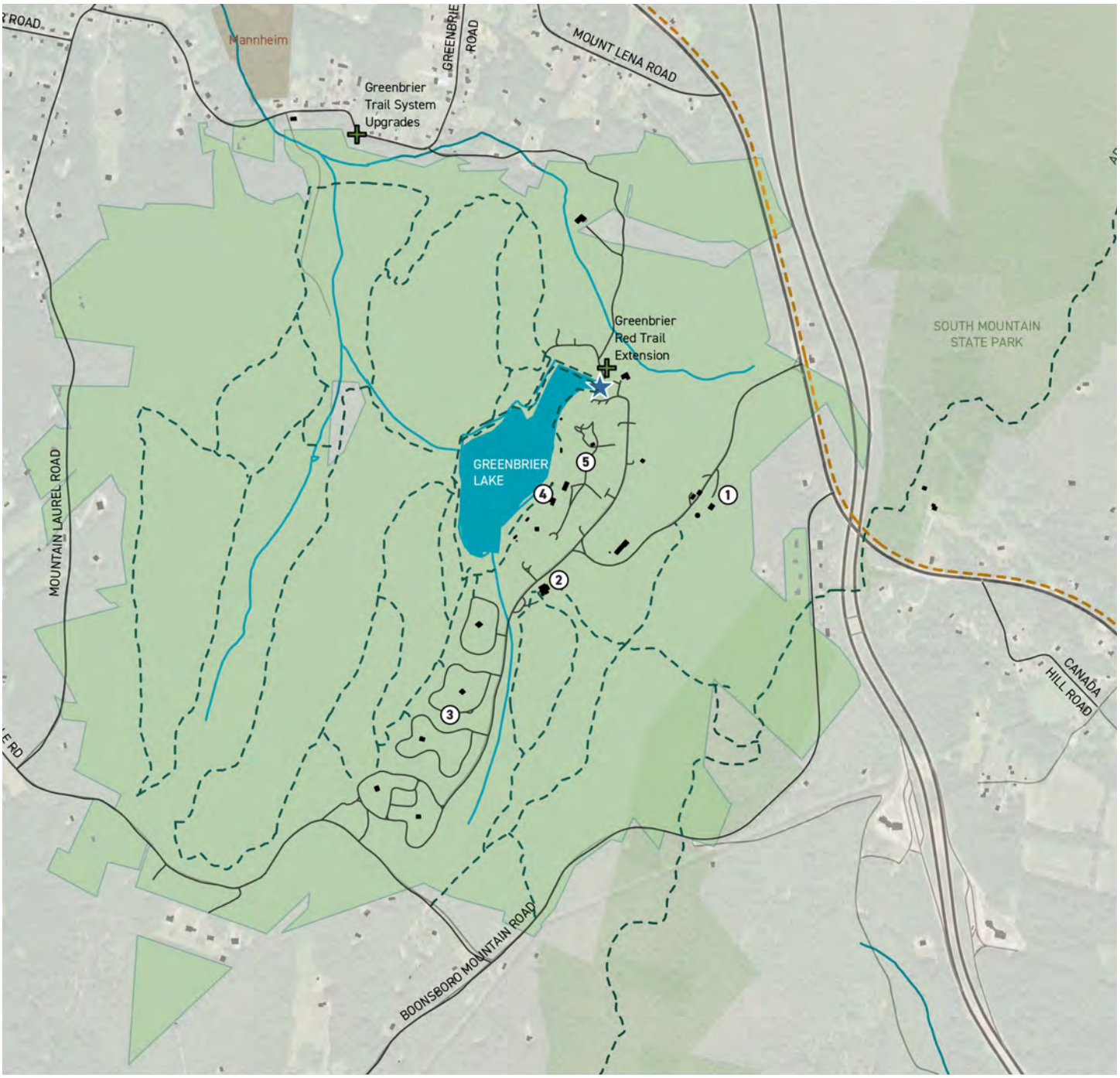
PILOT PARKS
Greenbrier State Park: Existing Conditions



Legend

Greenbrier SP Boundary

TRAILS
- DNR Land Trails
- MDOT RTP Trail Projects
- MDOT SHA Bike Spine

STRUCTURES
- DNR Building Footprints
- Other Building Footprints

ROADS
- DNR Roads
- Maryland Local and Other Roads
- Maryland Routes
- Interstates
- US Routes

WATER
- Water Access Site - Small Scale
- Waterbodies

HISTORY
- MHT Preservation Easements
- National Register of Historic Places

OTHER PROTECTED LANDS
- Other MPS Boundaries

POINTS OF INTEREST
1. Camp Registration Office
2. Greenbrier State Park Visitor Center
3. Greenbrier Campground Area
4. Beach, Concessions, Camp Store
5. Playground

0 430 860 1,720 2,580 Feet

N

Why This Park?

- High visitation and known capacity challenges
- Inland water access
- Road capacity challenges/vehicular conflicts
- Draws attention and staff away from other parks in the complex

Facts & Recommendations

Pilot Park Name	Greenbrier State Park
County	Washington
Area (Acres)	1,408
Region	Western
Visitors (2022)	718,379
Closures (2022)	24
Existing Parking Spaces	885
Recommended Additional Parking	0
Total Expenditures (2022)	$1,622,478.17
Total Revenue (2022)	$944,349.46
5-Year Critical Maintenance Improvement Program	$1,693,000.00
Current Full-Time Staff*	10
Recommended Additional Full-Time Staff*	8-13

*Staffing numbers reflect totals for the entire park complex

The beach at Greenbrier State Park is the most popular attraction.

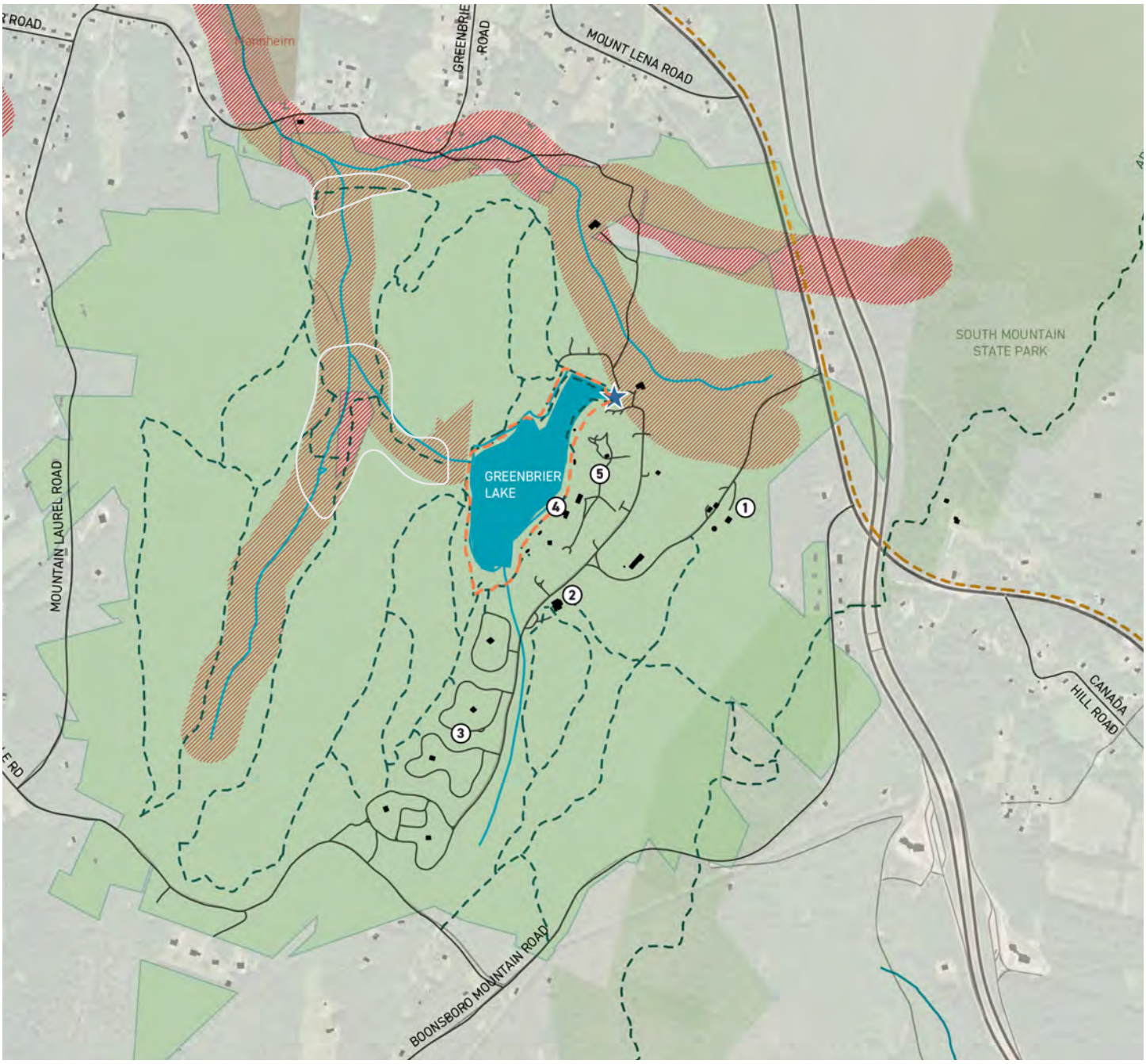
Campsites at Greenbrier State Park.

CASE STUDY: Acadia National Park, ME

Like Greenbrier Lake, Jordan Pond at Acadia National Park is a small water body that is accessed through a short hike, providing a variety of views and access for people of many ages and abilities. The Jordan Pond loop path is an easy trail for most visitors. It connects to more difficult trails and other attractions like the Jordan Pond House and a range of mountains on either side. To reduce the impacts of increased numbers of visitors on this very narrow path, NPS implemented a temporary one-way loop during peak season.

A fully accessible loop trail at Greenbrier State Park could welcome visitors to its shores and create opportunities for anyone to experience the many unique attributes of this park.

Greenbrier State Park: Future Conditions



Legend

Greenbrier SP Boundary

TRAILS
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- MDOT SHA Bike Spine

STRUCTURES
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- Other Building Footprints

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- Maryland Local and Other Roads
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- Interstates
- US Routes

WATER
- Water Access Site - Small Scale
- Waterbodies

HISTORY
- MHT Preservation Easements
- National Register of Historic Places

MD LIVING RESOURCES

BioNetTier
- Tier 1

OTHER PROTECTED LANDS
- Other MPS Boundaries

PROPOSED
- ADA Accessible, Flood Resilient Trail
- Proposed Trail Segments to be Rerouted

POINTS OF INTEREST
1. Camp Registration Office
2. Greenbrier State Park Visitor Center
3. Greenbrier Campground Area
4. Beach, Concessions, Camp Store
5. Playground

0 430 860 1,720 2,580 Feet

N

Recommendations

Mission Alignment

- Either temporarily or permanently close trails through Tier 1 habitats. Reroute the trails to create new experiences and encourage repeat visits.
- Improve and maintain pollinator habitat and increase efforts to educate visitors on the importance of pollinators.

Visitor Experience

- Resurface the Greenbrier Lake Loop Trail to ADA standards and maintain widths that can accommodate small groups and families. Restore supporting walls and steps with locally sourced rock where possible.
- Consider making the Lake Loop a one-way trail, to reduce traffic challenges and trampling of plants alongside the trail.
- Increase the number of electrical hookups at camp sites to meet technology needs of today's visitors.
- Implement consistent signage and wayfinding in accordance with the State Park Trail Standards.
- Incorporate guided hikes into peak seasons and advertise hikes in campsites. The purpose of these hikes will be to engage novice hikers in the benefits of hiking and teach them about the state's natural resources, threats to their protection, and opportunities for visitors to help steward these resources in the future.

Funding

- Preserve the number of PINS currently working at Greenbrier State Park to support the number of visitors and the number of acres each staff effectively manages.

Climate Change, Public Health and Equity

- Create interpretive signage for park visitors and residents who live near Greenbrier State Park to understand the impacts of stormwater management on the lake. Provide support for residents to manage stormwater on their property.

Comparable DNR Parks

- Cunningham Falls State Park (water access, beach, trails, Western region)
- Cypress Branch State Park (water access, rare or threatened species)

PILOT PARKS
Sandy Point State Park: Existing Conditions

Legend

Sandy Point SP Boundary

TRAILS
- DNR Land Trails

STRUCTURES
- DNR Building Footprints

ROADS
- Maryland Local and Other Roads
- Maryland Routes
- US Routes

WATER
- Water Access Site - Small Scale
- Waterbodies

HISTORY
- MHT Preservation Easements
- National Register of Historic Places

OTHER PROTECTED LANDS
- Maryland Federal Lands

POINTS OF INTEREST
1. South Beach Area
2. Farm House
3. East Beach Area
4. Marina Area
5. Former Labrot House
6. Youth Group Campground
7. Corcoran Environmental Study Area

Feet
0 500 1,000 2,000 3,000

N

Why This Park?

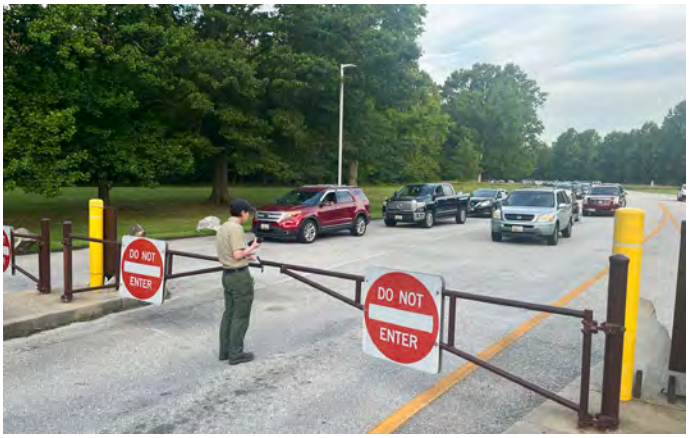
- High visitation totals
- Capacity challenges and closures
- Large population of Latinx visitors
- Beach and gathering (picnic) spaces
- Large amount of deferred maintenance work orders
- Flood risk and climate change impacts

Facts & Recommendations

Pilot Park Name	Sandy Point State Park
County	Anne Arundel
Area (Acres)	786
Region	Southern
Visitors (2022)	1,093,818
Closures (2022)	16
Existing Parking Spaces	600
Recommended Additional Parking	129
Total Expenditures (2022)	$2,025,093.67
Total Revenue (2022)	$2,113,522.33
5-Year Critical Maintenance Improvement Program	$868,000.00
Current Full-Time Staff*	12
Recommended Additional Full-Time Staff*	5-12

*Staffing numbers reflect totals for the entire park complex

Visitors picnicking within the shaded grove between East and South Beach.



Vehicles waiting for gates to open on a Saturday morning.

CASE STUDY: East Matunuck State Beach

According to climate projections for the state, rain events are on track to be more frequent and to increase in volume. Over the past two summers, East Matunuck experienced a "perfect storm" of increased visitors and increased rainy days. In 2021, the park saw 170,000 beach goers, 50,000 parked vehicles, and more frequent flood events. A new project was completed in 2022 to improve stormwater management in the parking lot, prevent pollutants from reaching the ocean, and increase the number of lanes into the park. The initiative is part of green bond investments voted for by residents. The most recent $50 million bond allocates $16 million to enhancing resilience in vulnerable coastal and river areas. The beach also recently upgraded facilities to be entirely powered by wind and solar. Sandy Point State Park's location on the Chesapeake Bay and ratio of impervious roadways make it vulnerable to localized flooding and a candidate for similar investments.

Sandy Point State Park: Future Conditions

Legend

Sandy Point SP Boundary

TRAILS
- DNR Land Trails

STRUCTURES
- DNR Building Footprints

ROADS
- Maryland Local and Other Roads
- Maryland_Routes
- US Routes

WATER
- Water Access Site - Small Scale
- Waterbodies

SEA LEVEL RISE
- Sea Level Rise Vulnerability - 1'
- Sea Level Rise Vulnerability - 2'

HISTORY
- MHT Preservation Easements
- National Register of Historic Places

OTHER PROTECTED LANDS
- Maryland Federal Lands

PROPOSED
- ADA Accessible, Flood Resilient Boardwalk Trails
- ADA Accessible Trails
- Proposed Areas of Change

POINTS OF INTEREST
1. South Beach Area
2. Farm House
3. East Beach Area
4. Marina Area
5. Former Labrot House
6. Youth Group Campground
7. Corcoran Environmental Study Area

Feet
0 500 1,000 2,000 3,000

N

Recommendations

Mission Alignment

- Limit parking closest to South Beach to ADA parking and active short-term drop offs by removing general parking currently within 300' of Bay shoreline (approximately 35 spaces). Make the temporary parking lot permanent for a net gain of 40 spaces.
- Buffer parking lots with stormwater landscapes to manage runoff and resurface non-ADA parking to grass or granite dust to improve permeability.
- Protect trees within picnic areas and close to parking with impaction pads to reduce compaction on tree roots, while providing shade for visitors. Increase native, hardy shade trees along paths and install impaction pads at new trees as well.
- Protect and expand important native beach grasses and plants by installing boardwalks between picnic areas and beaches. Continue to fence off and communicate the role of expanded habitat areas.

Visitor Experience

- Incorporate graphic and translated signage using international graphic standards.
- Create an anti-littering campaign and a water safety campaign in multiple languages. Include conversations about safety and stewardship in youth program offerings.
- Partner with local AM Radio traffic stations to communicate park closures and share communication techniques on parking receipts, contact station signage, and digital traffic signs.
- Building on the success of the nature center space at South Beach, repurpose the concessions building at East Beach for classroom space and outdoor interpretation of local African American history.
- Hire an interpretive consultant to communicate the African American history of East Beach and the full histories of segregation on Maryland beaches and in Maryland state parks. Incorporate Spanish-translated signage and ranger programs.
- Hire local tribes or tribal consultants to share the indigenous history along the Chesapeake Bay in both Spanish and English translations.

Funding

- Using historic averages of persons per vehicle entry fees, shift entry fees to a per car model entry fee based on in-state versus out-of-state license plates to move people into the park more quickly during peak season and to reduce the number of cars entering the park.
- Increase revenue throughout all seasons, not just the summer season. This can be achieved through the expansion of program and event partnerships such as Lights on the Bay, through the planting of spring-blooming wildflower mixes on beach picnic areas, and by increasing boat ramp fees.

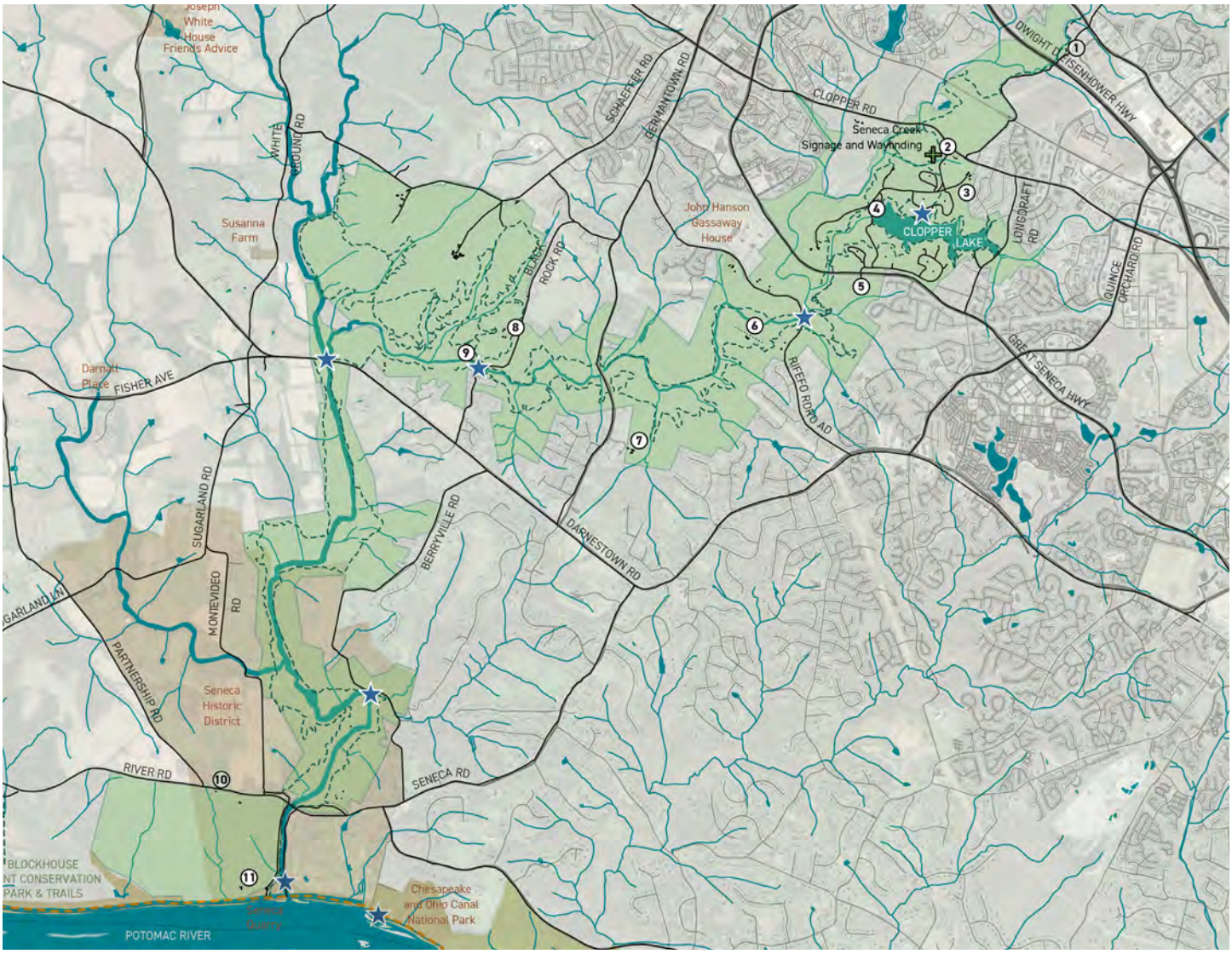
Climate Change, Public Health and Equity

- Once the East Beach comfort stations that are within the two foot SLR zone require more significant investments than the cost to replace, remove them and rebuild stations outside of that zone.
- Replace any previously removed or existing comfort stations with prefab, hurricane durable and floodproof comfort stations and pavilions.
- Install permanent trash and recycling receptacles with graphics and translated English/Spanish identifiers.
- Communicate financial assistance programs and reduced entry opportunities through signage at control stations and in partnerships with the Department of Health and other organizations that support new residents.
- Allocate at least 2 PINS to hiring Spanish speaking rangers and provide financial or time off incentives to Sandy Point State Park staff to take Spanish language lessons.

Comparable DNR Parks

- Bohemia River State Park (flood risk and climate impacts, opportunities for passive recreation)
- Hart Miller Island State Park (beach access, flood risk and climate impacts)

PILOT PARKS
Seneca Creek State Park: Existing Conditions



Legend

Seneca Creek SP Boundary
Maryland State Boundary
Other States

TRAILS
DNR Land Trails
MDOT RTP Trail Projects
MDOT SHA Bike Spine

STRUCTURES
DNR Building Footprints
Other Building Footprints

ROADS
DNR Roads
Maryland Local and Other Roads
Maryland Routes
Interstates

WATER
Water Access Site - Small Scale
Waterbodies

HISTORY
MHT Preservation Easements
National Register of Historic Places

HISTORY
MHT Preservation Easements
National Register of Historic Places

OTHER PROTECTED LANDS
NPS Boundaries

POINTS OF INTEREST
1. Former Caulfield King House
2. Seneca Creek Visitor Center
3. Schwartz Peony Garden
4. Kingfisher Overlook
5. Seneca Creek Disc Golf Course
6. Gun Club
7. Former Miller House
8. Button Farm Living History Center
9. Black Rock Mill
10. Seneca School House
11. Seneca Mill & Quarry Ruins

Feet
0 1,250 2,500 5,000 7,500

N

Why This Park?

- Complex with second highest ratio of visitors to full-time staff (168,000 visitors per staff member)
- Complex with second highest ratio of acres to full-time staff (1,500 acres per staff member)
- Water access and challenges of informal access

Facts & Recommendations

Pilot Park Name	Seneca Creek State Park
County	Montgomery
Area (Acres)	6,313
Region	Central
Visitors (2022)	1,013,877
Closures (2022)	0
Existing Parking Spaces	949
Recommended Additional Parking	0
Total Expenditures (2022)	$1,198,930.82
Total Revenue (2022)	$682,921.87
5-Year Critical Maintenance Improvement Program	$1,105,000.00
Current Full-Time Staff*	8
Recommended Additional Full-Time Staff*	17-23

*Staffing numbers reflect totals for the entire park complex

Signage and creek bank destabilization.

Black Rock Mill Ruin.

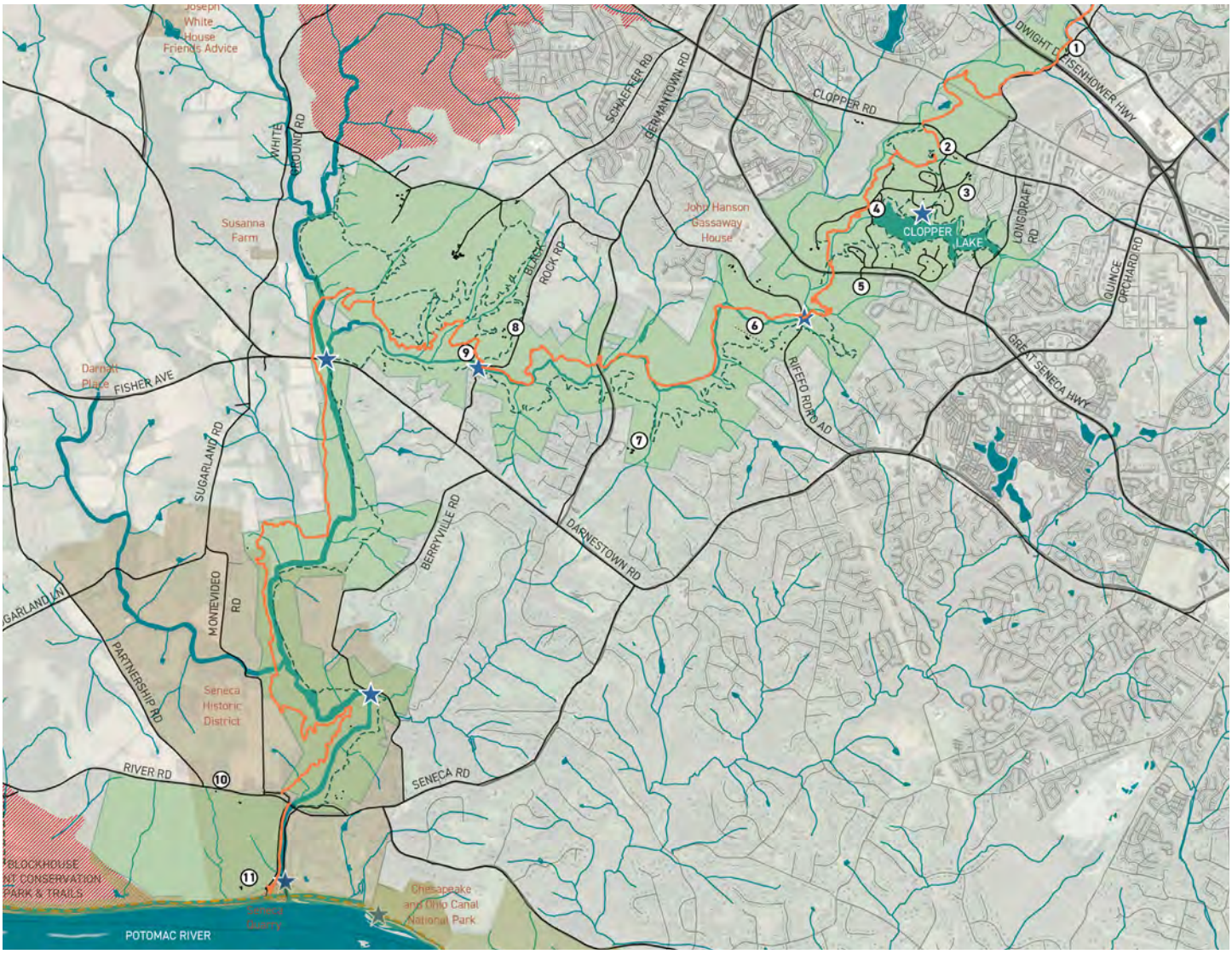
CASE STUDY: Mill Ruins Park, MN

Though quite different in scale and location, Mill Ruins Park — as a historic ruin and landmark for the City of Minneapolis — could inspire a re-focus on historic landmarks like the Black Rock Mill Ruin.

Mill Ruins Park is located on the west bank of the Mississippi River in downtown Minneapolis and represents the last remaining infrastructure from the city's milling industry. The park includes mills, canals, tailraces, and other historic resources. It comprised the largest direct-drive water-powered facility in the world and was the leading international producer of flour, a commodity which was shipped both nationwide and worldwide.

In the park, visitors have the opportunity to interact directly with an exciting water feature and remnant of the mill canal. Dramatic, low lighting creates a moody landmark that visitors from around the country flock to see. Small investments in signage, lighting, and storytelling can have outsized impacts on the community's relationship with their local history.

Seneca Creek State Park: Future Conditions



Legend

- Seneca Creek SP Boundary
- Maryland State Boundary
- Other States

TRAILS

- DNR Land Trails
- MDOT SHA Bike Spine

STRUCTURES

- DNR Building Footprints
- Other Building Footprints

- DNR Roads
- Maryland Local and Other Roads
- Maryland Routes
- Interstates

WATER

- Water Access Site - Small Scale
- Waterbodies

HISTORY

- MHT Preservation Easements
- National Register of Historic Places

MD LIVING RESOURCES

BioNetTier

- Tier 1

OTHER PROTECTED LANDS

- NPS Boundaries

PROPOSED

- ADA Accessible Trails

POINTS OF INTEREST

1. Former Caulfield King House
2. Seneca Creek Visitor Center
3. Schwartz Peony Garden
4. Kingfisher Overlook
5. Seneca Creek Disc Golf Course
6. Gun Club
7. Former Miller House
8. Button Farm Living History Center
9. Black Rock Mill
10. Seneca School House
11. Seneca Mill & Quarry Ruins

0 1,250 2,500 5,000 7,500 Feet

N

Recommendations

Mission Alignment

- Create a shoreline management pilot project for the Black Rock Mill Bridge water access location that enables safe access, reduces future riverbank erosion, and stabilizes the soils and habitats.

Visitor Experience

- Brand and construct a through hike trail that connects Great Seneca County Park — through Seneca Creek State Park — to the Potomac River.
- Remove any existing parking and provide no parking signs in informal parking zones that are close to water access points and require unsafe movement along public roadways.
- Participate in state and county roadway improvement project processes to ensure that the speed roads are designed for aligns with posted speeds.
- Use state park maps to provide clear guidance, in English and Spanish, regarding parking restrictions along water access points. Where parking does exist, stripe or sign parking spaces to ensure the parking lots are clear, used efficiently, and prevent overflow.
- Incorporate graphic and translated signage throughout the park in keeping with international graphic standards.

Funding

- In areas of the state park where visitors do not pay an entry fee, install solar-powered parking fee kiosks to increase funding and better understand: 1) the number of visitors; 2) patterns of park visits; and 3) as a way to understand where visitors are coming from (through credit card and debit card information).
- Work with DNR leadership to confirm how parking kiosks should be enforced. The Sandy Point State Park model of random Natural Resource Police visits and ticketing appears to work well.

Climate Change, Public Health and Equity

- Create a succession plan for native and adaptive tree species to ensure the state park continues to reduce the urban heat island effects on surrounding communities.
- Continue to maintain Clopper Lake and try to keep the lake free of stormwater run-off to proactively manage bacteria and algae blooms.
- Consider partnering with Chesapeake Bay Conservancy or another non-profit group to advocate for the reduction of fertilizer use and other bacteria-causing land uses surrounding the park.

Comparable DNR Parks

- Fair Hill NRMA (ecological resources, unique amenities/destinations, revenue generation potential)
- Gambrill State Park (fishing and informal access)

PILOT PARKS
Newtowne Neck State Park: Existing Conditions

Legend

Newtowne Neck SP Boundary

ROADS
- DNR Roads
- Maryland Local and Other Roads
- Maryland Routes

WATER
- Water Access Site - Small Scale
- Rivers and Streams

TRAILS
- DNR Land Trails

HISTORY
- National Register of Historic Places

SITE FEATURES
- Existing Spits

POINTS OF INTEREST
1. Clem Point
2. Payne Point
3. Fresh Pond
4. Kaywood Point
5. Cornish Point
6. Long Point

Feet
0 500 1,000 2,000 3,000

N

Why This Park?

- High visitation totals, particularly relative to size
- Contains rare or imperiled species/ecologies such as wetlands, as well as numerous archaeological sites.
- Limited visitor amenities / facilities (e.g. bathrooms)

Facts & Recommendations

Pilot Park Name	Newtowne Neck State Park
County	St. Mary's
Area (Acres)	794
Region	Southern
Visitors (2022)	77,891
Closures (2022)	0
Existing Parking Spaces	57
Recommended Additional Parking	1
Total Expenditures (2022)	$172,600.30
Total Revenue (2022)	$59,777.00
5-Year Critical Maintenance Improvement Program	$220,000.00
Current Full-Time Staff*	12
Recommended Additional Full-Time Staff*	1

*Staffing numbers reflect totals for the entire park complex

Walkway to shoreline from parking area.

Popular summer beach along the Potomac River.

CASE STUDY:
The Wildlife Explorers Program, Nationwide

In 2016, the National Recreation and Park Association (NRPA) introduced the Wildlife Explorers curriculum for children aged 5-10. This six-week initiative, designed in collaboration with the National Wildlife Federation and Cornell Lab of Ornithology, aims to immerse children in nature. Targeting 200,000 children, it offers resources for facilitators, even those inexperienced in outdoor programs. Testimonies from various recreation centers highlight its adaptability, efficacy in fostering environmental awareness, and its positive influence on children's interaction with nature. Newtowne Neck is located in an area with a high proportion of youth under the age of 18. With the aid of investments in physical infrastructure for bathrooms and shelter, Newtowne Neck could support similar youth programs.

Newtowne Neck State Park: Future Conditions

Legend

Newtowne Neck SP Boundary

ROADS
- DNR Roads
- Maryland Local and Other Roads
- Maryland Routes

WATER
- Water Access Site - Small Scale
- Rivers and Streams

SEA LEVEL RISE
- Sea Level Rise Vulnerability - 1'
- Sea Level Rise Vulnerability - 2'

HISTORY
- National Register of Historic Places

PROPOSED
- ADA Accessible, Flood Resilient Trail
- Proposed Parking Locations
- Proposed Boardwalks

POINTS OF INTEREST
1. Clem Point
2. Payne Point
3. Fresh Pond
4. Kaywood Point
5. Cornish Point
6. Long Point

0 500 1,000 2,000 3,000 Feet

N

Recommendations

Mission Alignment

- Install boardwalks from parking lots to beaches to reduce the impact on habitats and waterfront buffer zones.
- Add fencing in degraded landscapes to reduce further degradation. Communicate using signage, why the fencing is being used, and share ways for visitors to help steward its future.

Visitor Experience

- Construct a continuous shoreline path with cultural and natural resource interpretive signage that builds on existing DNR cultural studies of the area. For example, interpretive signage could make visitors aware of the park's history as a home to the Piscataway Native American tribe. The site also housed the second settlement in Maryland and was designated as the first historic district in St. Mary's County.
- Increase comfort for visitors through the construction of permanent composting toilets. These toilets should replace existing temporary restroom facilities at the parking area closest to the Potomac River beach access, but remain outside of 1' and 2' projected SLR inundation areas.
- Increase parking closest to popular beach access points along the Potomac River, and install new parking no less than 200 feet from the shoreline. Today, one ranger monitors the entry and one goes through the park to confirm parking availability. The recommendation will reduce the amount of time that staff spend driving between different destinations within the park and increase the amount of time rangers and other staff are able to focus on mission-aligned job competencies.

Funding

- Use solar-powered, credit card-accepting parking kiosks at which visitors pay for parking in each lot. Once a certain number of parking passes have been purchased in a day, use that data to "close" the park to new guests until visitors depart from the park.
- Supplement park maintenance and stewardship through the development of park partnerships and support from volunteer programs. Volunteers can provide invaluable support, providing assistance with de-littering, invasive removal, and replanting efforts, but will require coordination, training, and supervision by the identified volunteer coordinator.

Climate Change, Public Health and Equity

- Reduce the impacts of shoreline erosion along Saint Clements Bay, the Potomac River, and Breton Bay by expanding existing living shorelines, which incorporate existing breakwaters and beaches with spits (stretches of sand, interrupting the water's current along shorelines) and marsh habitats.
- Use 1' and 2' SLR mapping to identify areas for future constructed wetlands.
- Incentivize agriculture leases to reduce use of pesticides on site.

Comparable DNR Parks

- Calvert Cliffs State Park (beaches, marshland, rare or imperiled species/ecologies)
- Elk Neck State Park (beaches, marshland, rare or imperiled species/ecologies)

CLIMATE CHANGE, PUBLIC HEALTH, AND EQUITY

Current state

Climate Change

How Park Service Projects Approach Climate Change: Mitigation, Adaptation and Resilience

Increasing Temperatures

According to the National Oceanic and Atmospheric Administration (NOAA), global temperatures have experienced a noteworthy increase of 2°F since the year 1880, climbing by approximately 0.14°F per decade. However, recent data paints a concerning picture, indicating that 2022 alone witnessed a temperature surge of approximately 1.55°F above 20th-century averages. In Maryland, the temperature trajectory tells an even more urgent tale, with annual temperatures rising by 2.5°F since 1990. Notably, the last two decades have borne witness to a staggering increase, with 7 out of the 10 warmest years ever recorded and 2022 earning the distinction of being the second-warmest year in Maryland's history. This increasing trend in temperatures is reflected in Maryland's escalating annual count of "very hot days" (defined as 95°F or higher) and the diminishing occurrence of "very cold nights" (0°F or lower). This temperature increase carries profound implications for the state's diverse wildlife, intricate ecosystems, sea levels, as well as the safety and overall experience of visitors and staff throughout its extensive park system.

Changing Precipitation Patterns

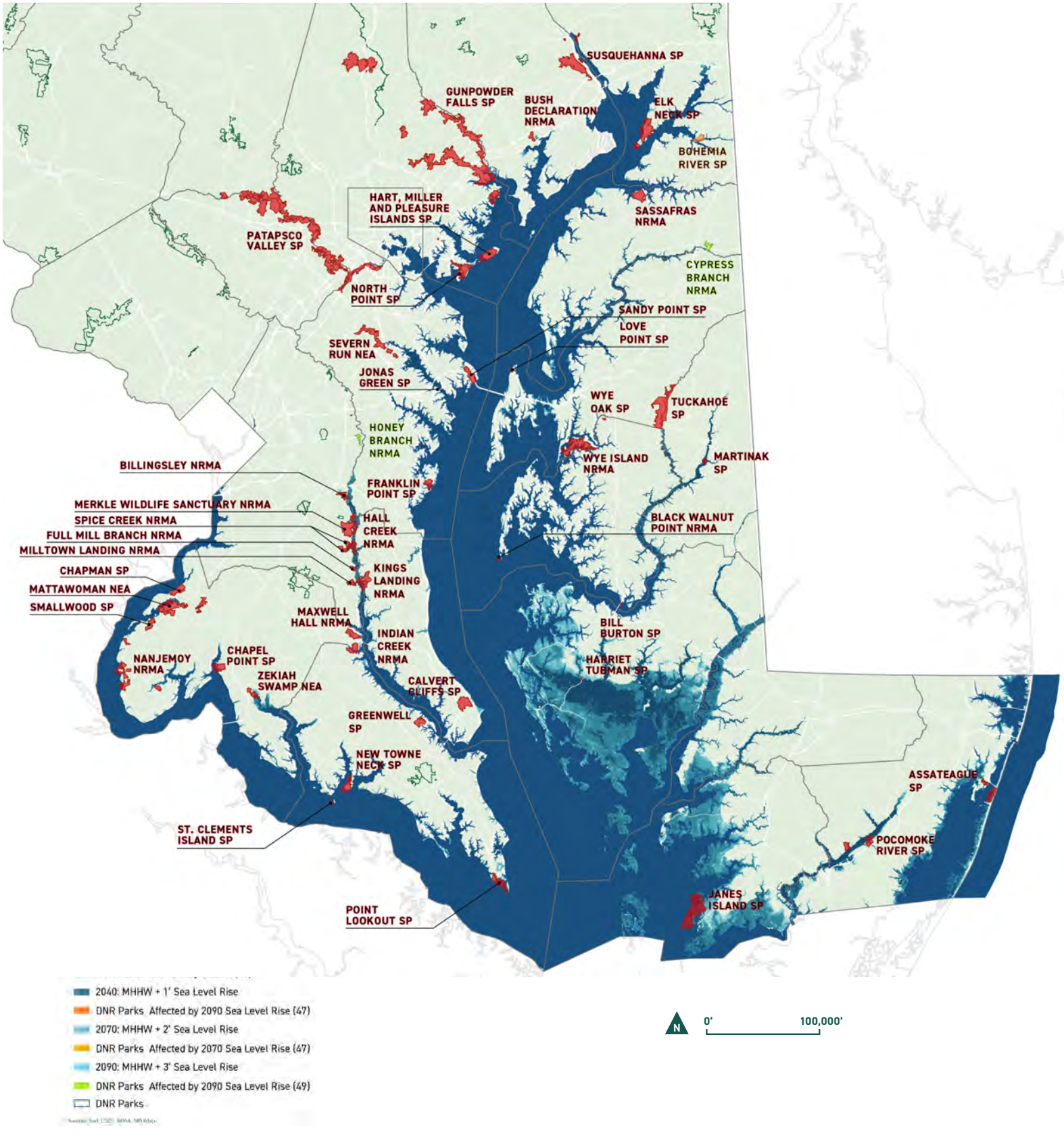
Precipitation patterns across Maryland have geographic variations, yet, on the whole, they have exhibited a consistent trend of increased intensity and frequency over the past few decades. Recent projections underscore that Maryland has experienced above-average annual precipitation rates for nearly the past three decades. This trend has given rise to a heightened occurrence of "extreme precipitation events," defined as those exceeding 2 inches of rainfall. Between 1950 and 2004, the state averaged 1.8 days of such events per year. However, from 2005 to 2020, this figure rose to 2.5 days annually. This continued and anticipated augmentation in precipitation will likely amplify the occurrence of flooding events and extend the boundaries of current flood-prone areas within Maryland. In fact, the projection indicates that 100-year storm events, which were historically rare, may occur every 20 to 50 years in Maryland by the close of the century. Consequentially, heavy rainfall and flooding conditions often result in substantial road closures and infrastructure damage within state parks, increasing safety hazards and impeding park access.

Rising Sea Levels and Coastal Flooding

Maryland state parks are increasingly vulnerable to projected increases in SLR, with the Chesapeake Bay area identified as the third most vulnerable area to SLR in the mainland United States. Tidal Gauge records conservatively project 1' of SLR by as early as 2040, 2' by the 2070s, and 3' by the 2090s. Current floodplains suggest that 46 of DNR's state parks are already susceptible to Mean Higher High Water (MHHW) levels. That number increases to 47 state parks with 1' of SLR, which is projected to occur as early as 2040, and up to 49 parks with 3' of SLR, which is likely to occur by the 2090s (see Appendix for table with full list of parks susceptible to MHHW and SLR).

Photo: Living shoreline project at Assateague State Park.

Sea Level Rise through 2090 and affected DNR Parks



Historic and Cultural Resources Impacted by Sea Level Rise (SLR) Scenarios

Scenarios (in Feet)	Resource Name	Category
3, 2, 1	Mt. Aventine	District
3, 2, 1	Lower Deer Creek Valley Historic District	District
3, 2, 1	Knocks Folly	Building
3, 2, 1	Todd Farmhouse	Building
3, 2	St. Clement's Island Historic District	Site
3, 2, 1	St. Francis Xavier Church & Newtown Manor House Historic District	District
3	Timber Neck	Building, Site
3, 2, 1	Old Joppa Site	Building, District, Site
3, 2, 1	Nottingham Site	Site
3, 2, 1	Mallows Bay-Widewater Historic and Archeological District	District
3, 2, 1	Wye Hall	Building

Historical and cultural resources are particularly vulnerable to SLR, with nine sites susceptible to flooding as soon as 2040 and up to 11 by the 2090s.

Rising sea levels are poised to intensify the frequency of tidal and coastal flooding events, ushering in a surge of nuisance floods. These floods do not pose an immediate threat to public safety but surpass the local flood-tolerance threshold, warning severe property damage and disruption to daily life. The upsurge in tidal flood occurrences has already begun, with 2018 marking a record high in Baltimore for tidal flood days all exceeding the nuisance-level criteria. Even in NOAA's more conservative projections, categorized as having an intermediate likelihood, these tidal floods are forecasted to become a daily occurrence in Baltimore by the 2100s.

This increasing prevalence of tidal and coastal flooding magnifies the vulnerability of DNR infrastructure, leading to road closures, jeopardizing the safety and access of both visitors and staff, inflating long-term maintenance expenditures and promoting park closures. An increase in flooding is already leading to a surge in park closures across Maryland, ranging from substantial damage and extended closures witnessed at Patapsco Valley State Park — which endured two unprecedented 1,000-year floods in 2016 and 2018 — to Point Lookout's and Sang Run State Park's intermittent closures — which were due to the nuisance flooding of vital road infrastructure. Furthermore, floods pose detrimental consequences on the local ecosystems within DNR parks; including, but not limited to, increases in shore erosion, inundation of wetlands and low-lying, coastal land, and the intrusion of saltwater into freshwater ecosystems and groundwater. This is most notable in Assateague State Park, which, as one of the most climate vulnerable state lands in Maryland, experiences frequent high tide flooding that results in salination of its marsh land, significant sand displacement, and detrimental erosion of its coastal dunes.

Recent restoration efforts at Calvert Cliffs State Park.

Declines in Biodiversity

MPS is faced with the imperative tasks of maintaining, safeguarding, and adapting their rich biodiversity amidst the mounting threat of climate change. Increasing temperatures, changing precipitation patterns, and increased SLR intensify erosion through coastal and riverine flooding, exacerbate habitat loss, and promote the proliferation of invasive species. These threats challenge the delicate balance of the state's ecosystem and put its natural wildlife in peril. Maryland's BioNet database has classified Maryland's regions into five tiers, revealing the state's remarkable ecological diversity. Within its borders, Maryland shelters approximately 1,000 Rare, Threatened, or Endangered (RTE) plants and animals, inhabiting 1,500 "Ecologically Significant Areas." Additionally, the state is home to 200 more animals categorized as of "Greatest Conservation Need" and closely monitors 200 Watch List plants. Forests, marshlands, and coastal sand dunes serve as vital habitats, showcasing the intricate tapestry of habitat diversity.

The persistent declines in biodiversity and the encroachment of invasive species pose a formidable challenge to the ongoing conservation efforts led by DNR. As part of its multifaceted strategy to safeguard biodiversity, DNR is actively engaged in a range of critical initiatives. These include the implementation of habitat restoration programs, dedicated efforts to conserve wetlands, vigilant monitoring of RTE species, and targeted removal of invasive species. A prime illustration of these proactive measures can be observed in the current challenges faced by Browns Branch Wildlife Management Area, managed by the Wildlife and Heritage Service within DNR. This site holds the classification of a Tier II site in Maryland's BioNet database due to its exceptional water quality and pivotal role in creating habitat for multiple

endangered species. The park is home to one federally endangered, one state-listed endangered, and one state-listed 'in need of conservation' species. BioNet, employed by DNR's Natural Heritage Program (NHP) and various conservation partners, supports strategic conservation efforts by systematically prioritizing ecologically-significant lands in Maryland ecosystems. Brown Branch's adaptation and resilience planning have already underscored the importance of wetland restoration and ongoing invasive species management. However, the escalating temperatures — brought about by climate change — project a heightened need for proactive drought management, the safeguarding of native species, and the implementation of adaptive strategies to fortify and adapt the park's ecosystem against evolving environmental challenges.

Key Accomplishments

- Collecting, managing, and monitoring spatial data on biodiversity and conservation needs.
- Proactive DNR and Maryland Forest Service leadership in the development of Climate Change Adaptation and Resilience Planning Guides for Assateague State Park, Browns Branch Wildlife Management Area, and Pocomoke State Forest.
- State-wide conversation and leadership in multiple climate change collaborations.
- The allocation of a dedicated $5,000,000 of funding under the GMOA (see, NR, § 5–221(l)) for infrastructure projects aimed at mitigating the impacts of climate change.

Areas for Improvement

- More tailored, long-term resilience and maintenance plans across all DNR parks and historical assets.
- More comprehensive and standardized metrics for continuously monitoring the impacts of climate change on park assets over time.
- Enhanced staffing support for climate change adaptation and mitigation strategies.
- Enhanced data collection on and strategy development of climate-related maintenance needs.

Climate Change Recommendations

#	Key Findings / Current State	Recommendation
Climate Change Mitigation, Adaptation, and Resiliency		
51	Maryland state parks are increasingly vulnerable to climate change impacts, particularly projected increases in SLR. The Chesapeake Bay area has been identified as the third most vulnerable area to SLR in the mainland United States. Park Assets exposed to SLR include: - Current MHHW (As of 2023): 46 state parks - 1' SLR (as early as 2040s): 47 state parks - 2' SLR (by the 2070s): 47 state parks -3' SLR (by the 2090s): 49 state parks	**Institute a mandate requiring that all state parks, NEAs, NRMAs, and other land under MPS's control establish comprehensive, long-term resilience and maintenance plans that address both current and future climate risks.** Drawing inspiration from the Climate Change Adaptation and Resilience Planning Guides successfully formulated for Assateague state park, Browns Branch WMA, and Pocomoke State Forest, all other parks within the DNR purview should embark on a similar assessment of climate threats. This process should include a meticulous examination of park vulnerabilities, the identification of specific park asset priority areas, the formulation of climate resilience infrastructure initiatives, and a comprehensive analysis of staffing and budgetary needs. This process is particularly crucial for safeguarding park assets susceptible to present and anticipated flooding. During planning efforts, park staff should initiate the development of an inventory that assesses park assets exposed to current (2023), near-term (2040), and long-term (2090) sea-level rise (SLR) impacts. In this inventory, staff should outline the budgetary requirements for future renovations and adaptation efforts.
52		**Harness the $5,000,000 starter fund provided under GMOA 5-221(L) for infrastructure projects aimed at mitigating the impacts of climate change.** These projects encompass various aspects such as Flood Barriers, Forest Buffers, Green Spaces, Building Elevation, Stormwater Infrastructure, Wetlands Restoration, and the addressing of Environmental Justice concerns. Priority consideration should be extended to park infrastructure projects that: • Bolster the year-round resilience of roads and parking areas through consistent infrastructure maintenance. • Foster the creation of flood-resilient roads and parking facilities by locating them at high-elevations. Roads should incorporate vegetation buffers, culverts, and permeable surfaces. • Undertake the construction and renovation of building designs that adhere to the climate-resilient principles outlined by the Maryland Coast Smart Council's Coast Smart Construction Program. This should be specifically tailored to accommodate state and local capital projects. Additional funding will be needed to fully address resiliency across the full park system.
53	Historical and cultural resources are particularly vulnerable to SLR, with 9 sites susceptible to flooding as soon as 2040 and up to 11 by the 2090s. Historic and Cultural Assets exposed to SLR include: - 1' SLR (as early as 2040s): 9 Historic and Cultural Resources - 2' SLR (by the 2070s): 10 Historic and Cultural Resources -3' SLR (by the 2090s): 11 Historic and Cultural Resources	**Initiate a specialized climate and vulnerability assessment tailored to the 11 historic and cultural resource sites that are at risk due to rising sea levels (SLR).** A climate vulnerability assessment would allow DNR to map the location of existing assets at each site and formulate plans for either relocating or elevating them, in order to mitigate potential damage caused by SLR.

54	Anecdotal evidence suggests that climate change impacts, including rising temperatures, SLR, and more frequent flooding events, have already led to a noticeable increase in park closures across Maryland. This spectrum of closures spans from the significant damage and prolonged shutdowns experienced at Patapsco Valley State Park — which weathered two unprecedented 1,000-year floods in 2016 and 2018 — to the sporadic closures observed at Point Lookout and Sang Run State Parks — which were due to the recurring nuisance flooding of critical road infrastructure. These persistent closures, combined with the imperative to adapt and safeguard local ecosystems within DNR parks, will limit park accessibility and visitor experiences.	**Enhance informational campaigns and materials pertaining to climate-related risks within parks.** All investments in park infrastructure resilience and climate adaptation planning should be accompanied by robust community engagement and outreach efforts. DNR should allocate resources to develop public education campaigns aimed at informing the public about potential changes to the visitor experience due to climate change and the necessary adaptations. These campaigns could encompass, but are not limited to, the following strategies: • Implement public education campaigns delivered through registration emails, park guides, and social media platforms to furnish visitors with real-time updates on flooding, storms, or excessive heat conditions, along with guidance on safeguarding themselves. • Create public access brochures that offer detailed information and explanations regarding any restricted access in response to conservation or environmental concerns within a specific park. • Establish public exhibits and workshops within parks, capitalizing on their role as on-site hubs for educational engagement. These initiatives can enlighten the public about climate change's impacts on ecosystems. For instance — as outlined in the 2022 Assateague State Park Climate Change Adaptation and Resilience Planning Guide — a park like Assateague, home to a vulnerable yet vital coastal dune landscape, could train interpretative staff to articulate the ecosystem's dynamics and the effects of climate change.
55		**Place a high priority on evaluating and acquiring additional land to meet the demand for new campsites and recreational opportunities, which can serve as substitutes for areas vulnerable to shoreline erosion and flooding**. In selecting these new sites, priority should be given to locations that ensure sustained access to water, offer larger acreage, exhibit enhanced resilience to flooding, and maintain accessibility for both vehicular and bicycle traffic.
56	While climate change continues to affect visitor access and experiences within state parks, there is a current lack in comprehensive data and community engagement efforts aimed at understanding how Marylanders perceive and experience these climate-related changes. The existing visitor experience surveys conducted by MPS primarily focus on evaluating park conditions and overall satisfaction with the parkgoer experience, but do not delve into the nuances of climate change impacts.	**Broaden and formalize ongoing initiatives aimed at gathering feedback from park visitors regarding two key aspects: 1) the impact of climate change on their visitor experiences and 2) ways in which parks can enhance information and education about climate change's effects.** To achieve this, DNR should extend its existing Conservation Resilience Planners' efforts to establish a standardized climate change survey. This survey can be implemented through direct collaboration between Conservation Resilience Planners and MPS park managers at all state parks. The insights gleaned from this data will play a pivotal role in shaping both the current and future park climate change education plans and climate resilience infrastructure projects.

57	As the impacts of climate change escalate, staff members are increasingly engaged in maintenance, repair, and ensuring visitor safety and protection. Consequently, there is a pressing requirement for additional personnel, particularly those with specialized scientific expertise to monitor the continuous effects of climate change.	**Offer dedicated support to staff through comprehensive training, workshops, and adept management strategies tailored to meet the evolving challenges posed by climate change.** Recognizing the increasing need for additional staff and heightened education among team members, initiatives should encompass vital training areas such as wilderness first aid and wilderness first responder training. These training programs equip staff with the skills to identify signs of heat stress and distress among visitors, particularly during extreme heat and severe weather events.
58		**Actively recruit and employ specialized staff possessing expertise in climate change research and scientific disciplines within MPS, responsible for spearheading, managing, and supervising climate change-related initiatives across all state parks.** A paramount priority should be the recruitment of a Principal Climate Change Scientist, who should assume a prominent role within MPS leadership. DNR can look to the NPS as a model for establishing and staffing such a crucial position. Furthermore, DNR should consider hiring professionals with specialized skills — such as a Coastal Geologist and a Design Engineer specializing in climate resilience — to bolster the agency's climate adaptation efforts.
59	Maryland State Parks are poised to play a crucial role in the battle against escalating temperatures and the increasing frequency of heatwaves resulting from climate change. Within Maryland, annual temperatures have surged by 2.5°F since 1990. Notably, the past two decades have witnessed seven out of the ten warmest years ever recorded, with 2022 standing out as the second-warmest in Maryland's history. While state parks offer a critical respite from the heat, they also expose visitors to potential safety hazards during heatwaves.	**Enhance park resilience to rising temperatures by allocating funding for strategic tree planting and the restoration of coastal bays vegetation.** Tree planting should be paired with a shift away from agricultural leases on state lands, which will provide greater opportunities for landscape restoration, wetland migration, and reforestation.
60		**Allocate specific funding for parks to enhance shade and temperature mitigation amenities for visitors**. This includes provisions like park-provided shade tents, the strategic planting of trees in public areas, and the establishment of cooling centers accessible to the general public within the park's vicinity.

61	Maryland State Parks are the frontlines of climate change, from coastal erosion and flooding to increasing temperatures. This increasing prevalence of tidal and coastal flooding magnifies the vulnerability of DNR infrastructure, leading to road closures, jeopardizing the safety and access of both visitors and staff, inflating long-term maintenance expenditures and promoting park closures. The comprehensive analysis offered by the Climate Change Adaptation and Resilience Planning Guides for Assateague State Park, Browns Branch Wildlife Management Area, and Pocomoke State Forest collectively underscore the imperative to elevate the prioritization of investments in resilient infrastructure. This strategic focus is critical for mitigating the escalating maintenance costs resulting from the mounting impacts of climate change.	**Establish a mandate that requires park staff to create a dedicated catalog for climate-related maintenance tasks, in the development of an ongoing park maintenance inventory.** Furthermore, the department should engage the expertise of environmental economists to conduct comprehensive economic cost-benefit assessments of these maintenance requirements and climate resilience initiatives. By instituting a specialized database for climate-related maintenance needs, DNR can systematically monitor the escalation of climate-induced damages and adaptation necessities. To implement this new inventory, DNR should also invest in improved documentation of climate change-induced damage within vulnerable park areas, employing tools such as water gauges and drone surveys. Over the long term, the acquisition of more precise data regarding climate-related maintenance needs will empower park staff to more effectively evaluate and conduct cost-benefit analyses for long-term repair requirements. The evaluation of the cost benefits of maintaining existing infrastructure versus relocating and adapting it is indispensable in comprehending the long-term cost savings of resiliency.
62	Maryland state parks must undertake proactive measures to adapt and safeguard against declining biodiversity among its wildlife and natural species. These declines are driven by rising temperatures, habitat loss — particularly due to SLR — increased erosion from coastal and riverine flooding, and the proliferation of invasive species. DNR's BioNet database has categorized its mapped areas into five tiers, revealing that the state is home to a substantial biodiversity: 1,000 RTE plants and animals, 1,500 "Ecologically Significant Areas" that serve as habitats for RTE species, an additional 200 animals categorized as of "Greatest Conservation Need," and 200 plant species listed on the Watch List.	**Allocate park funding for the creation of park-specific priority lists of the most pernicious invasive species**, as well as for the implementation of enduring strategies aimed at eradicating these species, reintroducing native inhabitants, and perpetually monitoring ecosystem health.
63		**Actively seek dedicated state and federal funding to support the restoration and sustained monitoring of ecosystems.** For instance, DNR should seek out funding such as the NPS's Landscape Scale Restoration Program, a competitive grant initiative that offers funding for evidence-based restoration approaches. These projects emphasize collaboration, requiring applying agencies to forge partnerships with a diverse array of local and technical experts.

How Park Service Projects Approach Public Health

Public Safety

The Maryland Natural Resources Police (NRP) is DNR's law enforcement agency with statewide jurisdiction to enforce all state laws and regulations. NRP enforces fish and wildlife laws and regulations, patrols DNR owned and controlled property (including MPS properties), protects Maryland's recreational boating community, and oversees the state's maritime homeland security efforts. These efforts also include patrolling critical waterfront infrastructure daily, aiding boaters in distress, conducting search and rescue on all state waterways, and investigating boating accidents and emergencies. NRP does this work across all 500,000 acres of DNR properties with fewer than 90 personnel (as of Fiscal 2022). The span of their responsibilities across the state makes it very difficult for NRP to be adequately responsive to the needs of MPS.

Park Rangers and Park Maintenance staff shared concerns about challenging enforcement situations occurring more frequently in state parks, putting visitors and staff in more challenging and dangerous situations. Park staff also shared that park visitors view park staff as enforcement officers and rely on them to handle these often dangerous situations even though they have no authority or proper training to handle them. Some park staff are able to call local or county law enforcement agencies to assist in these situations, but not in all cases. Park staff also noted that the response time from local and county law enforcement agencies is not always timely given other demands.

Swimming

Continued recreational preferences for swimming and water-based activities, paired with increased closure of parks with water access, encourages Maryland recreationists to find less monitored and potentially dangerous alternatives for swimming and water access. Recent and previous drowning incidents at state parks call for more targeted investment in drowning prevention efforts. For instance, the American Academy of Pediatrics recommends that children learn swim basics by the time they start first grade.

The Maryland Department of Health Maryland Child Fatality Review 2010-2019 identified death by drowning as the fifth leading cause of deaths caused by external injury in Maryland, totaling 67 reviewed deaths by drowning between 2010-2019. Anne Arundel County had the highest number of reviewed child deaths by drowning during this time period at nine cases, followed by Baltimore City, Caroline County, and Montgomery County at eight deaths each.

Language Access

DNR has been investing in expanding partnerships for language access at a number of parks. This includes the new bilingual nature center at Sandy Point, which was funded in partnership with NPS Chesapeake Gateways, and has since expanded to include 9 Maryland State Parks, including Bill Burton Fishing Pier, Cunningham Falls, Greenbrier, Gunpowder Falls, Janes Island, Patapsco Valley, Point Lookout, Sandy Point, and Seneca Creek.

Furthermore, DNR has made strategic investments through the Bilingual Interpretive Outreach Assistant Program, deploying bilingual assistants at parks with higher numbers of Spanish-speaking visitors. DNR's online COMPASS portal, which allows visitors to access the department's catalog of recreational licenses, permits, and services in both English and Spanish, also reflects its ongoing commitment to language equity and park accessibility.

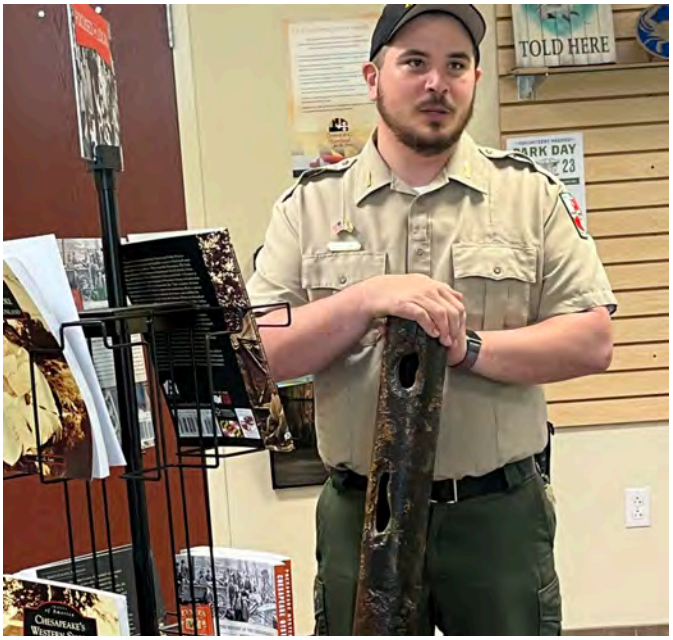
Despite these efforts, MPS still faces challenges in appropriately staffing bilingual rangers at all parks and ensuring that it caters to an increasingly diverse state and park visitor demographic. Staff continue to

express that in many parks, the primary language spoken by visitors is Spanish. Staff also shared that it is very difficult to hire bilingual employees or find bilingual volunteers, as there are no requirements in job descriptions for applicants to be bilingual and no training opportunities provided for existing staff to learn another language. More intentional efforts are needed to require bilingual staff, provide non-English language training programs for staff, better compensate their skillset, and invest in more bilingual programs throughout MPS.

Infrastructure

Parking was cited as the threshold for park closures and park capacity challenges during the COVID pandemic. However, the reduced capacity of aging sewer and septic infrastructure in parks due to lack of investment over the past three decades also negatively impacts overall capacity of parks. Increasing visitorship to parks will require prioritizing restroom investments, before parks can expand parking lot capacity. Over half of the state parks with critical maintenance projects closed at least five times during the pandemic. These parks may have the space to expand their parking, but they do not have the ability to expand overall capacity until their infrastructure is brought up to a higher working standard.

While DNR determines prioritization of these large-scale infrastructure projects, it contracts with the Maryland Environmental Service (MES).



Rust corrosion in pipes at Point Lookout State Park

for their completion. The State Water and Sewer Infrastructure Improvement Fund was established to provide for capital improvements of State-owned and operated water treatment plants (WTP), wastewater treatment plants (WWTP), water distribution and sewer collection systems, and water towers. Since fiscal 1992, funding for capital maintenance projects relating to WTPs and WWTPs has been budgeted under MES. Today, MES operates 267 water and wastewater facilities in Maryland, 96 of which are State-owned. The remaining facilities are operated by MES under contract with a local government or corporate owner.

Key Accomplishments

- Expanded partnerships for language access, including the new bilingual nature center at Sandy Point.
- Outreach and communication about the public health benefits of getting outside.

Areas for Improvement

- Enforcement situations that put visitors and staff in more challenging and dangerous situations. Staff report a need for better approach to public safety.
- Improved data tracking.
- Aging infrastructure and impacts of increased visitation.

Public Health Recommendations

#	Key Findings / Current State	Recommendation
64	Challenging enforcement situations have occurred more often in state parks recently. Park visitors rely on all park staff to handle these potentially dangerous situations even though they may have no authority or proper training to do so.	**Create a Park Police Division (as part of Natural Resource Police) so state laws remain intact and appropriately licensed and trained personnel are able to handle any situations that arise.** Ensure State Parks are safe and welcoming to everyone by continuing to move away from a Law Enforcement Leadership Model to allow park staff to focus on parks and recreation services, as well as the mission, with a park police division within the NRP that supports park staff and enforces state laws. To implement this strategy, a full partnership needs to be established between the NRP and MPS. Through that partnership a clear transition plan should be developed and communicated with clear roles and responsibilities defined for park rangers, park maintenance and park police. This recommendation has not been discussed with NRP as part of this study and further exploration in tandem with NRP will be necessary.
65	DNR has been investing in expanding partnerships for language access at a number of parks successfully.	**Continue to invest in and expand DNR's Bilingual Rangers Program, with the goal of placing at least 1 bilingual ranger staff member in all State Parks by 2030.** While current program efforts are expectedly focused on providing Spanish translation, DNR should begin investing in bilingual capabilities to meet the needs of more of the most common languages spoken by Limited English speakers. This would include; Chinese (including Mandarin, Cantonese), French (including Cajun), Korean, and a variation of African languages (including Afro-Asiatic Languages such as Amharic and Somali, as well as Western African language such as Yoruba, Twi, and Igbo) per analysis conducted by Maryland's Office of Minority Health and Health Disparities in 2012 and reconfirmed by external analysis in 2020. DNR should prioritize expanding language access in parks with the current highest visitation counts, which includes; Assateague, Gunpowder Falls, Patapsco Valley, Point Lookout, Sandy Point and Seneca Creek.
66		**Expand the number of languages available on DNR's COMPASS portal to include the top 5 languages spoken at home among Maryland over the next two years.** This would extend current availability of just English and Spanish to include; Chinese (including Mandarin, Cantonese), French (including Cajun), Korean, and a variation of African languages (including Afro-Asiatic Languages such as Amharic and Somali, as well as Western African language such as Yoruba, Twi, and Igbo) per analysis conducted by Maryland's Office of Minority Health and Health Disparities in 2012 and reconfirmed by external analysis in 2020.

67	Increasing visitorship to parks will require prioritizing restroom investments first, before parks can expand parking lot capacity.	**Using the equity analysis identified within this section alongside building age, create a 10-year investment plan that replaces or renovates all restrooms over 30 years old within that timeframe.** Bathrooms design should provide the following supportive amenities and design considerations: • Make restrooms easy to find and close to the action: Site restrooms close to heavily trafficked areas of parks like parking lots, water access points, and major trailheads. • Design for safety and inclusion - restrooms should be universally accessible, provide ample lighting, and be designed to limit risks. For restrooms, MPS should consider shifting to a gender neutral bathroom model, or a family bathroom model. MPS should also better leverage and construct adult changing stations in parks, as a convenient and safe resource for personal care needs of park visitors. • Focus on sustainability - the NPS, state systems, and local county governments are implementing more prefabricated restroom facilities and facilities that reduce maintenance burdens. To reduce infrastructure burdens and costs, MPS should consider Pit or composting toilets. A shift to more sustainable and maintenance friendly toilets will also enable MPS to expand restroom offerings to other park areas, or expand the footprint of existing facilities.
68	The age of much of the State Park system makes many state parks eligible for state historic status. Historic and cultural resources would benefit from inclusion in all critical management system,:	Most State park facilities have not received significant reinvestment or replacement since they were constructed in the 1960s and 1970s. Without proper evaluation, the oldest State park facilities could pose significant life-safety and health risks to facility visitors. The review of these facilities should be prioritized in all critical management systems: **Develop a complete inventory of currently deferred preservation, rehabilitation, and restoration projects and prioritize them according to the following criteria:** 1. Continue to prioritize essential replacement/repair to prevent further deterioration and life/safety risks ("critical maintenance"). 2. Relationship to park facility needs for programming, shelter, or other critical park activities; 3. Availability of additional funds and/or partnerships with "friends" or other NGOs; and public visibility. (Note that this recommendation is in addition to/ahead of the Electronic Asset Management System pursuant to §5–210.1(A)(1) and is in anticipation of early use of the funds provided for preservation and restoration of historical/cultural resources maintained by DNR under §5–220 (Critical Maintenance Fund) and under §5–220(L)(2) (Park System Capital Improvements and Acquisition Fund – $5M reserve for historic preservation). Long-term, this kind of assessment belongs in the Electronic Asset Management System.)
69	Recent and previous drowning incidents at state parks calls for more targeted investment in drowning prevention efforts.	**Invest in free recreational swimming classes for children and adults across the state of Maryland.** Maryland should implement a model similar to that of peer states, like Connecticut or Massachusetts. In Connecticut, its Department of Energy and Environmental Protection's invested $1.5 million of federal American Rescue Plan Act ("ARPA") funding to partner with the YMCA to offer free swimming lessons over the next three years. In Massachusetts, the Department of Conservation and Recreation awarded $372,000 in funding to organizations under its SWIM program, which provides free beginner swimming lessons to Massachusetts residents of all ages. DNR should partner with schools to ensure classes are coordinated with key ages for swimming (kindergarten and fourth or fifth grade), and to ensure that all Maryland children are swim safe. To respond to aquatic safety and lifeguard shortages more immediately, consider contracting with a private lifeguard recruiting company to attract, vet, hire, schedule, and pay lifeguard staff. Local governments across the country are turning to private companies to attract lifeguard staff and other seasonal employees because private organizations can efficiently attract and hire staff, while meeting state criteria for background checks. These companies also offer training to lifeguard staff, are able to schedule and pay lifeguard staff and act as contractors to governments.

How Park Service Projects Approach Equity

Defining Equity

As described in the 2021 Report of the State Park Investment Commission, equity means creating equal access to opportunities in parks and other green spaces by meeting the needs of individuals. Equity may be considered as both the process of providing for individual needs by expanding access to parks and other green spaces and the goal of achieving this access. Equity includes but is not limited to improving access for low-income Marylanders, those who lack access to a car, and Marylanders with disabilities. For instance, seniors are a growing proportion of Maryland's population and are included in considerations about access.

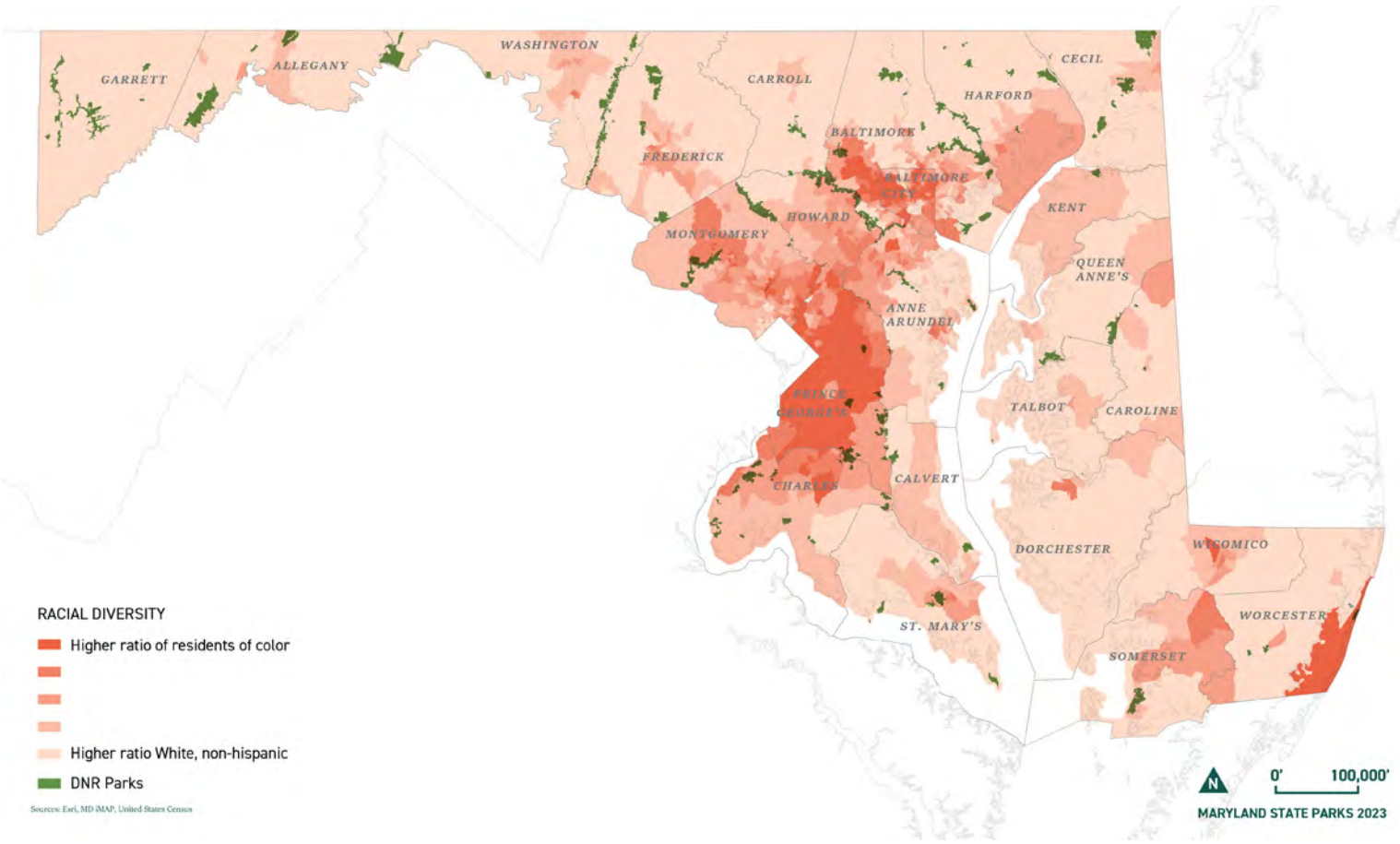
DEIJ

DNR has a stated commitment to advancing Diversity, Equity, and Inclusion Justice (DEIJ) by building relationships with underrepresented groups, including but not limited to communities of color and low income neighborhoods; incorporating community leaders' input into decision-making and implementation; advancing DEIJ in strategies and plans; implementation of restoration activities and grantmaking; and elevating and prioritizing DEIJ in outreach, materials, activities and events. Existing programs include:

- DNR manages the Veterans Conservation Corps (VCC), offering veterans hands-on training and job experience in state park conservation work.
- DNR collaborates with the Maryland Conservation Corps (MCC) to introduce young adults to natural resource management projects. They've expanded this initiative to include the

MPS's Mobile Visitors Center van displays its title in both English and Spanish.

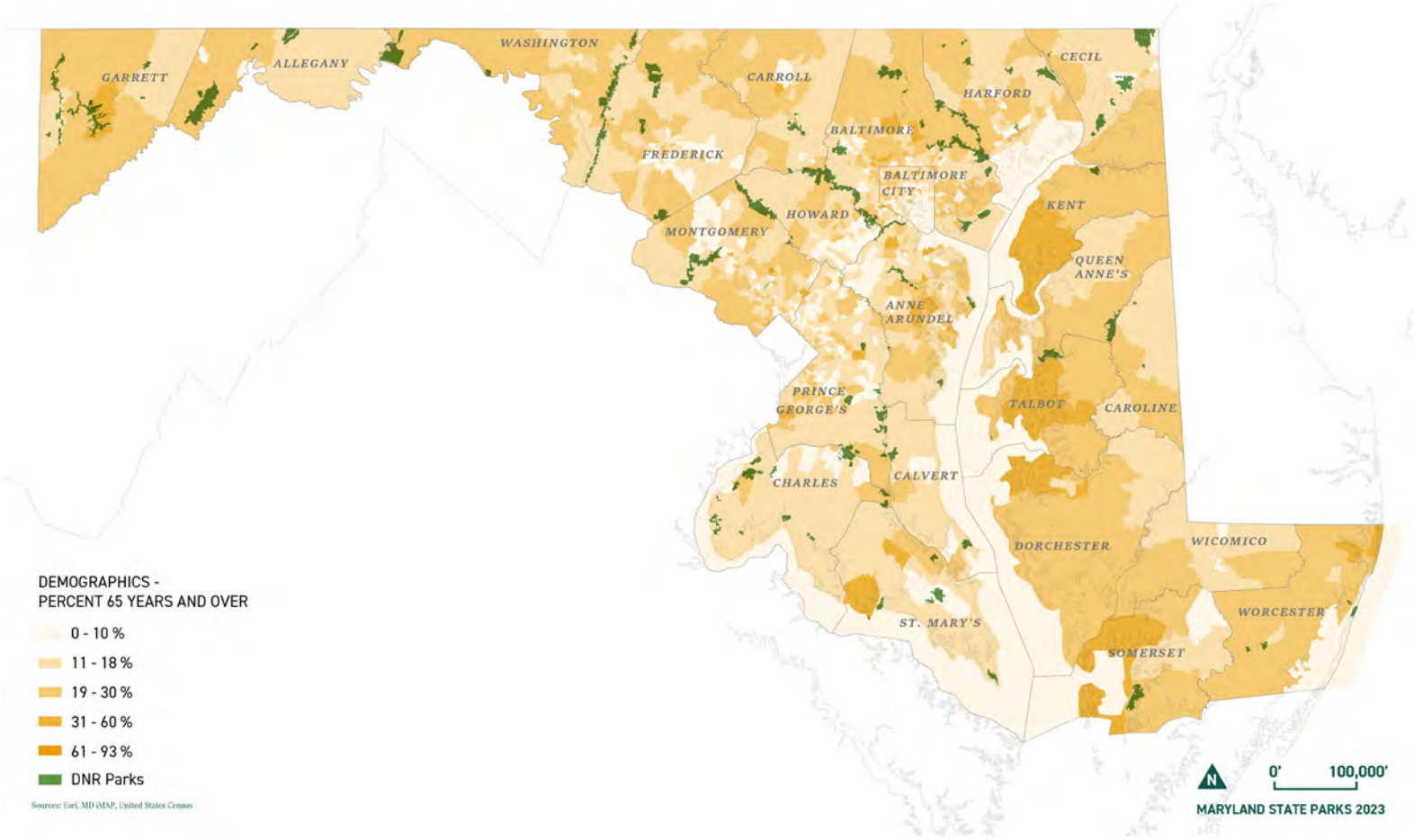
The most demographically diverse areas are closer to population centers (Washington D.C. and Baltimore)



Maryland Conservation Jobs Corps (CJC), a summer program partnering with community organizations to provide conservation service opportunities.

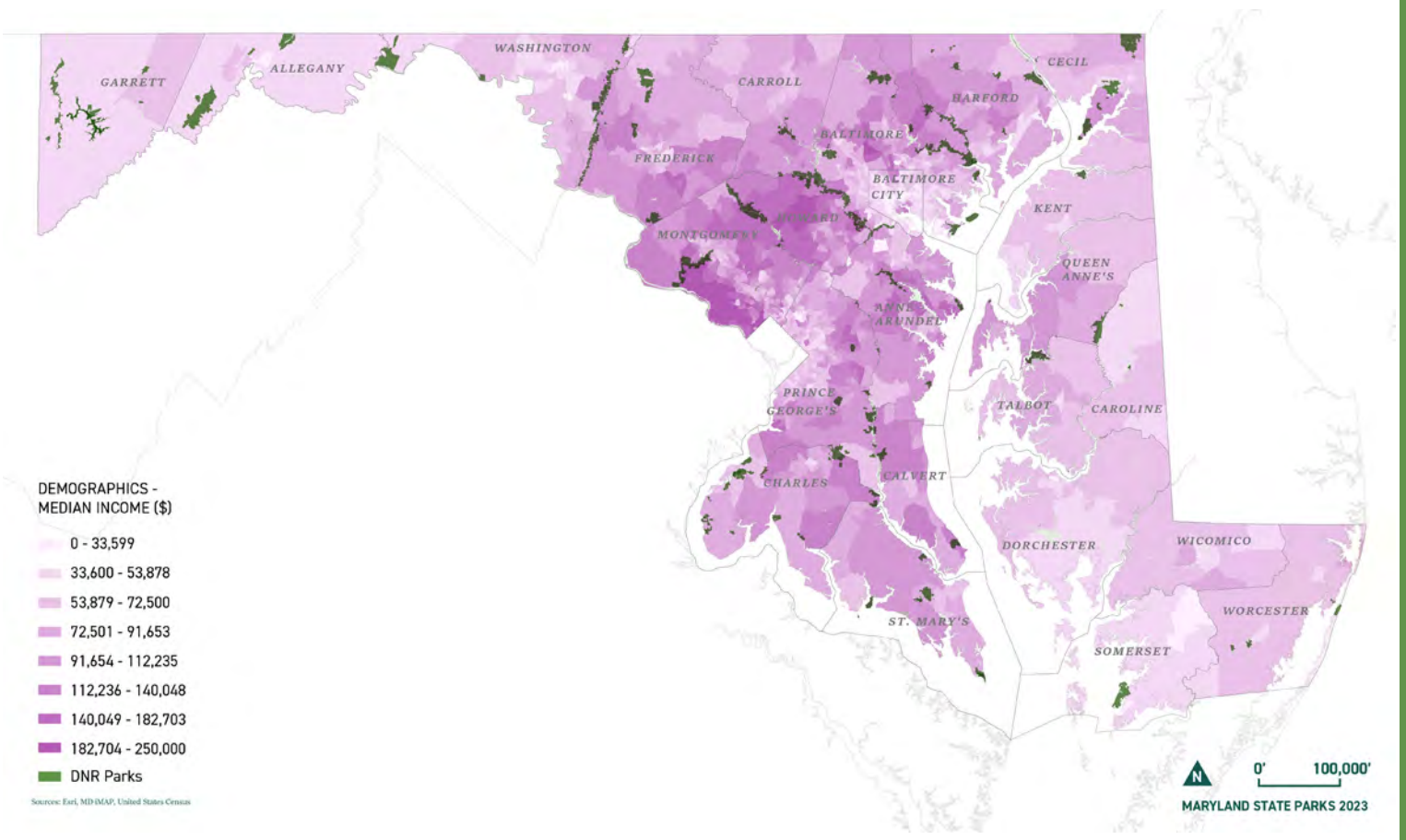
- DNR extends its outreach to youth statewide through partnerships with various community organizations and educational institutions, including but not limited to:
    - Collaborations with Black in Marine Science, Outdoor Afro and GirlTrek to better connect the state's Black residents with the outdoors
    - Program Green Classroom with the State Departments of Education, enabling youth to experience and learn about nature conservation
    - Initiatives supported by the Recreational Boating and Fishing Foundation to mentor at-risk youth and provide access to boating, fishing, and aquatic education
    - Climate Resilience and Coastal Management Program Partnership with Morgan State University (MSU).

Older residents are concentrated on the Eastern Shore



- Departmental Units have internally developed Steering Committees, and subgroups that work from a modified "DEIJ Action Plan". This is a blend of the Chesapeake Bay Program's goals from its report *Restoration from the Inside Out: A Diversity, Equity, and Inclusion Justice Strategy* and Departmental goals on a unit wide scale.
- MPS rangers, staff, and volunteers receive a variety of diversity and multicultural awareness training at Ranger School and onboarding orientations. These topics include equal opportunity employment, Latinx culture, and the nexus between public lands and social justice.
- The NRP conducts annual training in Implicit Bias for each of its law enforcement officers.
- DNR Human Resources Services administers and presents the statewide required Sexual Harassment training continuously throughout the year to all DNR staff.
- Es Mi Parque is a program organized and managed by DNR staff (Office of Fair Practice, Parks, Fishing and Boating Services, Chesapeake & Coastal Service, and other units) and

High household incomes are focused along the Baltimore-Washington metro corridor



volunteers that aims to provide information and services to Spanish-speaking patrons and visitors of our public lands.

- MPS and other DNR staff seek to connect with young professionals by attending HBCU job fairs and other events such as the annual UMCES diversity and inclusion event.
- Meaningful Watershed Educational Experiences (MWEE) for Educators, MWEE Guide

Interpretation

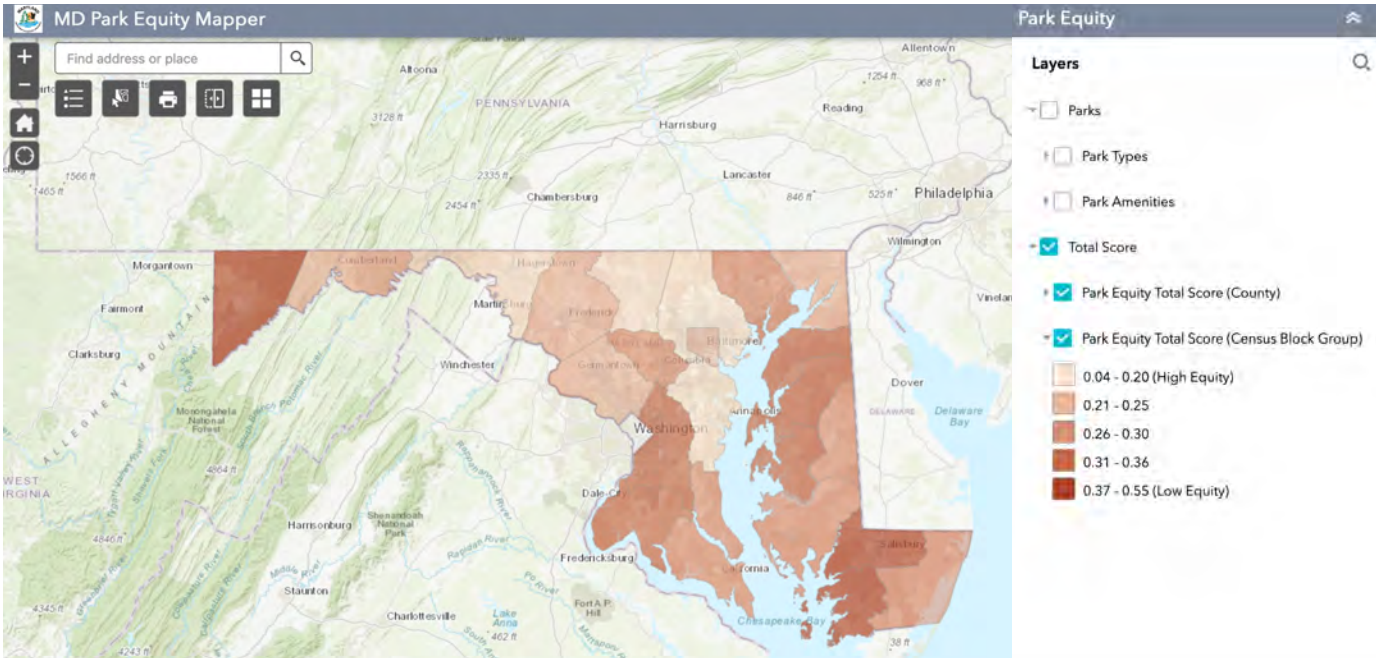
Providing interpretation through a wide variety of media and strategies can be one of the most engaging ways for a park system to build and deepen relationships with audiences of all demographics. Combined with explicit interpretive messages about what it means to work for the state parks system (see California State Parks for a more detailed examples), rich interpretation will pay dividends in long-term

recruitment and build Marylanders' enthusiasm for their state parks. In developing a welcoming and inclusive interpretive program, DNR should uphold the values, principles and goals in an MPS interpretive plan. For example, the interpretive plan developed by California's San Mateo County in 2022 provides "a purposeful approach to communication that facilitates meaningful, relevant, and inclusive experiences that deepen understanding, broaden perspectives, and inspire engagement with the world around us," a definition provided by the National Association for Interpretation.

Transportation

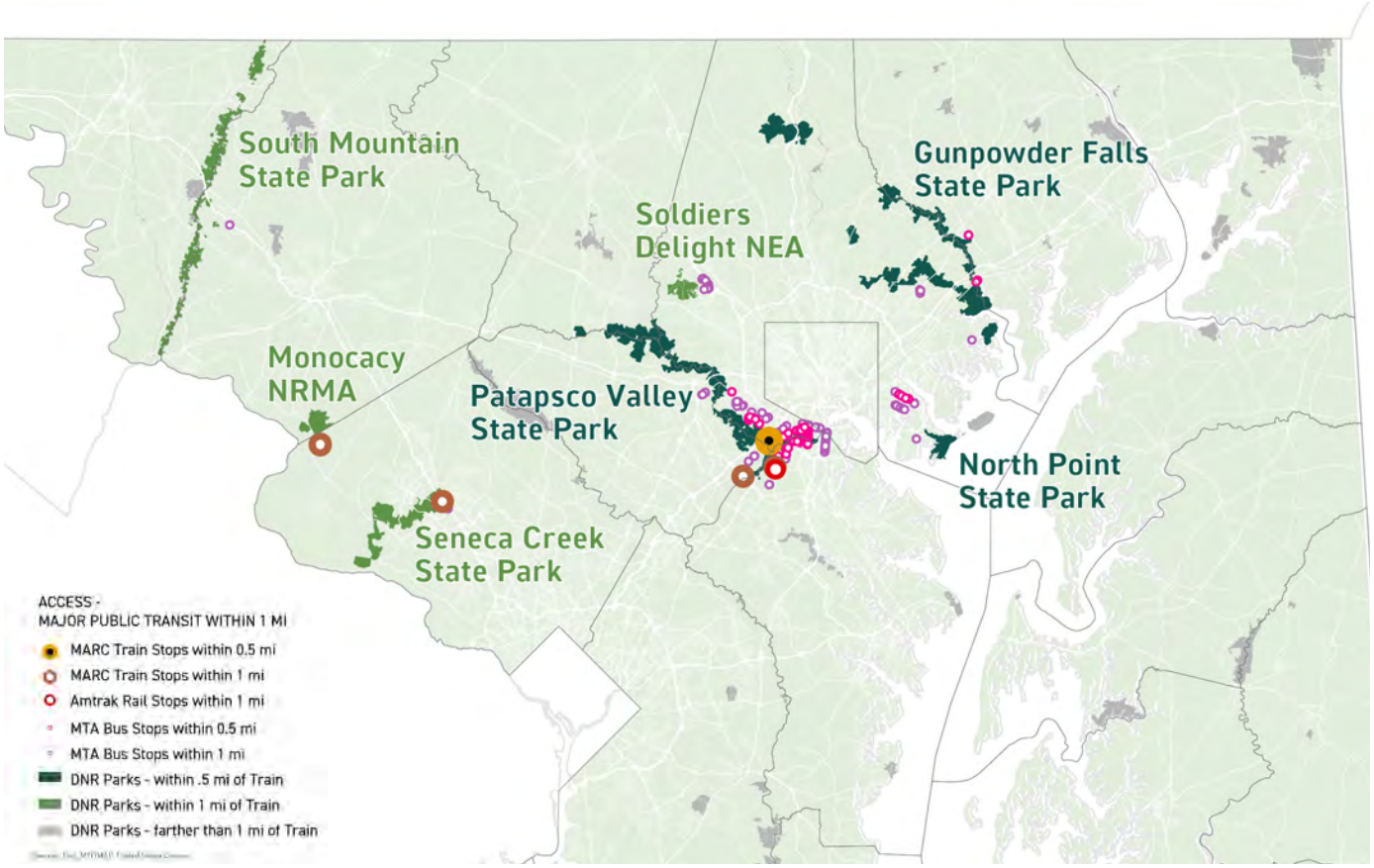
Transportation poses a barrier to park access. GIS analysis of proximity to public transit infrastructure indicates that seven state parks are within one mile of public transit stations and three state parks are within a half mile of a station (Gunpowder Falls, North Point State Park, and Patapsco Valley).

Lack of capacity to expand park transit lines is tied to statewide public transit system problems of transit operator retention and capacity for all bus lines. The Maryland Department of Transportation (MDOT) has identified three park sites as viable pilots for transit extension: LocalLink 63 to North Point State Park, LocalLink 70 to Sandy Point State



MD Park Equity Mapper: Darker Areas Indicate Low Equity

DNR Parks within 1 mile of Major Public Transit



Park, and LocalLink 77 / CityLink Yellow to Patapsco Valley State Park. Pilots were identified based on factors including availability of a current line that passes near the park and turning radius in those areas. MDOT transit services have improved final-mile commute options to parks by lifting regulations on traveling with bikes and scooters on transit lines.

PLACER visitor data (from June 2022- June 2023) for the 12 pilot parks chosen for this study (see list on page 21), indicates that park visitation is both seasonal and sees higher demands on the weekend. All 11 parks see peak visitation in July or May, with additional peaks in August or June. Further, at least 40% of visits in each park occur on Saturday or Sunday.

Demographic analysis of the area around Sandy Point and Greenbrier indicate that residents in those areas are already leveraging public transit to commute to work at higher rates than the areas surrounding peer park visitor counterparts and may be quick to adopt public transit options to the park. MDOT has identified LocalLink 70 as a possible transit extension pilot at Sandy Point. While there is not currently a nearby stop to Greenbrier's entrance, LocalLink 210 runs near the park and it would be beneficial to evaluate the feasibility of a transit connection here.

Park Access

DNR, in collaboration with the University of Maryland School of Public Health, developed the Maryland Park Equity Mapper tool to assist with determining where new park space is needed, and which communities may be currently underserved or underutilized by existing park space. Components of the tool include the following: population density, concentration of low-income households, concentration of children under the age of 17, concentration of adults over the age of 65, concentration of non-white population, distance to public park space, distance to public transportation, and walkability. The Park Equity Mapper identifies Prince George's County and Charles County near Washington DC and Somerset County and Wicomico County in the Eastern Shore as the areas of the state with compiled scores indicating the lowest park equity. More detailed equity mapping will be completed as part of the LPRP process.

Accessibility

Maryland faces a significant accessibility challenge, with over 10.7% of its population and more than 22% of adults (18 and older) having disabilities. Coupled with the nationwide shift where those over 65 years of age are projected to outnumber children by 2036, it's crucial for Maryland's state parks to proactively prepare for increased demand for accessible facilities and services.

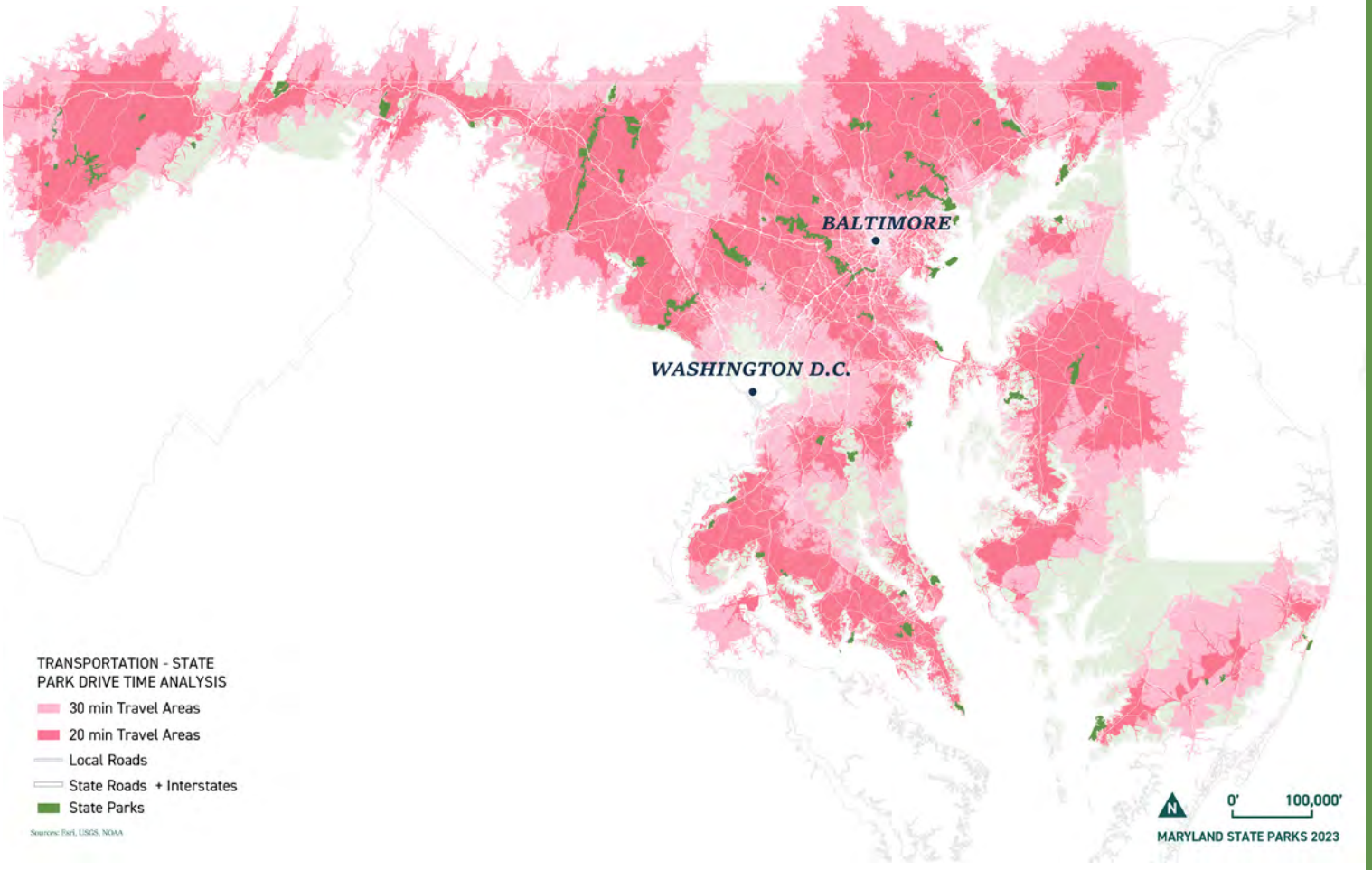
DNR has taken steps to promote park access, offering a lifetime Universal Disability Pass for visitors with disabilities and hosting a quarterly Advisory Council on Disability Issues. Additionally DNR publishes a comprehensive list of public lands, from fishing piers and boat ramps to park trails and picnic areas, that are accessible to those with disabilities. However, despite these efforts, barriers to equitable access persist. A recent report from the State Park Investment Commission in December 2021 noted that, even though older adults account for over 20% of the state's population, they represented only 4% of park users pre-pandemic.

To ensure accessibility for individuals with disabilities, Maryland should embrace universal design principles for transportation to parks, and on-site restroom facilities, recreation spaces, playgrounds, and trails. This commitment to accessibility should extend to public communication, from on-site signage and way finding, to online promotional materials and DNR websites which should be designed in plain language and adhere to ADA compliance for those with visual or hearing impairments.

MPS is required by GMOA Section NR, 5-2A-04(d)(1) to adopt universal design principles in its programming and amenities and by GMOA Section NR, 5-2A-04(d)(2) to adhere to web content accessibility guidelines of the ADA to ensure accessibility for individuals who are deaf, blind, or both.

Maryland can draw inspiration from states like Colorado, which has invested in adaptive recreation programs such as its Track-Chair initiative, which enhances access to its trail system with free all-terrain wheelchairs available for reservation.

Drive Time to DNR Parks (20 & 30 Minutes)



Key Accomplishments

- Focus on equity in outreach, signage
- Partnerships with other organizations
- Access for all section of DNR website
- Listening to communities

Areas for Improvement

- Expanded bus access to parks, particularly in the Baltimore metro area and Washington D.C.
- Improved bicycle, sidewalk, and trail access to State parks
- Universal design principles
- Coordination to bridge the gap between great work being done at State level but also local level
- Diversifying the workforce and exposing new generations and populations to jobs available

Additionally, following the lead of the NPS, parks across the country are developing comprehensive plans for implementing audible and tactile features on outdoor way finding maps and open-captioned videos at high-traffic park visitor centers, as seen in California Sequoia and Kings Canyon National Parks.

Equity Recommendations

#	Key Findings / Current State	Recommendation
70	Currently, there is no systemwide plan or standards to support interpretation across all park audiences.	**Develop a robust approach to a welcoming and inclusive interpretive program relevant to all audiences** by undertaking the development of an interpretive plan that explicitly addresses diversity, equity, inclusion, and access (DEIA) through strategies for outreach, events, education, access, and staffing initiatives (recruitment, placement, training, etc.).
71	Currently, there is limited analysis completed by the Maryland State Parks that tracks or analyzes current and trending state population demographic information. As a result, the Park Service is not able to fully assess who is being served.	**Building off the Maryland Park Equity Mapper, continue to work with the Maryland Department of Planning to gather and analyze detailed demographic information that articulates the State of Maryland's current and trending population breakdowns by race and ethnicity, income, age, geography, and ability to understand the population makeup of the state.** This data will form a baseline against which to compare the data collected in #67 to compare how park visitors reflect the demographics of the state as a whole.
72	Current data collection and tracking by Maryland State Parks does not provide any demographic information including by race and ethnicity, income, age, geography, and able bodied/disabled. As a result, it is impossible to accurately know who is and who is not being served by the State Parks.	**Develop and implement data tracking strategies and methodologies.** MPS needs to develop overarching data collection strategies and specific methodologies to track who is and isn't being served by Maryland State Parks. A minimum of 3 dedicated GIS professional staff are needed to research current State Parks data tracking and collection practices, develop updated strategies and methodologies to collect and analyze data and report the results about State Park reach and usage. Strategies to minimize administrative and field impacts need to be developed; these strategies will likely result in new and updated technology needs across the state park system.

#	Key Findings / Current State	Recommendation
73	MDOT transit services have enhanced last-mile commuting options to parks by relaxing regulations on carrying bikes and scooters on transit lines. Additionally, MDOT has identified three park sites (North Point State Park, Sandy Point, and Patapsco Valley) as feasible pilot locations for transit extensions. Nonetheless, each park in the system has approximate transit routes that can be extended to park entrances.	**Collaborate with MDOT to conduct a final-mile inventory on sidewalk, trail, bike lane, and road conditions near park entrances** to identify potential improvement needed for transit expansion, multi-modal commuting, and provide equitable access. This might include increased bicycle lane access or shuttles from points of interest. Additionally, DNR and MDOT should implement transit pilot program extensions in state parks with proximity to transit. To supplement the three MDOT-identified pilot transit extension programs to be implemented in North Point State Park, Sandy Point State Park, and Patapsco Valley State Park, DNR should analyze the feasibility of improving final-mile access for Gunpowder Falls State Park, South Mountain State Park, Monocacy NRMA, Soldiers Delight NEA, and Seneca Creek State Park, given their current proximity to existing transit. DNR should develop trails/sidewalks connecting communities adjacent to or within close proximity to state parks with bike and walkable access.
74	Currently, there is no DNR formalized strategy to ensure equitable access to and equitable services within Maryland State Parks.	**Formalize strategies to ensure equitable access to and equitable services at state parks.** Once the state park system has gathered Maryland's current and trending demographics, State Park usage data, and transit access data, Maryland State parks should look at the data collectively and begin to identify intentional strategies to ensure that all Maryland residents have equal access to Maryland State Parks and that the services provided at the State Parks are meeting the needs of all residents. These strategies should focus on areas identified by the Maryland Park Equity Mapper and subsequent analysis as being currently underserved or underutilized by existing park space, such as Prince George's County, Charles County near Washington DC and Somerset County and Wicomico County in the Eastern Shore.
75	Many State Parks are inaccessible to persons with disabilities by nature of changing requirements around ADA access and the age and renovation dates of most State Park infrastructure and facilities.	**Conduct an ADA transition plan** for all developed State Parks within the system, with a focus on publicly accessible parking lots and facilities, playgrounds, and popular destinations within parks.

PILOT PARKS
Assateague State Park: Existing Conditions

Legend

Assateague SP Boundary

TRAILS
- DNR Land Trails
- MDOT SHA Bike Spine

STRUCTURES
- DNR Building Footprints
- Other Building Footprints

ROADS
- DNR Roads
- Maryland Local and Other Roads
- Maryland Routes

NATURAL RESOURCES
- Waterbodies

HISTORY
- MHT Preservation Easements
- National Register of Historic Places

OTHER PROTECTED LANDS
- NPS Boundaries

POINTS OF INTEREST
1. Camp Registration Building
2. Beach Concessions & Restaurant
3. Nature Center, Pavilion & Playground
4. J Loop - Walk-In Campground
5. Marina & Living Shoreline Project
6. Park Headquarters & Dormitories
7. Rackliffe House
8. Assateague National Seashore Visitor Center (NPS)
9. Paul S. Sarbanes Coastal Ecology Center

0 5001,000 2,000 3,000 Feet

N

Why This Park?

- Rare/imperiled ecology & high numbers of visitors
- Ponies and accompanying challenges (vehicle speeds, food storage)
- Flood risk & climate change impacts
- Proximity to national park
- Highest ratio of visitors to Full Time Staff (141,000 visitors to FT Staff)

Facts & Recommendations

Pilot Park Name	Assateague State Park
County	Worcester
Area (Acres)	855
Region	Eastern
Visitors (2022)	1,839,363
Closures (2022)	10
Existing Parking Spaces	1221
Recommended Additional Parking	100-150
Total Expenditures (2022)	$2,208,309.12
Total Revenue (2022)	$2,113,522.33
5-Year Critical Maintenance Improvement Program	$249,000.00
Current Full-Time Staff*	11
Recommended Additional Full-Time Staff*	6-21

*Staffing numbers reflect totals for the entire park complex

Walk-in camp sites at J Loop.

Informal paths through shoreline habitats.

CASE STUDY: Nahant State Beach, MA

The Nahant Beach Reservation is a protected coastal reservation covering 67 acres of beach, protected and renaturalized dunes, and recreational areas in the town of Nahant, Massachusetts. It offers a 7,000-foot-long sandy beach on the Atlantic Ocean.

The reservation includes a boat ramp with access to Lynn Harbor and shares athletic fields with Lynn Shore Reservation and connects into a regional greenway trail system that enables bicyclists and pedestrians access to the commuter train and a nine mile trail link into Boston.

In response to the COVID pandemic, the state reevaluated its fee structure for resident versus non-resident admission to the popular beach. Today, Massachusetts residents pay $10 for entry to the beach per vehicle and non-Massachusetts residents pay $40 per vehicle to visit the beach during peak season. Assateague, and MPS, could consider an out-of-state fee difference for camping and day use.

Assateague State Park: Future Conditions

Legend

Assateague SP Boundary

TRAILS

- DNR Land Trails
- MDOT SHA Bike Spine

STRUCTURES

- DNR Building Footprints
- Other Building Footprints

ROADS

- DNR Roads
- Maryland Local and Other Roads
- Maryland_Routes

NATURAL RESOURCES

- Waterbodies

HISTORY

- MHT Preservation Easements
- National Register of Historic Places

MD LIVING RESOURCES

BioNetTier

- Tier 1

SEA LEVEL RISE

- Sea Level Rise Vulnerability - 1'
- Sea Level Rise Vulnerability - 2'

OTHER PROTECTED LANDS

- NPS Boundaries

POINTS OF INTEREST

1. Camp Registration Building
2. Beach Concessions & Restaurant
3. Nature Center, Pavilion & Playground
4. J Loop - Walk-In Campground
5. Marina & Living Shoreline Project
6. Park Headquarters & Dormitories
7. Rackliffe House
8. Assateague National Seashore Visitor Center (NPS)
9. Paul S. Sarbanes Coastal Ecology Center

0 5001,000 2,000 3,000 Feet

N

Recommendations

Mission Alignment

- Acquire parcels inland to provide recreational space or future campsite infrastructure off of the island.
- Continue to maintain and expand DNR's existing partnership with the Maryland Coastal Bays Program and secure more funding from the Chesapeake and Atlantic Coastal Bays Trust Fund to expand the scope and scale of the existing living shoreline project. Better communicate to campground visitors the role and impacts of living shorelines on human, animal, and plant systems.
- Identify the effects of the living shoreline project so far and determine other locations where it could be equally or even more beneficial.

Visitor Experience

- Provide additional overflow parking at the headquarters and visitor center for peak season and provide a shuttle or expanded, safe pedestrian walkways to the barrier island. Though the number of cars turned away when the park reaches capacity is not calculated, based on 2020 and 2021 capacity data and timing of closures, this report recommends that MPS add between 100 and 150 parking spaces.
- To align with the climate change recommendations below, additional park infrastructure should be light touch, flexible parking support (e.g. compacted sand or granite dust, rather than concrete or asphalt).

Funding

- Prioritize accessing federal funds for sand bypassing projects that will decrease sand erosion and prevent dune degradation.
- Use the GMOA allocated PINS to increase the number of staff at the park by six full-time staff.

Climate Change, Public Health and Equity

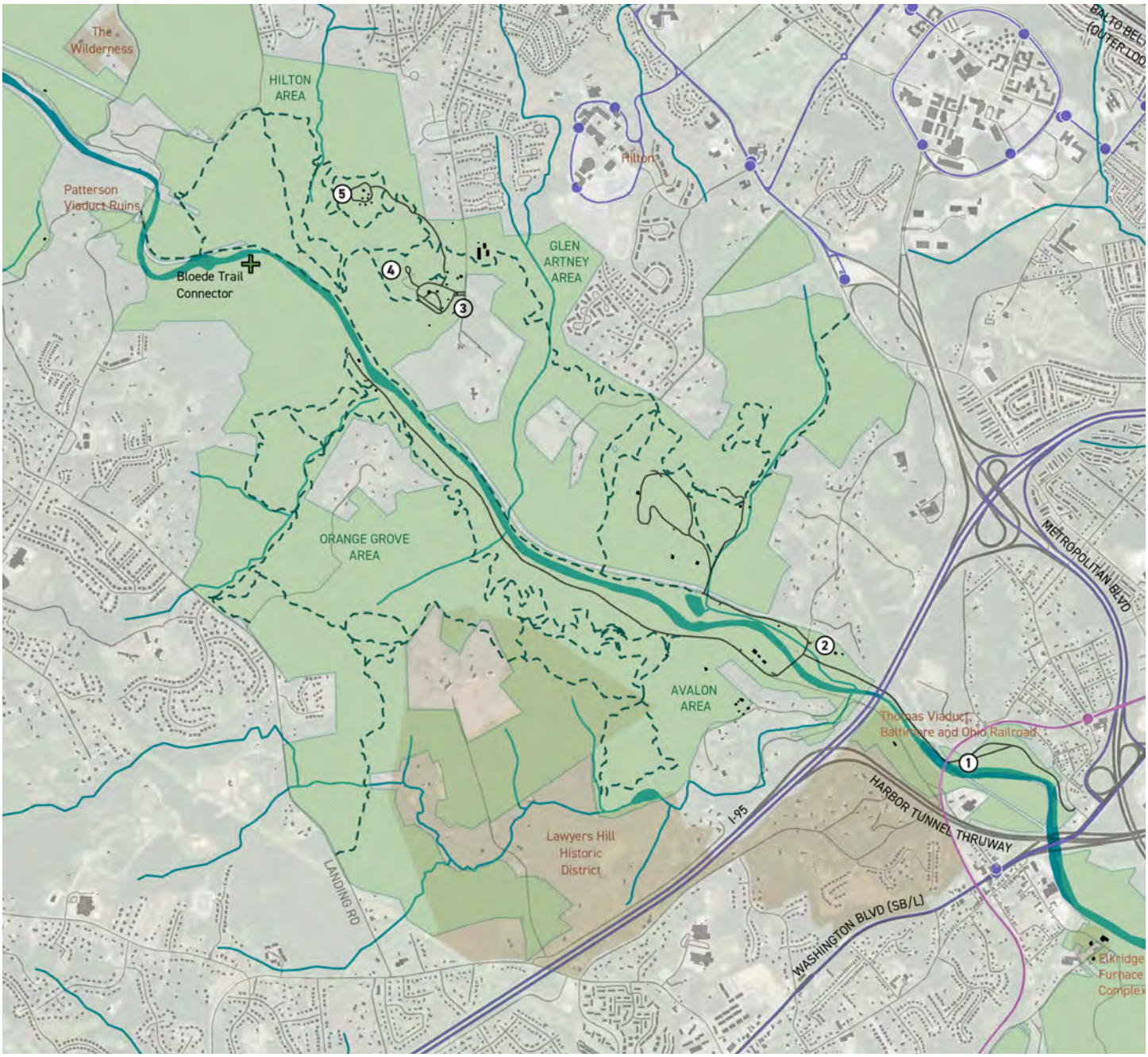
- Implement the Assateague State Park Climate Change Adaptation and Resilience Planning Guide, published November 2022. This guide's aim is to "identify climate threats and impacts, categorize the changing assets, and propose adaptation strategies to conserve and foster the natural, cultural, and historic resources of Assateague State Park and to continue to provide recreational opportunities for as long as possible in a sustainable manner." (Assateague State Park Guide, pg. 3) Priority recommendations are to:
  - Increase sand bypassing
  - Conduct dune monitoring and stabilization
  - Hire a Design Engineer to redesign campgrounds to account for vulnerability, “walk-in” sites and parking
  - Monitor marshes and stabilize shorelines
  - Acquire more land
  - Work with MDOT to assess the vulnerability of the Verrazano Bridge, especially related to storm surge, hurricane, and long term SLR impacts.
  - Improve infrastructure
- Shift to a model of adaptive campsites with more "walk-in" infrastructure and less man made facilities including asphalt roadways, utilities, and buildings.
- Create public exhibits and workshops that leverage parks as on-site opportunities for engagement opportunities that inform the public on climate change impacts on the ecosystem. For instance, as proposed in the 2022 Assateague State Park Climate Change Adaptation and Resilience Planning Guide.
- Train interpretative staff, rangers, and maintenance staff to speak to ecosystem and climate change impacts with visitors.
- Create a managed retreat plan to reduce building footprint and infrastructure on the island over time and naturalize the island to the extent possible so that as sea levels rise, Assateague Island can function in its natural state.*
- Create a long-term plan to centralize all visitor and camping facilities inland.

Comparable DNR Parks

- Janes Island State Park (biodiversity and sea level rise risk)

* The Georgetown Climate Center Managed Retreat Toolkit can be looked to as a good informational resource https://www.georgetownclimate.org/adaptation/toolkits/managed-retreat-toolkit/plans.html

PILOT PARKS
Patapsco Valley State Park: Existing Conditions



Legend

Patapsco Valley SP Boundary

TRAILS
- DNR Land Trails
- MDOT RTP Trail Projects

STRUCTURES
- DNR Building Footprints

ROADS
- DNR Roads
- Maryland Local and Other Roads
- Maryland_Routes

WATER
- Waterbodies

HISTORY
- MHT Preservation Easements
- National Register of Historic Places

TRANSIT
- MARC Train Stations
- MARC Train Lines
- MTA Bus Stops
- MTA Bus Lines

POINTS OF INTEREST
1. Avalon Area Ranger Station
2. Avalon Area Visitor Center
3. Glen Artney Area Ranger Station
4. Glen Artney Area Campground
5. Hilton Area Campground

Feet
0 500 1,000 2,000 3,000

N

Why This Park?

- High visitation & high value ecological resources
- Large amount of deferred maintenance work orders
- Nearby transit access
- Large park with many entrances, noncontiguous parcels, challenges of informal parking & access

Facts & Recommendations

Pilot Park Name	Patapsco Valley State Park
County	Howard, Anne Arundel and Baltimore
Area (Acres)	14,296
Region	Central
Visitors (2022)	1,478,158
Closures (2022)	35
Existing Parking Spaces	1,480
Recommended Additional Parking	100-150
Total Expenditures (2022)	$3,346,460.98
Total Revenue (2022)	$682,921.87
5-Year Critical Maintenance Improvement Program	$3,306,000.00
Current Full-Time Staff*	21
Recommended Additional Full-Time Staff*	8-16

*Staffing numbers reflect totals for the entire park complex

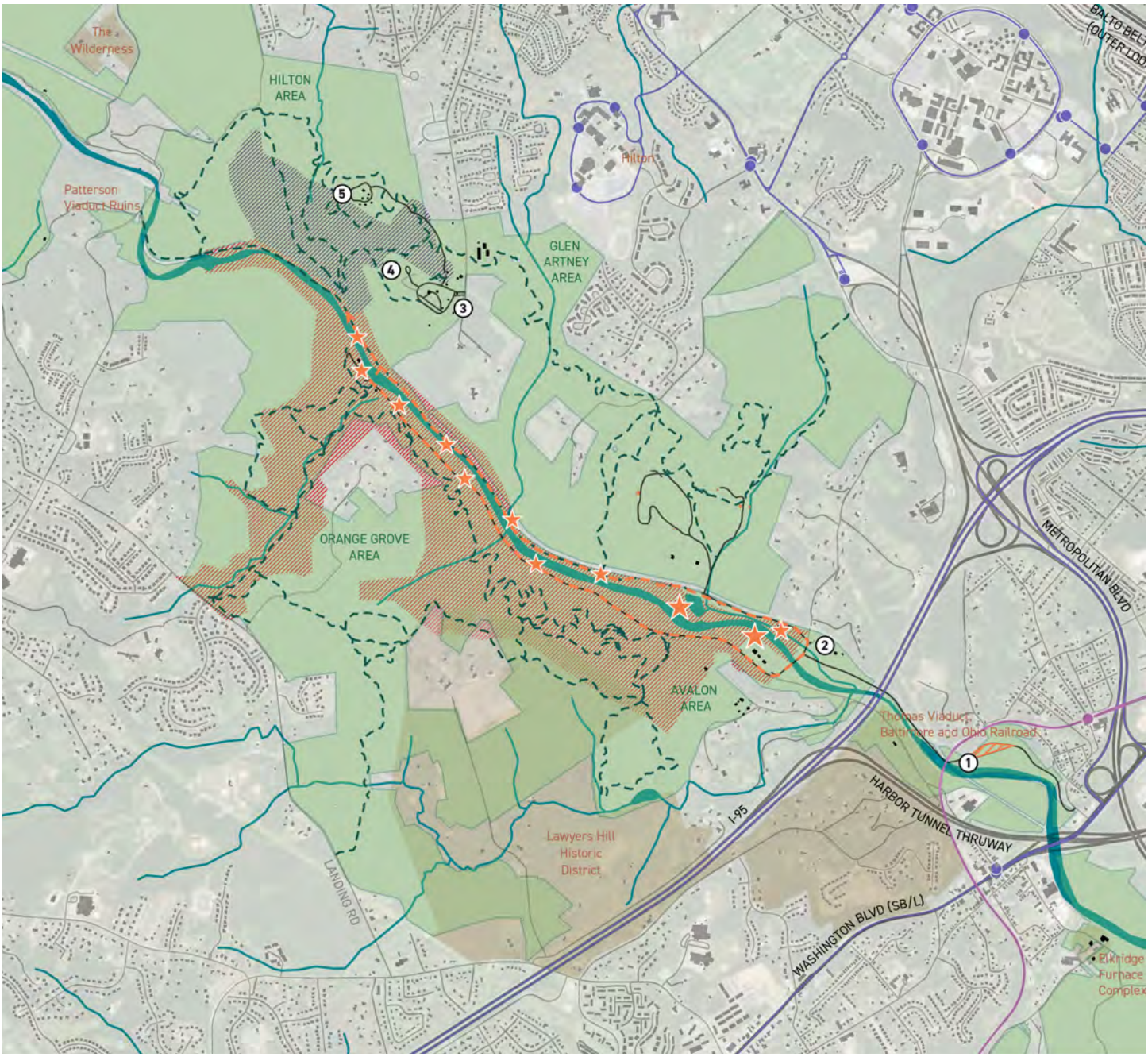
Flooding and foot traffic compacted and destabilized shoreline.

Rentable park pavilion.

CASE STUDY:
Walden Pond State Reservation, MA

Walden Pond State Reservation, a National Historic Landmark, is famed as the origin of the Conservation Movement due to Henry David Thoreau, who lived there from 1845-1847 and later wrote "Walden; Or, Life in the Woods." The site, attracting around half a million visitors annually, offers recreation including swimming, hiking, and boating. The Massachusetts Department of Conservation and Recreation recently completed a LEED certified Visitor Center that is located proximate to a regional bus line into Boston. Importantly, the project also balances accessibility and safety, with extensive plantings, subtle fencing along the pond shores to limit informal trails through sensitive habitats, and enhanced crosswalks to protect pedestrians from fast moving vehicles. Patapsco Valley State Park should improve access between transit and the park and should consider fencing to improve the park's ecology while still inviting visitors to the river's shores.

Patapsco Valley State Park: Future Conditions



Legend

Patapsco Valley SP Boundary

TRAILS
- DNR Land Trails

STRUCTURES
- DNR Building Footprints

ROADS
- DNR Roads
- Maryland Local and Other Roads
- Maryland_Routes
- Interstates

WATER
- Waterbodies

HISTORY
- MHT Preservation Easements
- National Register of Historic Places

MD LIVING RESOURCES

BioNetTier
- Tier 1
- Tier 2

TRANSIT
- MARC Train Stations
- MARC Train Lines
- MTA Bus Stops
- MTA Bus Lines

PROPOSED
- ADA Accessible Trails
- Proposed Park Boundaries
- Proposed Water Access Sites

POINTS OF INTEREST
1. Avalon Area Ranger Station
2. Avalon Area Visitor Center
3. Glen Artney Area Ranger Station
4. Glen Artney Area Campground
5. Hilton Area Campground

Feet
0 500 1,000 2,000 3,000

N

Recommendations

Mission Alignment

- Engage with existing volunteer and friend of groups to effectively manage marsh marigold.
- Clarify opportunities for visitors to venture to the river's edge by incorporating light touch fencing that guides people to specific entry points and protects areas along the river that need to be restored. The case study example, Walden Pond State Park in Massachusetts is a good example of fencing to balance visitor use and shoreline restoration/conservation.

Visitor Experience

- Invest in historic pavilions and facilities in deteriorating condition and ensure these facilities meet ADA standards. Prioritize investments in the pavilions for immediate restoration.
- Update interpretive signage for unique elements of the Park, including for the distinctive stone railroad bridge which was completed in 1835 (for the nation's first railroad, the B&O). The bridge is the world's largest multiple arched stone railroad bridge with an arc.

Funding

- Supplement park maintenance & stewardship through the development of park partnerships and support from volunteer programs.
- Continue to work with the Friends group to support regular de-littering, invasive removal, and replanting efforts, but will require coordination, training, and supervision by the identified volunteer coordinator.
- Install solar-powered parking fee kiosks at all parking lots to increase funding and better understand the number of visitors, patterns of park visits, and as a way to understand where visitors are coming from (through credit card and debit card information).
- Work with DNR leadership to confirm how parking kiosks should be enforced. The Sandy Point State Park model of random Natural Resource Police visits and ticketing appears to work well.

Climate Change, Public Health and Equity

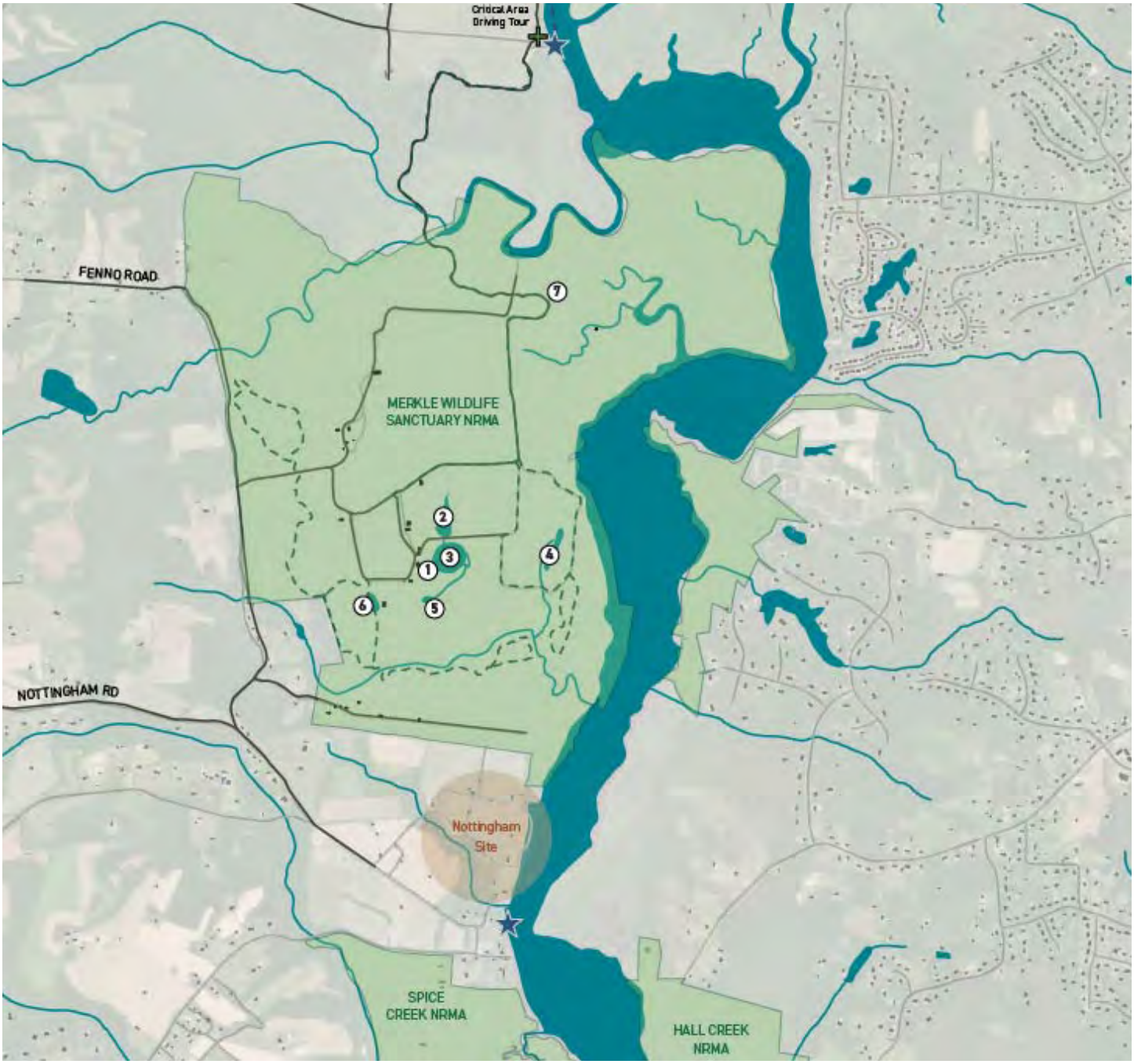
- Partner with MTA and MARC to provide advertising and wayfinding between train stations and the park.
- Work with Howard County and Baltimore County to ensure future roadway infrastructure projects include complete streets infrastructure for bicyclists and pedestrians, especially from major entrances to dense neighborhoods and to transit stations and bus stops.
- Partner with organizations like Outdoor Afro and with the Baltimore County Parks and Recreation Department to provide nature-based programs for communities of color, with a focus on youth.

Comparable DNR Parks

- Sassafras State Park (high value ecological resources)
- Smallwood State Park (historical resources, camping, and water access)

PILOT PARKS

Merkle Natural Resources Management Area & Other NRMAs along the Patuxent River: Existing Conditions



Legend

NRMA Boundaries

TRAILS
- DNR Land Trails
- MDOT SHA Bike Spine

STRUCTURES
- DNR Building Footprints
- Other Building Footprints

ROADS
- DNR Roads
- Maryland Local and Other Roads
- Maryland_Routes
- Interstates

WATER
- Water Access Site - Small Scale
- DNR Water Trails
- Waterbodies

HISTORY
- MHT Preservation Easements
- National Register of Historic Places

POINTS OF INTEREST
1. Merkle Wildlife Sanctuary Visitors Center
2. Windmill Pond
3. Merkle Pond
4. Catfish Pond
5. Frog Pond
6. Stump Pond
7. Observation Tower

0 5001,000 2,000 3,000 Feet

N

Why This Park?

- High levels of biodiversity and valuable ecosystems
- Large geographic distribution of areas
- Partnership & education opportunities
- Climate change impacts

Facts & Recommendations

Pilot Park Name	Merkle Natural Resources Management Area
County	Prince George's
Area (Acres)	1,714
Region	Southern
Visitors (2022)	15,611
Closures (2022)	No Data
Existing Parking Spaces	25
Recommended Additional Parking	0
Total Expenditures (2022)	$171,447.64
Total Revenue (2022)	$1,720.00
5-Year Critical Maintenance Improvement Program	$550,000.00
Current Full-Time Staff*	5
Recommended Additional Full-Time Staff*	1

*Staffing numbers reflect totals for the entire park complex

Tier one biodiversity area along the Mataponi Creek.

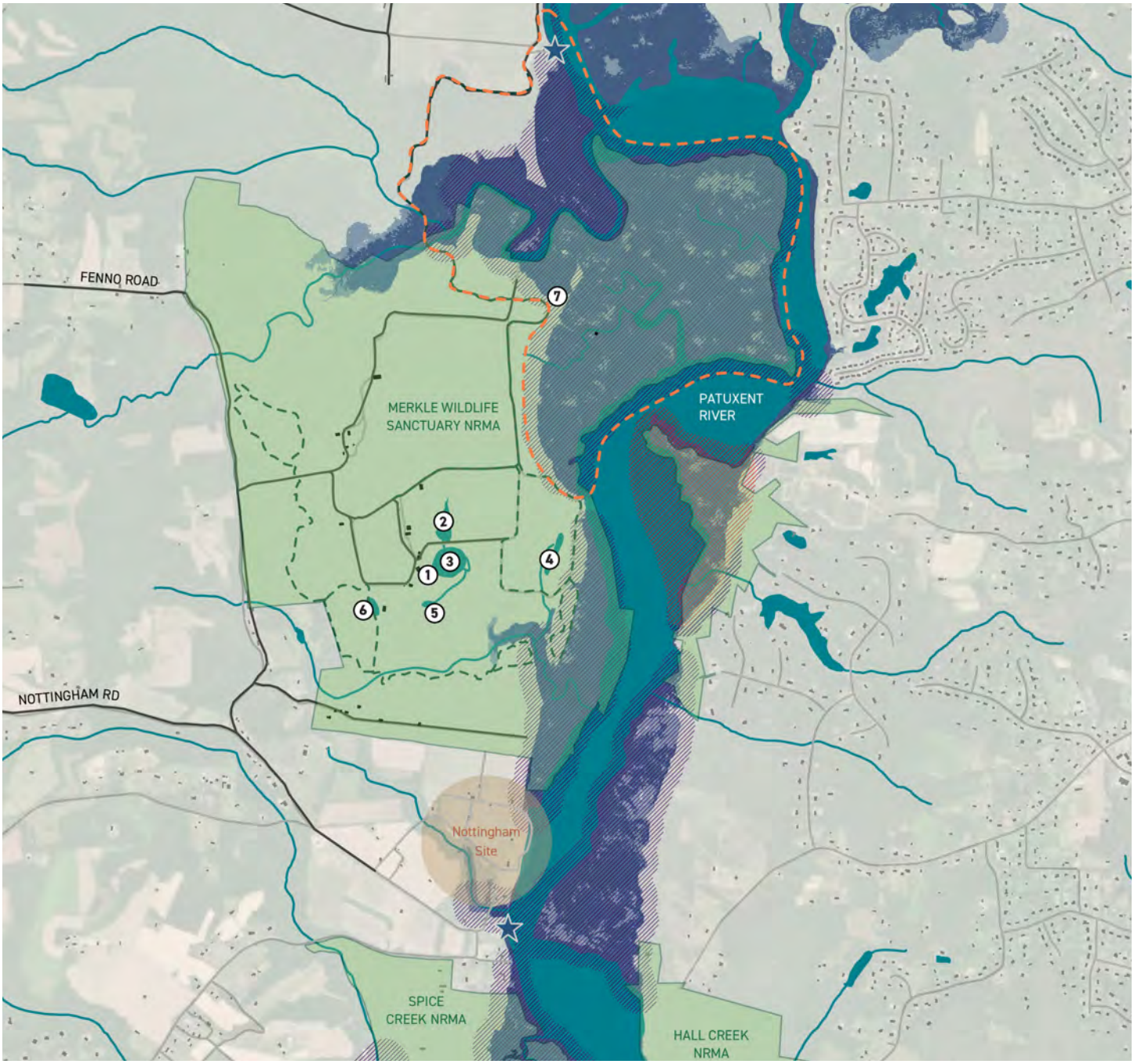
Capital improvements can increase inclusion using ADA requirements.

CASE STUDY: Roanoke Blueways

Blueways are water trails that benefit water enthusiasts and Virginia's economy. The growing interest in kayaking creates demand for water trails, requiring collaboration between public and private landowners. These trails provide recreation, economic opportunities, tourism, and education. Key components for success include public access points, parking, and rest stops.

The Patuxent River NRMA already has a paddle in campsite and identified paddling route along the river for long paddle trips. To appeal to more daytime users, the NRMA could create a series of Blueway routes of varying lengths to support differing abilities and availabilities.

Merkle Natural Resources Management Area & Other NRMAs along the Patuxent River: Future Conditions



Legend

Patuxent River NRMA Boundaries

TRAILS
- DNR Land Trails
- MDOT SHA Bike Spine

STRUCTURES
- DNR Building Footprints
- Other Building Footprints

ROADS
- DNR Roads
- Maryland Local and Other Roads
- Maryland_Routes
- Interstates

WATER
- Water Access Site - Small Scale
- DNR Water Trails
- Waterbodies

PROPOSED
- ADA Accessible, Flood Resilient Trail

HISTORY
- MHT Preservation Easements
- National Register of Historic Places

MD LIVING RESOURCES

BioNetTier
- Tier 1
- Tier 2

SEA LEVEL RISE
- Sea Level Rise Vulnerability - 1'
- Sea Level Rise Vulnerability - 2'

POINTS OF INTEREST
1. Merkle Wildlife Sanctuary Visitors Center
2. Windmill Pond
3. Merkle Pond
4. Catfish Pond
5. Frog Pond
6. Stump Pond
7. Observation Tower

0 5001,000 2,000 3,000 Feet

N

Recommendations

Mission Alignment

- Relocate paddle-in campground to an area outside of the biodiversity conservation area.
- Relocate all trails to areas outside of the biodiversity conservation area and outside of floodplains.
- Where new trails will be built within areas that will experience SLR, use materials that can be regularly inundated with water or build flood resilient boardwalk infrastructure.
- Install signage to conservation areas to communicate their ecosystem roles and the need to protect native species.

Visitor Experience

- Expand the partnership with Maryland-National Capital Park and Planning Commission (M-NCPPC) to provide weekly access to a driving route through the two park spaces.
- Increase comfort for visitors by constructing permanent composting toilets to replace existing temporary restroom facilities at key water access points, outside of the 1' and 2' projected SLR inundation areas, and outside of Tier 2 biodiversity conservation areas.
- Create a "blueway" loop trail and trail map. Partner with local outdoor adventure companies to provide hand powered boat rentals (e.g., kayak, canoe, paddleboard) on weekends with a return loop that connects through the driving boardwalk.

Funding

- Continue partnerships with Prince George's County school system to employ high school students in summer work study programs related to conservation and light maintenance work, and work to scale up the program statewide.

Climate Change, Public Health and Equity

- Develop an ADA transition plan to ensure future capital investments prioritize visitors with disabilities.
- Partner with M-NCPPC to expand events (e.g. participate in the annual American Indian Festival).
- Create a plan to strategically acquire parcels along the Patuxent River to preserve pervious living shorelines and to reduce impacts to residential and agricultural land uses.
- Partner with College of Southern Maryland and other neighboring local universities to develop a public exhibit that raises awareness about the impacts of climate change on the ecosystem.
- Provide targeted funding to improve shade and temperature cooling structures for visitors, such as park-provided shade tents, tree planting in public spaces, and retrofit the visitors center for the general public to use as a cooling center within the park area.

Comparable DNR Parks

- St. Clements Island State Park (flood risk, rare & imperiled ecology)
- Wye Island NRMA (flood risk, rare & imperiled ecology)

FUNDING

The following chapter includes a high-level examination of the financial performance and fiscal health of the Maryland Parks Service. The GMOA was created in response to significant and long-term underfunding of Maryland State Parks - including an underfunding of the physical assets (facilities, infrastructure), accessible parks (land acquisition and development), and capacity (staff and supporting systems) under the auspices of the State.

A major component of this study was an analysis of the existing Maryland Park Service revenues and expenditures, deferred capital needs, and operating needs. With the analysis of the financial needs of the system as a guide, the chapter also includes a series of recommendations and funding scenarios to support the long-term operational and financial health of the organization.

The chapter explores new revenue sources DNR could pursue to further stabilize and enhance funding for its park operations and contemplates scenarios to illustrate the impacts of different revenue options. Finally, this funding analysis also includes phased recommendations for implementing new revenues over three years.

Current Funding Environment

Funding Sources Overview

Maryland State Parks operate out of a variety of funds with a diverse range of revenue sources. For Fiscal Year 2022, the State Parks' expenditures totaled approximately $60.73 million and were spread through four main funds - general funds, special funds, federal funds, and reimbursable funds. Within the special fund revenue category, there are eight individual special funds supporting operations.

The diversity of funding available to the State Parks speaks to the breadth of services it offers and the priority the State has placed on maintaining its parks. Table 1 shows the distribution of fiscal 2022 funding. A description of each fund follows.

This analysis focuses on 2022 funding levels because it was the most recent complete year of financial data available. GMOA distribution changes made in 2023 are reflected in projection scenarios later in this report.

Table 1: State Park Expenditures by Fund

All Sources	2022 Actuals
General Fund	$1,349,406
Special Fund	$57,121,820
POS Transfer Tax	$31,667,615
Forest and Park Reserve Fund	$21,078,025
Private Donation	$172,372
Forest and Park Concession Fund	$1,905,813
Deep Creek Lake Management and Protection Fund	$823,233
Fair Hill Improvement Fund	$479,734
Natural Resource Property Maintenance Fund	$609,642
Off-Highway Recreational Vehicle Trail Fund	$385,386
Federal Fund	$325,300
Reimbursable Fund	$1,931,815

Photo: Enjoying the view at Rocks State Park.

2022 Funding Sources

General Fund: The General Fund is the primary operating fund for the State, capturing revenues from broad-based State taxes. It supports a variety of government functions, including conservation efforts. The General Fund's contribution to State Parks in fiscal 2022 was $1.35 million, accounting for 2.22% of the total parks budget.

Special Fund: Special funds consist of revenues collected by the state, the use of which is statutorily limited to certain purposes. The special fund's contribution to State Parks in 2022 was $57.12 million, accounting for 94.06% of the total parks budget. The individual special funds supporting the Maryland Park Service's budget in fiscal 2022 are as follows.

POS Transfer Tax: Revenue from the Program Open Space (POS) Transfer Tax is derived from real estate transactions. The allocation amount that POS receives varies each year because of volatility in property sales. In fiscal year 2022, it totaled $31.67 million and made up 55.44% of the special fund contribution and 52.15% of the overall State Parks budget. This tax is primarily used for land conservation, park development, and recreation projects in Maryland.

Forest and Park Reserve Fund: With a budget of $21.08 million, accounting for 36.90% of the special fund contribution and 34.71% of the total, the Forest and Park Reserve Fund is utilized for the conservation and maintenance of Maryland's State parks. The source of funding in this fund is the revenues generated from park operations, such as entry fees and rentals.

Private Donation: Private donations are contributed by individuals, corporations, or groups and total $0.17 million. This fund represents 0.30% of the special fund contribution and 0.28% of the overall budget and supports specific or general initiatives related to parks and natural resources.

Forest and Park Concession Fund: Revenues from the operations of park facilities such as gift shops and rentals contribute to this fund. It totals $1.91 million, which is 3.34% of the special fund contribution and 3.14% of the total budget.

Deep Creek Lake Management and Protection Fund: Dedicated to the conservation and management of the Deep Creek Lake area, this fund holds $0.82 million. This accounts for 1.44% of the special fund contribution and 1.36% of the entire budget.

Fair Hill Improvement Fund: Allocated for the Fair Hill area's improvements, this fund has a budget of $0.48 million, making up 0.84% of the special fund contribution and 0.79% of the total.

Natural Resources Property Maintenance Fund: Designated for maintaining properties managed by DNR, this fund's total is $0.61 million, or 1.07% of the special fund contribution and 1.00% of the overall budget.

Off-Highway Recreational Vehicle Trail Fund: This fund, focused on off-highway recreational vehicle trails, has an allocation of $0.39 million. This amounts to 0.67% of the special fund contribution and 0.63% of the total budget.

Federal Fund: With contributions from various federal entities, the federal funds amounted to $0.3 million in fiscal year 2022 and represent 0.54% of the total budget. It supports diverse conservation projects within Maryland.

Reimbursable Fund: Standing at $1.93 million and accounting for 3.18% of the budget, the Reimbursable Fund comprises funding received from other DNR programs and State agencies.

Cost Recovery and Self-Sustaining Operations

Maryland State Parks operates with a blend of subsidized and revenue-generating funds. Analyzing the balance between these sources provides insight into the park's financial health and its ability to cover its operational costs.

Subsidized Funds: These are the funds that State Parks receive without direct control over the revenue-generating activity.

- General Fund: $1,349,406
- Special Fund (POS Transfer Tax only): $31,667,615
- Federal Fund: $325,300
- Reimbursable Fund: $1,931,815

Total Subsidized Funds: $35,274,136

Revenue-Generating Funds: These funds are directly tied to specific activities or services provided by State parks. They are revenues generated from operations, donations, or specific programs within the park system and reflect all of the special funds except for the POS Transfer Tax.

- Deep Creek Lake Management and Protection Fund: $823,233
- Fair Hill Improvement Fund: $479,734
- Forest and Park Reserve Fund: $21,078,025
- Natural Resources Property Maintenance Fund: $609,642
- Private Donation: $172,372
- Off-Highway Recreational Vehicle Trail Fund: $385,386
- Forest and Park Concession Fund: $1,905,813

Total Revenue Generating Funds: $25,454,205

Cost recovery can be calculated as the ratio of revenue-generating funds to the total funds (both subsidized and revenue-generating). Maryland State Parks' cost recovery stands at approximately 41.9%. This means that 41.9% of the park's total funds come from its revenue-generating activities, while the remaining 58.1% is subsidized as of fiscal 2022. While a higher cost recovery percentage indicates greater self-sufficiency, it's essential to balance financial sustainability with MPS' mission of serving the public good. Considering the diverse array of services and amenities offered by MPS, a mixed funding model helps ensure accessibility while still promoting fiscal responsibility.

This current cost recovery calculation does not include capital costs, only operations. There are capital commitments that MPS will also need to consider when determining their funding needs. There is not currently a detailed capital needs list for Maryland State parks. Staff estimates it's around $100 million for critical maintenance, as identified by the Department of Natural Resources Engineering and Construction Unit.

Potential Funding Tools & Best Practices

There are several potential funding tools MPS could utilize to enhance revenue sources in support of the State park system. These tools are utilized by similar departments throughout the country and provide examples for policies and financial impacts and are described in more detail below:

Change in Transfer Tax

The Program Open Space (POS) was established in 1969 with state debt authorization and the imposition of a 0.5% State real estate transfer tax to support the program's funding. Over the years, a statutory formula has been devised for the allocation of transfer tax revenues to POS and other land conservation initiatives. Appropriations are determined based on annual collection estimates, with General Obligation (GO) bond funding often utilized for POS and other transfer tax-funded programs. Challenges arose between fiscal 2002 and 2006 and again and again between fiscal 2009 and fiscal 2018 when transfer tax revenues were diverted to the general fund, limiting resources for POS. To address this, GO bonds were employed to compensate for the diverted tax revenue, and Chapter 10 of the 2016 repayment plan was enacted with subsequent modifications leading to the final version of the repayment plan in the GMOA. Legislation enacted in 2005 mandated reimbursement of previous transfers to the general fund, initially set for fiscal 2012 but later delayed until fiscal 2019, with some transfers exempted. The POS funding landscape is intricately linked with other land conservation programs, such as the Maryland Agricultural Land Preservation Foundation (MALPF), Rural Legacy Programs, Heritage Conservation Program, and Maryland Heritage Areas Program.

Maryland Natural Resources Tax-Property Article § 13-209 delineates the allocation and reconciliation of revenues in the special fund for POS and related programs. Up to 3% of special fund revenues are allowed to be appropriated in the State budget for administering POS. The remaining special fund revenue is allocated as follows: 75.15% for POS purposes, an additional 1% for POS specifically designated for land acquisition, 17.05% for the Agricultural Land Preservation Fund, 5% for the Rural Legacy Program, and 1.8% for the Heritage Conservation Fund.

In cases where the actual transfer tax revenue collections exceed estimates, the excess is allocated to the special fund for the second fiscal year following the surplus. Conversely, if actual collections fall short, the shortfall is deducted from the amount allocated to the special fund for the second year following the shortfall.

The Maryland Natural Resources Code § 5-903 outlines the distribution and utilization of funds under the Transfer Tax for POS. According to § 5-903 § 13-209 of the Natural Resources Tax - Property Article, an appropriation in the State budget allows for the transfer of up to $3,000,000 to the Maryland Heritage Areas Authority Financing Fund. The remaining funds are subject to specific allocations:

Fifty percent of the funds are designated for recreation and open space purposes by the Department. Twenty percent, or $21,000,000 (whichever is greater), is appropriated to the Forest and Park Service in the Department for operating State forests and parks. Any funds allocated by the General Assembly under this subsection, excluding the operation of State forests and parks, must exclusively be used for land acquisition projects based on an offer by the State that is less than the lowest approved appraisal for the property.

A portion of the State's share of funds is earmarked for grants to Baltimore City, specifically for park-related projects. The grants for fiscal year 2024 and subsequent years amount to $10,000,000. The Department is granted flexibility in acquiring real property based on an offer by the State that is less than the lowest approved appraisal for the property.

The General Assembly is responsible for allocating the remaining funds to assist local governing bodies in acquiring and developing land for recreation and open space, with a focus on providing public access. Noteworthy is the flexibility in using development-designated funds for both indoor and outdoor recreational facilities, emphasizing facilities like aquatic centers, golf courses, community centers, and nature centers.

The Department is authorized to use acquisition funds for various purposes, including ensuring structural integrity, eliminating health and safety hazards, safeguarding water quality, and enhancing public access to the acquired land. However, the costs incurred for these activities must not exceed 10 percent of the land purchase price. Additionally, acquisition funds can contribute to improving public access to existing recreational and open space sites.

Following § 5-903 of the Natural Resources Article§ 13-209(d) of the Tax-Property Article, the State budget permits the appropriation of up to 25 percent of the State's share of funds for capital improvements on State-owned land for the Department's use, subject to specified conditions. Maryland Tax-Property Code Ann. § 13-209 delineates the allocation and reconciliation of revenues in the special fund for Program Open Space (POS) and related programs. As of July 1, 2022, and for subsequent fiscal years, up to 3% of special fund revenues are allowed to be appropriated in the State budget for administering Title 5, Subtitle 9 of the Natural Resources Article, which encompasses POS. For the same fiscal year and each subsequent one, the remaining special fund revenue is allocated as follows: 75.15% for POS purposes, an additional 1% for POS specifically designated for land acquisition, 17.05% for the Agricultural Land Preservation Fund, 5% for the Rural Legacy Program, and 1.8% for the Heritage Conservation Fund.

In cases where the actual transfer tax revenue collections exceed estimates, the excess is allocated to the special fund for the second fiscal year following the surplus. Conversely, if collections fall short, reconciliation mechanisms are in place. For deficiencies up to $3,000,000, the allocation to the special fund is reduced by either the deficiency amount or $3,000,000, whichever is less. For deficiencies exceeding $3,000,000, reconciliation involves reducing the allocation or deauthorizing projects from prior fiscal years.

Certain provisions allow for the transfer of excess transfer tax revenue in fiscal year 2015, over $161,016,000, for administrative expenses related to land acquisition for POS, critical maintenance projects in the Department of Natural Resources, Natural Resources Development Fund projects, and replacement of General Fund appropriations in the MPS.

In delineating the distribution of funds under the Transfer Tax for POS, the Maryland Natural Resources Code Article § 5-903 established transfer tax as a pivotal source while addressing critical needs such as land acquisition and program funding, and opened a window of opportunity to enhance the impact of transfer tax funding specifically for the (MPS). However since the current model allows for diversion of funds and revenues fluctuate yearly due to changes in the housing market, it is not a stable resource for sustainable funding of the MPS and will not effectively fund the provisions outlined in the GMOA.

The ongoing commitment to MPS is highlighted

by the mandated General Fund appropriations for fiscal year 2023. The appropriation of $12,500,000 for the special fund and an additional $6,000,000 earmarked specifically for park development and critical maintenance marks a dedication to the broader cause. However, by prioritizing an increase in transfer tax funding and dedicating a specific percentage directly to MPS within the State budget, Maryland can take a significant step toward ensuring the continuous development, enhancement, and maintenance of its state parks with transfer tax funding as the engine driving positive change for the MPS.

Sporting Goods Sales Tax

A sporting goods sales tax is a special tax on the purchase of outdoors-related and sporting goods sold in the State. This sales tax would be assessed on the sale of outdoor and sporting goods in the State. In 2021, $1.9 billion was spent on sporting goods, guns, and ammunition in Maryland - highlighting a sizeable amount of potential funding. Texas has used this model to great effect. The Sporting Goods Sales Tax (SGST) in Texas is not a separate tax but rather a portion of the 6.25% state tax revenue collected from the sale of sporting goods. Originally, it was allocated to the Parks and Wildlife Department (TPWD) in 1996-97, replacing the portion of cigarette tax they had previously received. In 2008-09, the Texas Historical Commission (THC) also became eligible to receive a portion of SGST revenue. Before 2008, the maximum appropriation of SGST was $64 million per biennium (a 2-year appropriation), but this limit was removed.

The revenue from SGST is estimated by the Comptroller of Public Accounts using national surveys of the sporting goods market. In the 2012-13 biennium, approximately 71.2% of SGST revenue was allocated to administration and operations at THC and TPWD, 19.4% was designated for capital improvements, and the rest was used for grants, primarily for local park development.

SGST appropriations for the 2018-19 biennium totaled $295.6 million, with $277.6 million allocated to TPWD for various purposes, including benefits and debt service. An additional $18.0 million was allocated to THC, funded by General Revenue (GR). Appropriations to TPWD are first transferred to one of four General Revenue-Dedicated (GR-D) accounts.

It is difficult to estimate what the exact impact of a similar tax in Maryland would be. There would be substantial policy and legislative efforts needed to establish the tax and all of the criteria on how it would be collected. The percentage the tax was set at and whether it would be new or a component of the existing tax would need to be explored. Noted in the implementation chapter, this funding mechanism can be implemented (from bill to passage to funding allocation) within five years.

The SGST approach aligns the purchases of potential park users with the well-being of the spaces they enjoy. Those investing in outdoor or sporting equipment would concurrently be contributing to the upkeep of trails, campgrounds, and natural habitats. This dedicated tax ensures that as the demand for outdoor activities grows, so will the financial support for our parks.

Public-Private-Non-Profit-National Park Partnerships

A parks public-private partnership (PPP), also known as a park P3 or park privatization, is a collaboration between a government entity, typically a local or municipal government, and a private sector organization, often a private company or nonprofit organization, to develop, operate, and maintain a public park or facility. This partnership is established to leverage the resources, expertise, and innovation of the private sector to improve the quality, accessibility, and sustainability of the park while

sharing financial and operational responsibilities with the government.

Expanding partnerships would provide MPS with additional revenue, create efficiencies, and establish better customer service in the parks by reducing the range of responsibilities on individual staff members, and refocusing their capacity on mission-aligned tasks. However, MPS is facing challenges in growing its P3 opportunities, as the regulations for requisitioning and bidding are cumbersome. The process for implementing a new Request for Proposal (RFP) system is cited as taking three years, indicating a need for streamlining and efficiency improvements. Similarly, the management of park operations stores and rentals is not considered to be mission-critical, is not aligned with the experience and education of many MPS park staff, and ultimately a less efficient model, than for-profit retail approaches. The absence of a unified Point of Sale (POS) system adds to the operational complexities. Examples of tasks and activities that were mentioned as areas staff might offload to improve capacity for mission-aligned tasks include food service, retail, and janitorial services.

At Big Run State Park, six camping sites were privatized in 2023 through a contract with an outside vendor who manages and maintains "glamping" campsites. In 2022, Big Run State Park registered revenues of $28,500 for concessions and other contracted services and the New Germany Park Complex where Big Run State Park is located welcomed over 58,000 visitors. MPS should continue to evaluate the success of this pilot and whether this model can or should be expanded to other areas.

The appetite for P3s could be challenging, as the State Park Investment Committee expressed a position against outsourcing to avoid becoming a fully privatized state system, citing concerns related to optics and politics. On a positive note, there is potential for expansion in the food truck system, which MPS is already engaging with, seen as a way to support small and local businesses, although a concrete plan is yet to be developed. Below are a few examples of successful public-private partnerships:

Utah: Utah's state park system has a strong partnership with the National Park Service (NPS) to promote tourism, conservation, and education. This collaboration includes joint marketing efforts to encourage visitors to explore both state and national parks, interpretive programs providing a well-rounded visitor experience, trail development and maintenance connecting state and national parks, active involvement in conservation initiatives, and coordinated emergency response efforts.

The outcomes of Utah's work to refine its brand include clearer brand recognition (a modernized brand was deployed in all of the state's communications, including inconsistent park gateway signage) and improved communications with the public. Utah's partnership with the NPS serves as a successful model for enhancing the visitor experience, preserving natural resources, and managing public lands effectively, contributing to Utah's status as a top destination for outdoor enthusiasts and nature lovers.

Arizona: Arizona State Parks and Trails (AZSPT) established concessionaire partnerships to enhance visitor experiences and generate revenue. These partnerships involve private entities offering services such as retail and food, equipment rentals, guided tours, accommodations, and event hosting within state parks. Partnerships provide income for both the concessionaires and AZSPT, allowing for improved park services and facilities while boosting revenue. The specific revenue generation varies based on the nature of the services and terms of the agreements but was created to focus the AZSPT organization's funding and capacity on its core mission and values by seeking partnerships with like-minded organizations that can provide for visitor needs (food, lodging, and programming).

Endowment Fund

An endowment fund is a dedicated financial resource or investment fund set up to provide long-term financial support and sustainability for a park or public recreational area. The primary purpose of an endowment fund is to generate income or returns on investment that can be used to cover ongoing maintenance, improvements, and operational expenses of a park or park system in perpetuity.

Establishing a separate, dedicated endowment fund for Maryland's State Park system would help to provide a stable, long-term funding source for park maintenance, conservation, and enhancements. This dedicated fund would assist in shielding the parks from budget fluctuations, fostering accessibility, inclusivity, and the development of new facilities and programs, securing Maryland's natural heritage and quality of life for its citizens.

Michigan: The Michigan State Parks Endowment Fund (MSPEF) was established through legislation and voter approval, managed by the Michigan Department of Natural Resources, and supervised by a board of trustees. Initially, it was funded with a combination of general budget appropriations and proceeds from surplus state-owned land sales. Investment management has been founded on long-term growth while also preserving the fund's principles. Returns from investments support state park operations, maintenance, and improvements, providing a consistent funding source. The MSPEF's revenues now primarily come from oil and gas leases, mineral extraction, and state land royalties. The fund has an $800 million principal cap, after which revenues revert to the Michigan Natural Resources Trust Fund (MNRTF). The MSPEF reached this cap in fiscal 2022-23, making the fiscal 2021-22 revenues the final deposits into the fund, amounting to $38.9 million.

Establishing a separate, dedicated endowment fund for Maryland's State Park system would help to provide a stable, long-term funding source for park maintenance, conservation, and enhancements. This dedicated fund would assist in shielding the parks from budget fluctuations, fostering accessibility, inclusivity, and the development of new facilities and programs, securing Maryland's natural heritage and quality of life for its citizens.

There is also potential for expansion of the Friends of Maryland State Parks (FMSP) to be an affiliated foundation and to include the creation and oversight of an endowment fund to benefit MPS. Non-profit organizations often establish endowment funds to ensure financial stability and a long-term funding source for their mission. Donors may contribute to the endowment, and the organization manages and invests the funds to generate income to support its ongoing operations, programs, or specific initiatives.

The Friends of Maryland State Parks (FMSP) is a non-profit organization comprised entirely of volunteers, operating at a statewide level as a 501(c)(3) entity established in 1997. Their mission is centered on the preservation, protection, enhancement, and advocacy of Maryland's state parks. The FMSP organization concentrates on directing investments into the state parks, aiming to bring economic benefits to local communities, offer nature programs for children, address essential maintenance needs, make capital improvements, and promote healthy lifestyles among park visitors. A total of 8,000 volunteers, along with the 25 individual Friends groups of state parks throughout the state, have contributed more than 200,000 hours, valued at over $5.7 million. The FMSP work is currently funded through individual donations and grants that are awarded to the organization.

Lottery Proceeds of Surplus Revenue

Maryland State Lottery proceeds established record profits in FY2022, yielding $673.7 Million.

Any redistribution of lottery profits could potentially diminish support for various beneficiaries, with the Maryland Education Trust Fund being a

prominent example. This fund serves as a primary contributor to the financing of the Blueprint for Maryland's Future. Enacted in 2021 and partly financed by lottery proceeds, the Blueprint aims to enhance educational funding in Maryland by $3.8 billion over the next decade, ultimately striving to elevate the overall quality of education in the state. Lottery proceeds are distributed amongst several beneficiaries in Maryland including:

- Casinos' share: $1.2 billion (57.8%)
- Maryland Education Trust Fund: $611.6 million (30.5%)
- Local Aid: $105.9 million (5.3%)
- Horse Racing: $90.8 million (4.5%)
- Small, minority, women-owned businesses: $19.6 million (1%)
- Operating expense contribution: $13.3 million (0.7%)
- Responsible gaming: $4.5 million (0.2%)

Though lottery funds are earmarked for a variety of sources in Maryland, there are precedents for lottery-funded park improvements and special projects in state park systems in other states.

Colorado: Great Outdoors Colorado (GOCO) is a unique Colorado funding program that invests a portion of state lottery earnings into conservation and recreational projects, including state parks. GOCO grants have supported park acquisition, development, and maintenance projects, ensuring that Coloradans have access to high-quality outdoor spaces. Colorado Parks and Wildlife receives a designated 10% share of the revenue generated by the Colorado Lottery's GOCO program, amounting to $16.6 million in fiscal 2022. This funding bolsters their efforts to maintain and enhance state parks for the public's benefit. Noted in the implementation chapter, this funding mechanism can be implemented (from bill to passage to funding allocation) within a short term time frame (estimates of three to five years).

Voluntary Donation–Tax Refunds or Bills

Voluntary donations allow taxpayers to voluntarily contribute a portion of their tax refunds to directly support State parks. Enabling taxpayers to contribute a portion of their tax refunds to support State parks is an innovative approach that directly involves citizens in preserving and enhancing recreational and natural spaces.

California: California has two funds that taxpayers can contribute to directly on state tax returns. State Parks Protection Fund/Parks Pass Purchase and the California State Park Foundation Fund, made easily accessible by the inclusion of a check box on California tax returns, allow taxpayers to make volunteer donations to support the California state parks. The amount of voluntary donations on tax returns to support the California state parks system varies depending on the year and the fund.

By contributing $195 or more to this fund, taxpayers receive a California Explorer Vehicle Day Use Annual Pass that grants access to over 130 state-operated Parks and Recreation areas that charge a day-use fee. Any contribution above the price of the pass is tax deductible and supports the maintenance and protection of state parks. The total amount of voluntary contributions to this fund in 2022 was $312,852.

Taxpayers also make a voluntary contribution of any amount to the California State Park Foundation Fund. This fund supports the California State Parks Foundation, a nonprofit organization that advocates for and enhances the quality of state parks. The total amount of voluntary contributions to this fund in 2022 was $1,015,842. Maryland could implement this strategy by partnering with the Maryland Comptroller's Office to include the option for a contribution on tax return forms. While every state is different, Colorado implemented the contribution option within a few years because the state already had other contribution options available on tax return forms.

Corporate Sponsorships

Corporate sponsorship refers to a business arrangement in which a company financially supports a particular event, project, organization, or initiative in exchange for promotional benefits and visibility. This support is typically provided in the form of cash contributions, goods, services, or other resources. Corporate sponsorships are a common practice in marketing and business development, and they are used by companies as a means to achieve various marketing and branding objectives.

Colorado: The Colorado Corporate Partners Program helps to support the funding of Colorado state parks. Corporate partners play a role by providing financial contributions, investing in infrastructure improvements, engaging in promotional and marketing efforts, supporting educational programs, sponsoring events, participating in conservation initiatives, and promoting public engagement. The partnerships also encourage long-term commitments and foster accessibility and inclusivity within the state parks. The partnerships substantially contribute to the sustainability, enhancement, and accessibility of Colorado's state parks, involving diverse sectors such as outdoor recreation, tourism, energy, local and national businesses, finance, automotive, nonprofits, utilities, technology, telecommunications, and the food and beverage industry.

Green Bonds

Green Bonds are designed to fund projects with positive environmental benefits. These bonds are issued by federal, state, and local governments, corporations, and other organizations to raise capital specifically for projects that have a positive impact on the environment and contribute to sustainability goals. The key feature of green bonds is their earmarked use for environmentally friendly initiatives.

Rhode Island: In 2021, Rhode Island voters approved a $74 million bond measure called the Beach, Clean Water & Green Economy Bond. The bond includes $33 million for major capital improvements to state beaches, parks, and campgrounds, such as new restrooms, pavilions, concessions, and parking lots. The bond also supports other environmental and recreational projects, such as bike paths, farmland preservation, water quality protection, and climate resilience.

Additional Bonds

Bonds are typically used by state and local governments to raise funds for various projects, such as infrastructure development, schools, parks, or public facilities. Bonds are often backed by specific revenue sources, such as tolls, taxes, or fees.

Additional bonds would administratively function like Green Bonds, without the explicit requirement to be spent on projects that have environmental benefits. California recently passed a bond obligation, which is detailed below, and more recently Texas passed a land acquisition bond measure.

California: Proposition 68 was a voter-approved initiative in 2018 that authorized $4.1 billion in general obligation bonds for various natural resources-related projects, including state and local parks. This funding has been used to improve park infrastructure, expand access, and enhance park amenities. The proposition also allocated funds to disadvantaged communities, ensuring that everyone has equitable access to parks and recreational opportunities.

State Constitutional Amendment

Propose a citizen-initiated constitutional amendment in Maryland to establish a Parks and Conservation Fund, similar to Texas Proposition 14, dedicated to investing a portion of the state budget

surplus in the creation and improvement of state parks. This fund could be designed to consist of appropriations from the legislature, contributions from the public, and investment earnings, mirroring the financial structure of the Centennial Parks Conservation Fund in Texas. Importantly, it should be emphasized that the creation of this fund would not impose any new taxes on Maryland residents.

To ensure effective administration, a designated state agency, such as the Maryland Department of Natural Resources, could be entrusted with the responsibility of managing the fund. This agency would be empowered to request disbursements from the fund for the acquisition of land, development of new parks, and improvement of existing ones. By adopting a structure similar to Texas, Maryland can establish a stable and long-term funding mechanism for the expansion and enhancement of its state parks without imposing an additional financial burden on its taxpayers.

Texas: Proposition 14 was a citizen-initiated constitutional amendment that was approved by Texas voters in November 2023. It created the Centennial Parks Conservation Fund, a trust fund that will invest up to $ 1 billion for the creation and improvement of state parks. The fund consists of money appropriated, credited, or transferred by the legislature; gifts, grants, and donations received by the Parks and Wildlife Department; and investment earnings. The fund does not create a new tax but uses a portion of the state budget surplus. The fund is administered by the Texas Parks and Wildlife Department, which can request a disbursement from the fund to acquire property in Texas to create and improve state parks. The fund is intended to provide stable, long-term funding for new parkland purchases and the development of new parks at no additional cost to Texas taxpayers.

Fee Increases

Fee adjustments for park entry, programs, lodging, and licenses can help sustain existing positions and maintenance levels. To support equitable increases to fees, adjustments should made to the programs and uses that do not impede the ability for residents to enjoy their parks and programs, and to learn more about how they can steward their natural resources.

Key Accomplishments

- Managing and operating the park system within very limited financial resources and personnel
- Work with a large variety of "Friends Groups" for individual parks, nonprofit organizations, and volunteer groups dedicated to supporting and enhancing specific state parks.

Areas for Improvement

- Establish long-term sustainable funding strategy
- Establish minimum level of self-supporting for state park system
- Diversify funding resources for state park system
- Equitable distribution of resources based on specific criteria (i.e., visitation, park size, park amenities)

Funding Scenarios

The Current Funding Environment section above serves as confirmation of how much funding is currently available to MPS and includes a breakdown of the different funds. In this section, the study breaks down three different ways to consider funding baselines to best identify what will be required to fund the system in alignment with MPS's mission, State priorities, GMOA requirements and recommendations, and State growth. Those funding baselines are described as three questions below:

1. What is the current level of funding needed to sustain the park system as–is, and what are the sources that could get us there?
2. What is the level of funding needed to improve the park system in line with the Great Maryland Outdoors Act requirements and the recommendations of this study?
3. What is the level of funding needed to grow the park system as the population increases (staffing, maintenance, land acquisition, addressing climate change)?

The assumptions and methodology to support each of these questions are described in detail below. These funding baselines are then used to explore opportunities and impacts of various tools to meet funding needs.

The assumptions for each of the baselines described below are described in two parts (1) operating assumptions and needs and (2) capital assumptions and needs. Operational assets of the state park system include the resources and components necessary for day-to-day park operations and supporting administrative operations. These include all MPS staff, equipment, and other operational budget needs. These assets ensure the effective management, maintenance, and visitor experience within state parks, supporting activities such as staffing, facility upkeep, and program delivery. The capital assets of the state park system encompass essential physical elements, including facilities (visitor centers, campgrounds), roads and trails, utilities, natural features (forests, wetlands), infrastructure (parking lots), recreational amenities (playgrounds, boat launches), historical sites, and land acquisition needs.

The GMOA requires that MPS create an asset management system to account for all assets. DNR and MPS have begun the process of inventorying existing facilities and plan to identify any deferred maintenance needs and considerations for the value of the facilities.

Once the inventory and evaluation are complete, MPS plans to update the total asset valuation to more accurately reflect state park holdings and maintenance needs. In the absence of such an assessment, the study developed an order of magnitude estimate based on a rough total replacement cost of all capital assets in the system. To do so, the sum of total square footage by facility type within all state parks calculated using AIMS derived GIS data which catalogues buildings by facility types. The number of assets within that facility type was multiplied by the low and high cost per square foot for replacement of that asset, based on 2021 RS Means data. These numbers do not include the cost of making facilities ADA-compliant, however, the report recommends an ADA transition plan to effectively evaluate accessibility in state parks and to identify the costs needed to improve those facilities. The Rough Order of Magnitude (ROM) estimates below are generic, and not based on actual construction projects, do not include ADA-compliance upgrades, and do not include any preparatory work or soft costs for their replacement. They are for reference purposes only and are not intended to predict or support future estimates.

Table 2: Summary of High-level Capital Replacement Costs

Facilities	Total square feet	Number of Units	Estimated Total ROM Replacement Cost (low)	Estimated Total ROM Replacement Cost (high)
State Park Visitor Facilities	**729,563.80**	**599**	**$102,390,000.00**	**$272,400,000.00**
Bath House (typically present at State Parks with beaches)	31,333.76	14	$7,000,000.00	$16,800,000.00
Shower Building (typically present at State Parks with campsites)	104,410.43	66	$33,000,000.00	$79,200,000.00
Cabin	73,893.19	140	$7,000,000.00	$16,800,000.00
Comfort Station	88,455.48	115	$17,250,000.00	$80,500,000.00
Concession	45,352.70	22	$2,640,000.00	$11,000,000.00
Contact Station	11,217.51	40	$2,800,000.00	$6,000,000.00
Historic Site	105,014.95	43	$12,900,000.00	$32,250,000.00
Pavilion	93,673.69	38	$7,600,000.00	$11,400,000.00
Pit Toilet	436.32	2	$300,000.00	$600,000.00
Shelter	175,775.78	119	$11,900,000.00	$17,850,000.00
Special Use Facilities	**223,712.14**	**68**	**$127,476,268.45**	**$243,163,036.50**
Amphitheater	0	3	$6,000,000.00	$18,000,000.00
Grand Stand	15,717	2	$120,000.00	$500,000.00
Lodge	13,289.55	3	$3,322,386.75	$6,644,773.50
Museum/Interpretive Center	132,563.88	38	$106,051,099.20	$198,845,811.00
Water-dependent space (marina buildings, ramp buildings)	23,965.56	13	$11,982,782.50	$19,172,452.00
Supporting Facilities	**1,754,675.08**	**826**	**$253,210,220.22**	**$687,401,956.10**
Barn	410,774.38	129	$32,861,945.04	$41,077,431.30
Garage	62,277.54	47	$4,982,203.04	$6,227,753.80
Hazmat-related	9,350.43	18	$935,043.48	$2,337,608.70
Office	257,553.86	83	$25,755,389.70	$77,266,169.10
Power Plant	9,627.14	1	$9,627,137.00	$15,403,419.20
Pump House	15,255.71	35	$3,813,926.38	$15,255,705.50
Shed	99,938.41	67	$19,987,681.20	$79,950,724.80
Smokehouse	580.73	3	$145,182.60	$290,365.20
Springhouse	600.76	2	$150,189.50	$300,379.00
Storage	138,852.52	60	$34,713,135.00	$69,426,270.00

Disclaimer: These rough order of magnitude models are generic in nature, and not based on actual construction projects, but are estimates for the replacement of individual assets in the system using 2021 RS Means data and National Standards for Construction (for water infrastructure (docks, bridges, dams, etc). They are for reference purposes only and are not intended to predict or support future estimates.

Table 2: Summary of High-level Capital Replacement Costs

Tower (apparent radio or cell towers)	1,553.21	11	$1,397,891.88	$7,766,066.00
Water Treatment (plants, water storage, etc)	27,272.31	22	$68,180,750.00	$245,450,700.00
Maintenance Shop	253,298.72	79	$50,659,745.40	$126,649,363.50
Other Facilities - Costs for facility assets without a label not calculated	467,739.36	269	-	-
Housing	**291,692.19**	**210**	**$27,450,000.00**	**$82,350,000.00**
House	244,739.27	183	$27,450,000.00	$82,350,000.00
Residence (Curatorship. No accounting made for costs for repair when returned to MPS)	46,952.93	27	-	-
Infrastructure	Linear Feet	Miles	Total ROM Replacement Cost (low)	Total ROM Replacement Cost (high)
Roadways			**$94,616,030.00**	**$365,807,575.00**
MPS-owned Roads	711,632.00	134.78	$6,738,940.00	$40,433,636.00
Bridges	9,517.72	1.8	$270,000.00	$22,500,000.00
Infrastructure (No data, assumed half of linear miles of roadways. Used 2021 MDOT budgets to identify cost range)	-	67.39	$56,607,090.00	$229,123,939.00
Docks and Piers (assumes 500 linear feet per dock/pier)*	18,000*	-	$27,000,000	$45,000,000
Dams (by number of units, assumes size of 1 bin (less than 15 feet tall)) Uses data from 2023 State Dam Safety Officials Report	-	10 units	$4,000,000.00	$28,750,000.00
Trails			**$14,821,515**	**$66,597,966**
Non-DNR Trails (no cost, not owned by DNR)	5,436,868.16	1,029.71		
Improved-Hard Surface Trails (assumes 4' wide trails)	241,917.00	45.82	$1,935,336.00	$6,047,925.00
Improved-Stone dust Trails (assumes 4' wide trails)	283,859.00	53.76	$2,270,872.00	$4,257,885.00
Improved-Stone Trails (assumes 4' wide trails)	13,212.00	2.5	$66,060.00	$158,544.00
Natural Surface Trails (assumes 4' wide trails)	3,913,662.00	741.22	$7,827,324.00	$23,481,972.00

Disclaimer: These rough order of magnitude models are generic in nature, and not based on actual construction projects, but are estimates for the replacement of individual assets in the system using 2021 RS Means data and National Standards for Construction (for water infrastructure (docks, bridges, dams, etc). They are for reference purposes only and are not intended to predict or support future estimates.

Table 2: Summary of High-level Capital Replacement Costs

Outcrop Trails (assumes 4' wide trails, appear to be trails along rocky terrain)	1,906.00	0.36	$1,906.00	$11,436.00
Unspecified Trails	2,720,017.00	515.15	$2,720,017.00	$32,640,204.00
Signage and Wayfinding			**$1,654,000.00**	**$4,320,000.00**
Trail Guide Signage	Assumes 1,200 total		$600,000.00	$1,200,000.00
Crossing/Lighted pedestrian signal	Assumes 10 total		$400,000.00	$1,500,000.00
Park Name Sign	Assumes average of 3 signs per park		$585,000.00	$1,950,000.00
Misc Regulatory Signage	Assumes 500 total		$250,000.00	$500,000.00
Information Kiosk	Assumes 2.75 per park		$520,000.00	$1,040,000.00

Baseline #1: Sustaining the system as-is

The purpose of this funding baseline is to establish the level of funding needed to sustain the Park System as it exists today, in terms of land, facilities, and systems. This baseline is designed to avoid staffing shortages, 5-year critical maintenance improvement program, and respond to the needs of parks, staff, and visitors based on the current size of the system.

The operating and capital side of the MPS budget must be adjusted to achieve the goals for the Part 1 scenario. The details of both are listed below.

Operating Budget

The following assumptions are built into the operating budget recommendations to meet the requirements for the Part 1 Scenario that includes how to avoid staffing shortages.

- Based on the current size of the park system (142,228 acres of parkland as of fiscal 2022)
- Focuses on MPS staffing and operations
- Maintains the FY23 ratio of budget distribution
- Retain 18% allocation of administrative staff (out of the total # of PINS)
- Retain 28% of operating budget for equipment, communications, materials, and vehicles to maintain the system
- Assumes 261 PINS (FY23), does not include GMOA PINS
- Uses FY03 staffing numbers as a baseline to establish the appropriate numbers for staffing today, using a ratio of visitors to PINS and ratio of acres to PINS. This baseline target was established based on target ratios from peer agencies and in line with conversations with MPS staff who referenced this as a time when the park system had better access to resources and sufficient staffing. This reflects a time before NRP was broken out in 2005, but this study recognizes that demands on park staff have only increased since then
- Recommended Total PINS: 440 PINs,* with 79 of these PINS (18%) allocated to MPS administration
- Salary calculations are based on using the FY23 average salary of all MPS positions ($58,300) for all PINS according to position salary data provided by DNR, and does not include employee benefit costs
- Assumes 1 PIN per 401 acres of newly acquired land and estimates a total of 500 acres acquired per year. This estimate is derived from historical data, which shows that 10,000 acres were acquired over a 20 year time period (FY2003 through FY2023), an average of 500 acres per year
- Allocates 3% annual COLA increases
- Does not factor in report recommendations (i.e., changes in ranger role, etc.)
- Inflation is not included in operating expenses

Table 3: Staffing to visitor and acreage ratios

	FY03	FY23	Calculations to Match 2003 Ratios
PINS	330	261	440
# of Visitors to 1 PIN	33,585	67,433	525
# of Acres to 1 PIN	401	545	356

*****440 PINS *calculated by taking the average of* 525 *visitors to* 1 PIN *and* 356 *acres to* 1 PIN *(see Table* 3*).*

Capital Budget

The following assumptions are built into the capital budget recommendations to meet the requirements for the Part 1 Scenario that includes how to avoid 5-year critical maintenance improvement program.

5-year critical maintenance improvement program

- Assumes current $100 Million 5-year critical maintenance improvement program, spread over five years
- Annual Budgeted Funds for Asset Rehabilitation and Capital Investment
- Assumes 5% of the total replacement value of the system, minus the land value, is budgeted annually for asset rehabilitation and capital investments, which is above and beyond $100 Million 5-year critical maintenance improvement program.
- Building asset investment needs is based on the asset data provided by MPS – using assets identified in GIS buildings/bridges/roads shapefile from DNR for all MPS sites.
- Assumes associated infrastructure (i.e., water and sewer) is accounted for by factoring in 50% of all Park roads because this spatial data was not available (makes a general assumption that roughly half of Park roads contain this infrastructure).
- Replacement Value of Assets (based off GIS data and increase for water and sewer systems), based on general 2021 RS Means cost data that are intended for high-level asset valuing only. Once DNR values its facilities and infrastructure through the asset management system these numbers should be updated.
- High Range: $1,421,036,59
- Low Range: $534,711,943
- Annual budget for asset rehabilitation and capital investments (5% of total replacement value of the system, minus the land value)
- High Range: $84,915,540
- Low Range: $78,817,320

Land Acquisition

- Projects land acquisition forward based on historic patterns of land acquisition. Over the last 20 years, MPS averaged an acquisition of about 500 acres of land per year. Baseline #1 assumes MPS will continue to acquire land at the same rate.
- Baseline #1 (and all subsequent baseline approaches) assumes for all land acquisitions a current rough order of magnitude per acre

cost of $8,000, based on DNR estimates, plus an additional 25% for the first 5 years, 35% for years 6-10, and 50% for years 11 and beyond to account for site assessments, remediation, teardowns, archaeological preservation, and stabilization, and an additional 5% of the purchase to account for future land purchases requiring remediation and restoration for a total per acre cost of $9,200.

Future Land Acquisition

- $4,600,000 annually
- Assumes 3% annual inflation rate

Table 4 below shows a breakdown of additional funding needed to sustain the Park System as-is, detailed for fiscal years 2025 through 2029 given the assumptions discussed above, and relative to FY 2023. For operating costs, the table outlines the impact of the 179 additional Staffing PINS each year and provides the cost per PIN, which increases annually from $61,850.5 in fiscal 2025 to $69,613.2 in fiscal 2029. The subtotal operating costs grow from about $11.1 million in fiscal 2025 to approximately $12.5 million in fiscal 2029.

Capital costs include Capital Maintenance, Land Acquisition (spread over 20 years), Land Acquisition Staffing, and 5-year critical maintenance improvement program. These costs also rise each year, with Capital Maintenance starting at roughly $70.1 million in fiscal 2025 and reaching about $78.9 million in fiscal 2029. The subtotal for Capital costs shows an increase from nearly $93.5 million in fiscal 2025 to around $105.2 million in fiscal 2029.

The Total Additional Funding Needed combines the operating and capital costs, indicating an increase from approximately $104.5 million in fiscal 2025 to about $117.7 million in fiscal 2029.

Table 4: Baseline #1 Funding Impacts

Scenario 1: Additional Funding needed to sustain the Park System as–is

	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Operating					
Additional Staffing PINS Needed:	179	179	179	179	179
Cost per Pin	$ 61,850.5	$ 63,706.0	$ 65,617.2	$ 67,585.7	$ 69,613.2
Subtotal Operating	**$ 11,071,234**	**$ 11,403,371**	**$ 11,745,472**	**$ 12,097,836**	**$ 12,460,772**
Capital					
Capital Maintenance	$ 70,119,125	$ 72,222,698	$ 74,389,379	$ 76,621,061	$ 78,919,692
Land Acquisition (Spread Over 20 Years)	$ 2,045,414	$ 2,106,777	$ 2,169,980	$ 2,235,080	$ 2,302,132
Land Acquisition Staffing	$ 77,313	$ 79,632	$ 82,021	$ 84,482	$ 87,017
Capital Backlog (Spread Over 5 Years)	$ 21,218,000	$ 21,854,540	$ 22,510,176	$ 23,185,481	$ 23,881,046
Subtotal Capital	**$ 93,459,852**	**$ 96,263,648**	**$ 99,151,557**	**$ 102,126,104**	**$ 105,189,887**
Total Additional Funding Needed	**$ 104,531,086**	**$ 107,667,019**	**$ 110,897,029**	**$ 114,223,940**	**$ 117,650,659**

Baseline #2: Improve the system in alignment with the GMOA

The purpose of this funding baseline is to establish the level of funding needed to improve the Park System in alignment with the GMOA requirements as well as the recommendations of this report. This Baseline #2 funding is designed to increase the level of services, provide adequate staffing levels, and ensure adequate operating resources.

The operating and capital side of the MPS budget must be adjusted to achieve the goals for Baseline #2. The details of both are listed below.

Operating Budget

The following assumptions are built into the operating budget recommendations to meet the requirements for the Part 2 Scenario that includes improving the Park System, implementing GMOA and the study recommendations to increase the level of services, provide adequate staffing levels and operating resources.

- Focuses on MPS staffing and operations
- Maintains the FY23 ratio of budget distribution
- Retain 18% allocation of administrative staff (out of total # of PINS)
- Retain 28% of operating budget for equipment, communications, materials, and vehicles to maintain the system
- Assumes 530 PINS (440 PINS from Part 1 + 90 GMOA PINS to implement GMOA and Report Recommendations)
- Salary calculations are based on using the FY23 average salary of all MPS positions ($58,300) for all PINS, and does not include employee benefit costs
- Assumes 10% across the board wage increase in FY24
- Allocates 3% annual COLA increases that starts year following FY24 10% across the board wage increase
- Assumes preservation of land at rate of .023 acres of parkland per MD resident, with 18,600 acres of land acquired over 20 years (greater acquisition rate than 500 acres/year)
- Assumes 1 PIN per 401 acres of newly acquired land
- With 18,600 acres of land acquired = 46 additional PINS using fiscal 2003s 401 acres per PIN.
- Inflation is not included in expenses

Capital Budget

The following assumptions are built into the capital budget recommendations to meet the requirements for the Part 2 Scenario.

Annual Budgeted Funds for Asset Rehabilitation and Capital Investment

- Assume a national park and recreation industry best practice of 5% of the total replacement value of the system, minus the land value, is budgeted annually for asset rehabilitation and capital investments, which is above and beyond $100 Million current 5-year critical maintenance improvement program.
- Building asset investment needs is based on the asset data provided by MPS – using assets identified in GIS buildings/bridges/roads shapefile from DNR for all MPS sites
- Assumes associated infrastructure (i.e., water and sewer) is accounted for by factoring in 50%

of all Park roads because this spatial data was not available

- Replacement Value of Assets (based off GIS data and increase for water and sewer systems), based on general 2021 RS Means cost data that are intended for high-level asset valuing only. Once DNR values its facilities and infrastructure through the asset management system these numbers should be updated.
- This estimate assumes a per acre cost based on the average existing per acre value of all assets. That cost ranges from between $3760 to $9970 an acre (current asset low to high range for system across all park acres) for asset replacement/new assets on all acquisitions.

Land Acquisition

- Assumes preservation of land at rate of .023 acres of parkland per MD resident based on the 2021 resident population, with 18,600 acres of land acquired spread over 20 years (greater acquisition rate than 500 acres/year)
- Accounts for population growth projections at a rate of 1,040 acres per year over the next 20 years, based on State of Maryland projections.
- Baseline #2 assumes for all land acquisitions a current rough order of magnitude per acre cost of $8,000, based on DNR estimates, plus an additional 25% for the first 5 years, 35% for years 6-10, and 50% for years 11 and beyond to account for site assessments, remediation, teardowns, archaeological preservation, and stabilization, and an additional 5% of the purchase to account for future land purchases requiring remediation and restoration.
- With 18,600 acres of land an additional 1,040 acres to be acquired per year to account for population growth accounts for the following total costs:
- Annual average cost of $10,368,800
- Total cost of $185,442,000
- Assumes 3% annual inflation rate

Table 5 contains data for Baseline #2, highlighting the additional funding needed to improve the Park System, presented in two categories: Low and High estimates for fiscal years (FY) 2025 through 2029.

For the Low estimate, there's a need for 269 additional staffing PINS each year, with the cost per PIN starting at $61,850 in fiscal 2025 and rising to $69,613 in fiscal 2029. The total cost of staff and a 10% wage increase are listed, leading to subtotal increase in operating costs that grows from $18.3 million in fiscal 2025 to $20.6 million in fiscal 2029.

Capital costs include low estimates for Capital Maintenance, Land Acquisition (spread over 20 years), Land Acquisition Staffing, and 5-year critical maintenance improvement program. These start at $83.6 million for Capital Maintenance in fiscal 2025 and rise to $94.1 million in fiscal 2029. The subtotal for Capital costs increases from $121.5 million in fiscal 2025 to $136.7 million in fiscal 2029.

The Total Additional Funding Needed combines operating and capital costs, starting at approximately $139.8 million in fiscal 2025 and rising to about $157.3 million in fiscal 2029.

For the High estimate, the staffing and operating costs are the same as in the Low estimate, with subtotal operating costs also starting at $18.3 million in fiscal 2025 and increasing to $20.6 million in fiscal 2029. Capital costs are higher, with Capital Maintenance starting at $90.1 million in fiscal 2025 and reaching almost $101.4 million in fiscal 2029.

The subtotal for Capital costs goes from about $134.4 million in fiscal 2025 to approximately $151.3 million in fiscal 2029.

The Total Additional Funding Needed for the high estimate starts at over $152.7 million in fiscal 2025 and increases to more than $171.9 million in fiscal 2029.

Table 5: Baseline #2 Funding Impacts

Scenario 2A: Funding needed to improve the Park System - Low

	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Operating					
Additional Staffing PINS Needed:	269	269	269	269	269
Cost per Pin	$ 61,850	$ 63,706	$ 65,617	$ 67,586	$ 69,613
Total cost of staff	$ 16,637,776	$ 17,136,910	$ 17,651,017	$ 18,180,548	$ 18,725,964
10% wage increase	$ 1,663,778	$ 1,713,691	$ 1,765,102	$ 1,818,055	$ 1,872,596
Subtotal Operating	**$ 18,301,554**	**$ 18,850,601**	**$ 19,416,119**	**$ 19,998,602**	**$ 20,598,560**
Capital					
Capital Maintenance Low	$ 83,617,295	$ 86,125,814	$ 88,709,588	$ 91,370,876	$ 94,112,002
Land Acquisition Low (Spread Over 20 Years)	$ 13,498,170	$ 13,903,115	$ 14,320,209	$ 14,749,815	$ 15,192,309
Land Acquisition Staffing	$ 3,155,762	$ 3,250,435	$ 3,347,948	$ 3,448,386	$ 3,551,838
Capital Backlog	$ 21,218,000	$ 21,854,540	$ 22,510,176	$ 23,185,481	$ 23,881,046
Subtotal Capital	**$ 121,489,227**	**$ 125,133,904**	**$ 128,887,921**	**$ 132,754,559**	**$ 136,737,195**
Total Additional Funding Needed	**$ 139,790,781**	**$ 143,984,505**	**$ 148,304,040**	**$ 152,753,161**	**$ 157,335,756**

Scenario 2B: Funding needed to improve the Park System - High

	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Operating					
Additional Staffing PINS Needed:	269	269	269	269	269
Cost per Pin	$ 61,850	$ 63,706	$ 65,617	$ 67,586	$ 69,613
Total cost of staff	$ 16,637,776	$ 17,136,910	$ 17,651,017	$ 18,180,548	$ 18,725,964
10% wage increase	$ 1,663,778	$ 1,713,691	$ 1,765,102	$ 1,818,055	$ 1,872,596
Subtotal Operating	**$ 18,301,554**	**$ 18,850,601**	**$ 19,416,119**	**$ 19,998,602**	**$ 20,598,560**
Capital					
Capital Maintenance High	$ 90,086,896	$ 92,789,503	$ 95,573,188	$ 98,440,384	$ 101,393,596
Land Acquisition High (Spread Over 20 Years)	$ 19,967,772	$ 20,566,805	$ 21,183,809	$ 21,819,323	$ 22,473,903
Land Acquisition Staffing	$ 3,155,762	$ 3,250,435	$ 3,347,948	$ 3,448,386	$ 3,551,838
Capital Backlog	$ 21,218,000	$ 21,854,540	$ 22,510,176	$ 23,185,481	$ 23,881,046
Subtotal Capital	**$ 134,428,430**	**$ 138,461,283**	**$ 142,615,122**	**$ 146,893,575**	**$ 151,300,383**
Total Additional Funding Needed	**$ 152,729,984**	**$ 157,311,884**	**$ 162,031,240**	**$ 166,892,178**	**$ 171,898,943**

Baseline #3: Establish the level of funding to grow the park system with population growth

The purpose of this funding baseline is to establish the level of funding needed to grow the Park System as the state's population increases. This Baseline #3 funding is designed to increase the level of staffing, maintenance, and land acquisition in alignment with population projections, as well as consider impacts of climate change on maintenance costs.

The operating and capital side of the MPS budget must be adjusted to achieve the goals for Baseline #3. The details of both are listed below.

Operating Budget

The following assumptions are built into the operating budget recommendations to meet the requirements for the Part 3.

- Focuses on MPS staffing and operations
- Maintains the FY23 ratio of budget distribution
- Retain 18% allocation of administrative staff
- Retain 28% of operating budget for equipment, communications, materials, and vehicles to maintain the system
- Assumes 530 PINS from Part 2
- Salary calculations are based on using the FY23 average salary of all MPS positions ($58,300) for all PINS and does not include employee benefit costs
- Allocates across the board 10% one-time increase to salaries
- Allocates across the board 3% annual COLA increases
- Assumes preservation of land at rate of .036 acres of parkland per MD resident, with 79,800 acres of land acquired, based on a review of peer state systems (greater acquisition rate than 500 acres/year)
- Assumes 1 PIN per 401 acres of newly acquired land
- With 79,800 acres of land acquired = 199 additional PINS
- Inflation is not included in operating expenses

Capital Budget

The following assumptions are built into the capital budget recommendations to meet the requirements for the Part 2 Scenario.

5-year critical maintenance improvement program

- Assumes current $100 Million 5-year critical maintenance improvement program.

Annual Budgeted Funds for Asset Rehabilitation and Capital Investment

- Assumes 5% of the total replacement value of the system, minus the land value, is budgeted annually for asset rehabilitation and capital investments, which is above and beyond $100 Million current 5-year critical maintenance improvement program.
- Pulls forward RS Means (ROM) estimates for asset values. These numbers are intended for high-level asset valuing only. Once DNR values its facilities and infrastructure through the asset management system, these numbers should be updated
- Building asset investment needs is based on the asset data provided by MPS – using assets identified in GIS buildings/bridges/roads shapefile from DNR for all MPS sites

- Assumes associated infrastructure (i.e., water and sewer) is accounted for by factoring in 50% of all Park roads because this spatial data was not available
- Assumes 7% markup on all asset investments to reflect higher cost of sustainable construction projects (high end of range used to account for many parks in floodplain)
- Replacement Value of Assets (based off GIS data and increase for water and sewer systems)
- Pulls forward baseline assets and includes an additional $3760 to $9970 an acre (current asset low to high range for system across all park acres) for asset replacement/new assets on all acquisitions

Land Acquisition

- Assumes preservation of land at rate of .036 acres of parkland per MD resident based on the 2021 population, with 79,800 acres of land acquired spread over 20 years (greater acquisition rate than 500 acres/year)
- Additional increase of 1,440 acres per year, cost of $14,356,800 annually in alignment with State population projections over the next 20 years.
- Baseline #3 assumes for all land acquisitions a current rough order of magnitude per acre cost of $8,000, based on DNR estimates, plus an additional 25% for the first 5 years, 35% for years 6-10, and 50% for years 11 and beyond to account for site assessments, remediation, teardowns, archaeological preservation, and stabilization.
- With 79,800 acres of land acquired at 3,990 acres per year the total costs would be:
- Annual cost of $13,200,000
- Total cost of $734,160,000
- Assumes 3% annual inflation rate

Table 6 details funding impacts of Baseline 3; funding needed to grow the Park System as the population increases, with Low and High estimates for fiscal years (FY) 2025 through 2029.

It accounts for the need for 269 additional staffing PINS, with the cost per PIN starting at $61,850 in fiscal 2025 and increasing to $69,613 in fiscal 2029. The total cost of staff and a 10% wage increase are included, leading to subtotal operating costs that increase from $18.3 million in fiscal 2025 to $20.6 million in fiscal 2029.

Capital costs include low estimates for Capital Maintenance, Land Acquisition (spread over 20 years), Land Acquisition Staffing, and 5-year critical maintenance improvement program, with Capital Maintenance beginning at $126 million in fiscal 2025 and reaching $141.8 million in fiscal 2029. The subtotal for Capital costs rises from $216.9 million in fiscal 2025 to $244.1 million in fiscal 2029.

The Total Low Additional Funding Needed combines the operating and capital costs, starting at approximately $235.2 million in fiscal 2025 and rising to about $264.7 million in fiscal 2029.

For the High estimate, staffing and operating costs are consistent with the Low estimate, with subtotal operating costs starting at $18.3 million in fiscal 2025 and increasing to $20.6 million in fiscal 2029.

Capital costs are higher in this scenario, with Capital Maintenance starting at roughly $152.7 million in fiscal 2025 and going up to about $171.9 million in fiscal 2029. The subtotal for Capital costs begins at nearly $270.5 million in fiscal 2025 and escalates to approximately $304.5 million in fiscal 2029.

The Total Additional Funding Needed for the high estimate starts at over $288.8 million in fiscal 2025 and increases to more than $325 million in fiscal 2029.

Table 6: Baseline #3 Funding Impacts

Scenario 3A: Funding needed to grow the Park System as population increases - Low

	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Operating					
Additional Staffing PINS Needed:	269	269	269	269	269
Cost per Pin	$ 61,850	$ 63,706	$ 65,617	$ 67,586	$ 69,613
Total cost of staff	$ 16,637,776	$ 17,136,910	$ 17,651,017	$ 18,180,548	$ 18,725,964
10% wage increase	$ 1,663,778	$ 1,713,691	$ 1,765,102	$ 1,818,055	$ 1,872,596
Subtotal Operating	**$ 18,301,554**	**$ 18,850,601**	**$ 19,416,119**	**$ 19,998,602**	**$ 20,598,560**
Capital					
Capital Maintenance Low	$ 125,966,089	$ 129,745,071	$ 133,637,424	$ 137,646,546	$ 141,775,943
Land Acquisition Low (Spread Over 20 Years)	$ 56,161,546	$ 57,846,393	$ 59,581,785	$ 61,369,238	$ 63,210,315
Land Acquisition Staffing	$ 13,539,238	$ 13,945,415	$ 14,363,777	$ 14,794,690	$ 15,238,531
Capital Backlog	$ 21,218,000	$ 21,854,540	$ 22,510,176	$ 23,185,481	$ 23,881,046
Subtotal Capital	**$ 216,884,873**	**$ 223,391,419**	**$ 230,093,161**	**$ 236,995,956**	**$ 244,105,835**
Total Additional Funding Needed	**$ 235,186,427**	**$ 242,242,020**	**$ 249,509,280**	**$ 256,994,559**	**$ 264,704,395**

Scenario 3B: Funding needed to grow the Park System as population increases - High

	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Operating					
Additional Staffing PINS Needed:	269	269	269	269	269
Cost per Pin	$ 61,850	$ 63,706	$ 65,617	$ 67,586	$ 69,613
Total cost of staff	$ 16,637,776	$ 17,136,910	$ 17,651,017	$ 18,180,548	$ 18,725,964
10% wage increase	$ 1,663,778	$ 1,713,691	$ 1,765,102	$ 1,818,055	$ 1,872,596
Subtotal Operating	**$ 18,301,554**	**$ 18,850,601**	**$ 19,416,119**	**$ 19,998,602**	**$ 20,598,560**
Capital					
Capital Maintenance High	$ 152,727,313	$ 157,309,132	$ 162,028,406	$ 166,889,258	$ 171,895,936
Land Acquisition High (Spread Over 20 Years)	$ 83,016,434	$ 85,506,927	$ 88,072,135	$ 90,714,299	$ 93,435,728
Land Acquisition Staffing	$ 13,539,238	$ 13,945,415	$ 14,363,777	$ 14,794,690	$ 15,238,531
Capital Backlog	$ 21,218,000	$ 21,854,540	$ 22,510,176	$ 23,185,481	$ 23,881,046
Subtotal Capital	**$ 270,500,984**	**$ 278,616,014**	**$ 286,974,494**	**$ 295,583,729**	**$ 304,451,241**
Total Additional Funding Needed	**$ 288,802,538**	**$ 297,466,615**	**$ 306,390,613**	**$ 315,582,331**	**$ 325,049,801**

Structural Deficit

Table 7 demonstrates for fiscal year 2025, the need for additional funding to support the Park System varies across different baselines considered above, reflecting a range of operational and capital requirements.

Under Baseline 1, the focus is on sustaining the Park System as-is, with an additional $11,071,234 allocated for staffing, leading to a total additional funding need of $68,445,619 when combined with capital costs.

Baseline 2 takes a two-tiered approach, with the Low scenario necessitating $103,705,314 in total additional funding, including a significant increase in capital maintenance and land acquisition costs compared to Baseline 1. The High scenario for Baseline 2 anticipates even greater needs, proposing $116,644,517 in additional funding to cover higher estimates for capital maintenance and land acquisition.

Baseline 3 addresses the growth of the Park System in response to population increases. The Low scenario requires $199,100,960 in total additional funding, with substantial increments in land acquisition and capital maintenance to accommodate expansion. The High scenario projects the most significant funding needs of all, totaling $252,717,072, to ensure the Park System can meet the demands of a growing population through extensive improvements and expansions.

To overcome these structural deficit amounts, multiple funding scenarios were analyzed and are detailed below.

Shortfall Scenario 1 - Transfer Tax

The first scenario that was looked at to potentially reduce the structural deficit for MPS was to alter the Transfer Tax funding MPS receives through a variety of means. First, increasing the allocation MPS receives in the Transfer Tax distribution formula was looked at. In this scenario, funding comes out of the POS State allocation. Second, increasing the total amount of the Transfer Tax that the state collects was looked at. Third, a combination of the first two increases were looked at. Finally, a scenario where MPS receives an allocation from the Transfer Tax before any other distributions are made to other agencies was considered. Table 8 shows the impact to the deficits for each of the considered scenarios.

Table 7: Additional Funding Needs by Baseline

Additional Funding Needed by Baseline - FY 2025	Baseline 1	Baseline 2A Low	Baseline 2B High	Baseline 3A Low	Baseline 3B High
Operating					
Total cost of additional staff	$ 11,071,234	$ 18,301,554	$ 18,301,554	$ 18,301,554	$ 18,301,554
Subtotal Operating	**$ 11,071,234**	**$ 18,301,554**	**$ 18,301,554**	**$ 18,301,554**	**$ 18,301,554**
Capital					
Capital Maintenance	$ 70,119,125	$ 83,617,295	$ 90,086,896	$ 125,966,089	$ 152,727,313
Land Acquisition (Spread over 20 years)	$ 2,045,414	$ 13,498,170	$ 19,967,772	$ 56,161,546	$ 83,016,434
Land Acquisition Staffing	$ 77,313	$ 3,155,762	$ 3,155,762	$ 13,539,238	$ 13,539,238
Capital Backlog	$ 21,218,000	$ 21,218,000	$ 21,218,000	$ 21,218,000	$ 21,218,000
Subtotal Capital	**$ 93,459,852**	**$ 121,489,227**	**$ 134,428,430**	**$ 216,884,873**	**$ 270,500,984**
Total Additional Funding Needed	**$ 104,531,086**	**$ 139,790,781**	**$ 152,729,984**	**$ 235,186,427**	**$ 288,802,538**

Table 8: Impact to Deficits from Transfer Tax Changes - fiscal 2025

Impact to Deficits from Transfer Tax Changes - FY 2025	Amount Added to MPS	Baseline 1 New Deficit	Baseline 2 Low New Deficit	Baseline 2 High New Deficit	Baseline 3 Low New Deficit	Baseline 3 High New Deficit
Increase Allocation to POS Forest and Parks						
Status Quo - Allocation to POS Forest and Parks 20%	$ -	$ 104,531,086	$ 139,790,781	$ 152,729,984	$ 235,186,427	$ 288,802,538
Increase allocation to POS Forest and Parks to 25%	$ 6,139,351	$ 98,391,735	$ 133,651,430	$ 146,590,633	$ 229,047,076	$ 282,663,187
Increase allocation to POS Forest and Parks to 30%	$ 12,278,702	$ 92,252,384	$ 127,512,079	$ 140,451,282	$ 222,907,725	$ 276,523,836
Increase allocation to POS Forest and Parks to 35%	$ 18,418,053	$ 86,113,033	$ 121,372,728	$ 134,311,931	$ 216,768,373	$ 270,384,485
Increase the Transfer Tax						
Status Quo - Transfer Tax at .5%	$ -	$ 104,531,086	$ 139,790,781	$ 152,729,984	$ 235,186,427	$ 288,802,538
Increase Transfer Tax to 1.0%	$ 37,107,705	$ 67,423,381	$ 102,683,076	$ 115,622,279	$ 198,078,721	$ 251,694,833
Increase Transfer Tax to 1.5%	$ 74,215,411	$ 30,315,676	$ 65,575,371	$ 78,514,574	$ 160,971,016	$ 214,587,128
Increase Transfer Tax to 2.0%	$ 111,323,116	$ (6,792,030)	$ 28,467,665	$ 41,406,869	$ 123,863,311	$ 177,479,423
Combination Increase MPS Allocation & Transfer Tax						
Increase MPS Allocation to .3 and Transfer Tax to 1.0%	$ 67,940,260	$ 36,590,826	$ 71,850,521	$ 84,789,724	$ 167,246,167	$ 220,862,278
Increase MPS Allocation to .35 and Transfer Tax to 2.0%	$ 213,233,506	$ (108,702,420)	$ (73,442,725)	$ (60,503,522)	$ 21,952,921	$ 75,569,032
Allocate $40 Million in Transfer Tax Off Top						
Allocate $40 Million to MPS before other allocations	$ 15,442,596	$ 89,088,491	$ 124,348,186	$ 137,287,389	$ 219,743,831	$ 273,359,943

1a - Status Quo

Under the status quo scenario for fiscal 2025, the allocation to POS Forest and Parks remains at 20%, with no additional amount added to the MPS (Maryland Park Service). For Baseline 1, the deficit is $68,445,619. For Baseline 2 Low, the deficit is $103,705,314. For Baseline 2 High, the deficit stands at $116,644,517. For Baseline 3, which considers growth needs as the population increases, the deficits are even more substantial under the status quo. Baseline 3 Low has a deficit of $199,100,960, and Baseline 3 High faces the largest deficit of all scenarios at $252,717,072.

1b - Alter Transfer Tax Allocation to MPS

The first strategy involves incrementally increasing the allocation to POS Forest and Parks. This increase comes out of the POS State allocation. Under the status quo, with an allocation of 20% POS funds, the deficits remain unchanged, spanning from $68,445,619 in Baseline 1 to $252,717,072 in Baseline 3 High. If the allocation is increased to 25%, an additional $6,139,351 is added to MPS, decreasing the deficits to a range of $62,306,268 to $246,577,720. Raising the allocation to 30% adds $12,278,702 to MPS, further reducing the deficits across the scenarios to $56,166,917 to $240,438,369. The most significant increase to 35% allocation adds $18,418,053 to MPS, which brings down the new deficits to between $50,027,566 and $234,299,018.

Increasing the allocation to POS (Program Open Space) Forest and Park Services from transfer tax revenues has an effect on the funding available for other state services. Specifically, those funded by POS State Allocations.

At the status quo of a 20% allocation to POS Forest and Park Services, the MPS (Maryland Park Service) receives $25,757,404, and the POS State receives $28,976,953. This serves as the baseline for assessing the impact of increased allocations.

When the allocation to POS Forest and Park Services is increased to 25%, there is an additional $6,139,351 directed towards MPS Funding, totaling $31,896,756. Consequently, this reduces the adjusted POS State funding to $22,837,601. An allocation increase to 30% further increases MPS Funding by $12,278,702, but decreases POS State funding to $16,698,250.

Increasing POS Forest and Parks Services' allocation to 35%, brings an additional $18,418,053 to MPS Funding, but reduces POS State's allocation to $10,558,899. Table 9 shows the impacts of these additions to POS Forest and Parks Services' allocations.

1c - Changing the Transfer Tax

The second strategy evaluates the impact of increasing the transfer tax. This would increase the cost of buying property, but would generate more revenue for MPS. Keeping the tax at the current rate of 0.5% does not change the deficits. Increasing the tax to 1.0% yields an additional $37,107,705 to MPS, lowering the deficits to a spectrum ranging from $31,337,914 in Baseline #1 to $215,609,366 in Baseline #3 High. A more aggressive increase to 1.5% adds $74,215,411 to MPS, creating a surplus of $5,769,791 for Scenario 1 and significantly decreasing the deficits for the other scenarios. The most substantial tax increase to 2.0% adds $111,323,116 to MPS, resulting in surpluses in the first two scenarios and considerably reducing deficits in the rest. Table 10 below shows the impacts to MPS funding from increasing the Transfer Tax.

1d - Combinations of 1b and 1c

The third strategy is a combination of increasing MPS allocation and the transfer tax. By raising the MPS allocation to 0.3 and the transfer tax to 1.0%, a minimal deficit is left for Scenario 1, with significantly lower deficits for the remaining scenarios. An even more aggressive combined increase of the MPS allocation to 0.35 and the transfer tax to 2.0% not only eradicates deficits but also generates surpluses in some scenarios, illustrating a potent fiscal impact. Table X and Table 11 below show the five year Transfer Tax distributions for each of these scenarios. This table reflects the current Board of Revenue Estimates out-year projections for the transfer tax.

Table 9: Impacts to POS State Funding

Transfer Tax Projections - Increasing Allocation to MPS Impacts			
	FY 2025 MPS Funding	Increase in MPS Funding	Adjusted POS State
20%	$ 25,757,404	$ -	$ 28,976,953
25%	$ 31,896,756	$ 6,139,351	$ 22,837,601
30%	$ 38,036,107	$ 12,278,702	$ 16,698,250
35%	$ 44,175,458	$ 18,418,053	$ 10,558,899

Table 10: Impacts to MPS from Increasing the Transfer Tax

Transfer Tax Projections - Increasing the Transfer Tax		
	FY 2025 MPS Funding	Increase in MPS Funding
0.5%	$ 25,757,404	$ -
1.0%	$ 62,865,110	$ 37,107,705
1.5%	$ 99,972,815	$ 74,215,411
2.0%	$ 137,080,520	$ 111,323,116

Table 11: Transfer Tax Projections, 1% Transfer Tax and POS Allocation 30%

Transfer Tax Projections - Increase Tansfer Tax to 1.0% and POS Allocation to .30	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Administrative	$ 15,271,603	$ 16,777,433	$ 17,107,406	$ 18,316,343	$ 19,629,805
Attainment Adjustment	$ 79,509,653	$ 47,112,425	$ -	$ -	$ -
Heritage Areas Authority	$ 6,000,000	$ 6,000,000	$ 6,000,000	$ 6,000,000	$ 6,000,000
POS State	$ 68,338,572	$ 90,249,398	$ 103,871,030	$ 112,046,979	$ 120,929,819
POS Local	$ 92,497,665	$ 110,778,441	$ 123,805,289	$ 132,617,899	$ 142,192,447
POS Capital Development Eligible	$ 40,447,735	$ 48,672,868	$ 54,534,083	$ 58,499,171	$ 64,007,081
Rural Legacy Program	$ 28,713,609	$ 32,767,896	$ 35,656,972	$ 37,611,421	$ 39,734,852
Heritage Conservation Fund	$ 7,456,899	$ 8,916,442	$ 9,956,510	$ 10,660,112	$ 11,424,547
Agricultural Land Preservation	$ 70,134,436	$ 84,340,378	$ 94,310,276	$ 100,974,947	$ 108,215,845
Debt Service	$ 6,985,606	$ 1,654,047	$ -	$ -	$ -
POS Forest and Park Service	$ 92,497,665	$ 110,778,441	$ 123,805,289	$ 132,617,899	$ 142,192,447
State Park Operating Expenses	$ 1,200,000	$ 1,200,001	$ 1,200,002	$ 1,200,003	$ 1,200,004
Total Transfer Tax	**$ 509,053,444**	**$ 559,247,768**	**$ 570,246,855**	**$ 610,544,773**	**$ 654,326,840**
Subtotal Program Open Space	**$ 311,325,549**	**$ 372,261,470**	**$ 415,684,296**	**$ 445,059,665**	**$ 476,974,822**
Subtotal POS Forest and Park Service	**$ 93,697,665**	**$ 111,978,442**	**$ 125,005,291**	**$ 133,817,902**	**$ 143,392,451**

Table 12: Transfer Tax Projections, 2% Transfer Tax and POS Allocation 35%

Transfer Tax Projections - Increase Tansfer Tax to 2.0% and POS Allocation to .35	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Administrative	$ 30,543,207	$ 33,554,866	$ 34,214,811	$ 36,632,686	$ 39,259,610
Attainment Adjustment	$ 79,509,653	$ 47,112,425	$ -	$ -	$ -
Heritage Areas Authority	$ 6,000,000	$ 6,000,000	$ 6,000,000	$ 6,000,000	$ 6,000,000
POS State	$ 137,649,086	$ 164,867,453	$ 178,148,630	$ 191,562,991	$ 206,137,155
POS Local	$ 203,820,781	$ 233,078,378	$ 248,510,578	$ 266,135,799	$ 285,284,893
POS Capital Development Eligible	$ 90,535,730	$ 103,699,703	$ 110,643,166	$ 118,573,343	$ 128,389,161
Rural Legacy Program	$ 53,402,701	$ 59,891,412	$ 63,313,945	$ 67,222,843	$ 71,469,704
Heritage Conservation Fund	$ 16,344,972	$ 18,680,908	$ 19,913,020	$ 21,320,223	$ 22,849,093
Agricultural Land Preservation	$ 154,324,240	$ 176,831,570	$ 188,620,552	$ 201,949,894	$ 216,431,689
Debt Service	$ 6,985,606	$ 1,654,047	$ -	$ -	$ -
POS Forest and Park Service	$ 237,790,911	$ 271,924,774	$ 289,929,007	$ 310,491,765	$ 332,832,375
State Park Operating Expenses	$ 1,200,000	$ 1,200,000	$ 1,200,000	$ 1,200,000	$ 1,200,000
Total Transfer Tax	**$ 1,018,106,887**	**$ 1,118,495,537**	**$ 1,140,493,710**	**$ 1,221,089,545**	**$ 1,308,653,681**
Subtotal Program Open Space	**$ 682,402,602**	**$ 779,927,927**	**$ 831,368,592**	**$ 890,119,329**	**$ 953,949,644**
Subtotal POS Forest and Park Service	**$ 238,990,911**	**$ 273,124,774**	**$ 291,129,007**	**$ 311,691,765**	**$ 334,032,375**

1e - Allocate MPS' Portion of the Transfer Tax Off the Top

The fourth strategy is to allocate MPS' portion of the Transfer Tax before any other allocations are made. It's important to note that the total transfer tax remains unchanged at $254,526,722; it's the internal allocation that shifts.

Allocating $40 million in transfer tax off the top before other allocations adds $15,442,596 to MPS, leads to improved deficits over status quo. These range from $53,003,024 to $237,274,476 across all scenarios. This increases the stability of transfer tax funding for the Maryland Park Service.

If the POS (Program Open Space) Forest and Park Service receives its allocation from the transfer tax off the top before other services are considered, it creates a shift in the distribution of funds among various service areas for fiscal 2025. In this scenario, the POS Forest and Park Service receives an additional $40,000,000 right off the bat, increasing their subtotal from the base of $25,757,404 to $41,200,000 due to the $1.2 Million allocation from POS State funding. This off-the-top allocation directly impacts other service areas funded by the transfer tax:

The POS Allocation decreases by $30,060,000, from a base of $125,787,022 to $95,727,022 when the off-the-top allocation is made. This affects funding for POS State, POS Local, a portion of the Rural Legacy Program, and Capital Development.

Additional State Land Acquisition Allocation, which is set at 1%, sees a reduction of $400,000, lowering from $1,673,813 to $1,273,813.

Agricultural Land Preservation, earmarked at 17.05% of the transfer tax, is reduced by $6,820,000, going from $28,039,534 to $21,219,534.

Rural Legacy, which receives 5%, experiences a $2,000,000 decrease, bringing it down from $8,369,063 to $6,369,063.

Table 13: Transfer Tax Projections MPS Off the Top

Transfer Tax Projections - POS Forest and Park Service Off the Top Scenario Impacts			
	FY 2025 Base	FY 2025 Off the Top	Impact to Base of Off Top
POS Forest and Park Service off Top	$ -	$ 40,000,000	$ 40,000,000
Administrative Expenses	$ 7,635,802	$ 7,635,802	$ -
Attainment Adjustment	$ 79,509,653	$ 79,509,653	$ -
POS Allocation	$ 125,787,022	$ 95,727,022	$ (30,060,000)
Additional State Land Acquisition Allocation (1%)	$ 1,673,813	$ 1,273,813	$ (400,000)
Agricultural Land Preservation (17.05%)	$ 28,039,534	$ 21,219,534	$ (6,820,000)
POS Special Bonds Debt Service	$ 498,972	$ 498,972	$ -
Rural Legacy (5%)	$ 8,369,063	$ 6,369,063	$ (2,000,000)
Heritage Conservation Fund (1.8%)	$ 3,012,863	$ 2,292,863	$ (720,000)
Total Transfer Tax	**$ 254,526,722**	**$ 254,526,722**	
Subtotal Program Open Space	**$ 125,787,022**	**$ 95,727,022**	
Subtotal POS Forest and Park Service	**$ 25,757,404**	**$ 41,200,000**	

The Heritage Conservation Fund, at 1.8% of the transfer tax, is lowered by $720,000, from $3,012,863 to $2,292,863.

Administrative Expenses, Attainment Adjustment, and POS Special Bonds Debt Service are unaffected by the off-the-top allocation for POS Forest and Park Service.

The impact of the POS Forest and Park Service receiving funds off the top leads to significant reductions in allocations for other land acquisition and preservation programs. This redistribution prioritizes MPS' services above other programs within the scope of transfer tax-funded environmental and conservation efforts. Table 13 below shows the impacts to the Transfer Tax distributions.

Shortfall Scenario 2 - Other Funding Options

The second scenario looked at for overcoming the POS Forest and Park Service deficit was to consider funding options other than the Transfer Tax. These include:

- A dedicated sporting goods sales tax
- Increasing fees for services
- Increasing revenues from P3s, Endowments, Lottery Proceeds, State Constitutional Amendments, Bond Initiative, Philanthropy, Corporate Sponsorships, and Green Bonds.

2a - Sporting Equipment Sales Tax

Dedicating a portion of the sales tax on sporting goods sold in the state to MPS could have a significant impact on the deficit. Whether this came from dedicating a percentage of the existing sales tax or if this came from an additional sporting goods surcharge, there would be substantial impacts to MPS' budget.

If one-sixth of the 6% sales tax from sporting goods (or if an additional 1% sales tax was collected on sporting goods) is dedicated to MPS, an additional $27,766,878 would be distributed to MPS in fiscal 2025 and grow to $42,441,427 by fiscal 2029.

Allocating 50% of the 6% sales tax to MPS (or an additional 3% tax collected on sporting goods), would result in an even more substantial increase in funds. The initial amount for fiscal 2025 would be $83,300,635, By fiscal 2029, the MPS would receive an additional $127,324,282 from this funding source.

The most substantial impact comes from allocating 100% of the 6% sales tax from sporting goods to MPS. Starting at $166,601,271 in fiscal 025, by the end of the projection in fiscal 2029, MPS would receive an additional $254,648,564 from this funding source.

The total sales of sporting equipment in Maryland have shown substantial growth over a five-year period from fiscal 2018 to fiscal 2022. Starting in fiscal 2018, the actual sales were $1,273,600,000, which grew by 6.41% the following year to reach $1,403,100,000 in fiscal 2019.

The implementation of this tax could be based on estimated sales rather than relying solely on collections from individual vendors. This method would allow for a more streamlined process and possibly minimize administrative burdens. It could also provide a more consistent revenue stream, as estimates could be adjusted annually based on market trends and consumer spending habits observed in the sporting goods sector.

If a portion of the existing sales tax revenues were redirected to MPS, there would be an impact on the State's General Fund. Redirecting a portion of the current 6% sales tax on sporting goods to MPS could result in a shortfall in the General Fund, which supports a wide array of state services. The implications of this deficit would need to be carefully assessed to ensure that the reallocation does not adversely affect other critical state-funded programs.

Table 14 shows estimates for total sporting equipment sales in Maryland for years 2018-2022 and total sales tax collected on these items. The five-year average growth for this category of goods is 11.19%. This data came from the U.S. Bureau of Economic Analysis' Consumer Spending by State -- Consumer Spending by State | U.S. Bureau of Economic Analysis (BEA).

Table 14: Sporting Equipment Sales

Sporting Equipment Sales - Growth Rate

FY Year	Actuals	Growth Rate	6% Sales Tax Collected
2018	$ 1,273,600,000	6.41%	$ 76,416,000
2019	$ 1,403,100,000	10.17%	$ 84,186,000
2020	$ 1,704,400,000	21.47%	$ 102,264,000
2021	$ 1,931,300,000	13.31%	$ 115,878,000
2022	$ 2,019,900,000	4.59%	$ 121,194,000
5-Year Average Growth Rate:		**11.19%**	**$ 499,938,000**

Table 15 shows estimated revenues that would be distributed to MPS if various percentages of the sales tax collected were dedicated to MPS.

Table 16 shows the impact to the Baselines 1-3 deficits for fiscal 2025 if different amounts of sales tax collected on sporting equipment sales were allocated to MPS. The impact of a dedicated Sporting Goods Tax on the deficits for fiscal 2025 for the Maryland Park Service (MPS) across various baselines shows how different levels of sales tax allocation can substantially offset or even reverse these deficits.

At 16.67% allocation, an additional $27,766,878 goes to MPS, which reduces the deficit for Baseline 1 to $76,764,208. However, for the other scenarios, the deficits remain sizable, from $112,023,903 in Baseline 2 Low to as high as $261,035,660 in Baseline 3 High.

Increasing the allocation to 50% (½) of the sales tax makes a more dramatic impact. For Baseline 1, the defecit is reduced to $21,230,451. For Baseline 2 Low and Baseline 2 High, the deficits are significantly reduced to $56,490,146 and $69,429,349, respectively. In Baseline 3 Low, the deficit is markedly lower at $151,885,791. It is even further reduced in Baseline 3 High to $205,501,903.

Table 15: Sporting Goods Sales Tax Distributions

Sporting Goods Sales Tax Distributions - 11.19% Growth Rate

	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
16.67% of Sales Tax goes to MPS	$ 27,766,878	$ 30,873,992	$ 34,328,792	$ 38,170,184	$ 42,441,427
50% of Sales Tax goes to MPS	$ 83,300,635	$ 92,621,977	$ 102,986,376	$ 114,510,551	$ 127,324,282
100% of Sales Tax goes to MPS	$ 166,601,271	$ 185,243,953	$ 205,972,752	$ 229,021,102	$ 254,648,564

Table 16: Impact to Deficits from Dedicated Sporting Goods Tax - Fiscal 2025

Impact to Deficits from Dedicated Sporting Goods Tax - FY 2025

	Amount Added to MPS	Baseline 1 New Deficit	Baseline 2 Low New Deficit	Baseline 2 High New Deficit	Baseline 3 Low New Deficit	Baseline 3 High New Deficit
16.67% of Sales Tax goes to MPS	$ 27,766,878	$ 76,764,208	$ 112,023,903	$ 124,963,106	$ 207,419,548	$ 261,035,660
50% of Sales Tax goes to MPS	$ 83,300,635	$ 21,230,451	$ 56,490,146	$ 69,429,349	$ 151,885,791	$ 205,501,903
100% of Sales Tax goes to MPS	$ 166,601,271	$ (62,070,185)	$ (26,810,490)	$ (13,871,287)	$ 68,585,156	$ 122,201,267

An alternative to allocating 50% of the existing sales tax collected on sporting goods to MPS, would be to charge an additional 3% sales tax on sporting goods that would be dedicated to MPS. The net affect to MPS would be the same as allocating 50% of the existing sales tax, but other uses of sales tax would not be impacted. This assumes that the higher sales tax on sporting goods would not affect total sales.

Allocating the entire 100% of the sales tax to MPS has the largest impact. For Baseline 1, it not only covers the deficit but leaves a surplus of $62,070,185. This surplus scenario continues for Baseline 2 Low and Baseline 2 High, with surpluses of $26,810,490 and $13,871,287, respectively. For Baseline 3 Low, the deficit after the allocation would be reduced to $68,585,156. In Baseline 3 High, the deficit would be reduced to $122,201,267.

2b - Fee Increases

MPS collects a variety of fees for various services it offers at its parks. These fees make up the bulk of MPS' revenue generating services. In total, the fees for fiscal 2025 are projected to accumulate to $23,032,516. These fees were estimated based on 2022 reported actuals, and were projected out at 3% growth each year.

For fiscal 2025, the projected fee revenues for various services in Maryland State Parks are as follows:

Park Facilities Use: $6,598,117.13,

Camping: This category is forecasted to bring in $5,333,835.70, making it the second-highest source of fee-based revenue.

Land Rent: Revenue from land rent is projected to be $2,895,760.81, suggesting that leasing park lands for various uses is a significant income stream for the parks.

Commissions Other: This could encompass a range of commission-based revenues not specified elsewhere and is expected to be $992,174.51.

Park Season Passes: Sales of season passes are anticipated to generate $932,645.85, indicating a good number of visitors plan multiple returns or extended access to park services throughout the year.

Cabins: Rental fees for cabins are projected to bring in $886,953.11, which suggests that accommodation facilities within the parks are a popular amenity.

Pavilions & Shelters: These rentals are set to generate $697,933.90 in fees, used for events such as picnics, gatherings, or other group activities in park settings.

Mini Cabins: Smaller cabin rentals are expected to bring in $672,794.87, offering more modest accommodations than the full-sized cabins.

Miscellaneous Concession: Revenue from various concessions stands or services is anticipated to be $563,510.56, contributing significantly to the parks' income.

Camp Store Concession: The projected revenue from camp store sales amounts to $525,719.43, indicating that visitors purchase a considerable amount of goods from these facilities.

Boating Concession: Boating-related activities are expected to generate $404,047.08, which could include boat rentals, docking fees, and other related services.

Special Projects: This line item, which might include revenue from specific initiatives or programs, is estimated at $366,734.67.

Concession Commissions: The parks are anticipated to earn $297,836.34 from various commission-based arrangements with vendors or service providers.

The lower revenue categories include fees from house rentals, retail sales, food concessions, and others, each contributing to the diversity of the revenue streams for Maryland State Parks. Table 17 below lists all of the major fee categories and projections for fiscal 2025 - FY2029.

Fee increase scenarios for Maryland State Parks in fiscal 2025 present a range of options for increasing revenues. Table 18 below shows the projected impacts of multiple fee increases. All scenarios assume no impact to usage due to fee increases, which is unlikely.

Table 17 MPS Service Fee Projections (FY2025 to FY2029)

	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Fees by Revenue Generating Area					
Park Facilities Use	$ 6,598,117.13	$ 6,796,060.64	$ 6,999,942.46	$ 7,209,940.73	$ 7,426,238.96
Camping	$ 5,333,835.70	$ 5,493,850.77	$ 5,658,666.29	$ 5,828,426.28	$ 6,003,279.07
Land Rent	$ 2,895,760.81	$ 2,982,633.64	$ 3,072,112.64	$ 3,164,276.02	$ 3,259,204.30
Commissions Other	$ 992,174.51	$ 1,021,939.74	$ 1,052,597.94	$ 1,084,175.87	$ 1,116,701.15
Park Season Passes	$ 932,645.85	$ 960,625.22	$ 989,443.98	$ 1,019,127.30	$ 1,049,701.12
Cabins	$ 886,953.11	$ 913,561.71	$ 940,968.56	$ 969,197.61	$ 998,273.54
Pavillions & Shelters	$ 697,933.90	$ 718,871.92	$ 740,438.08	$ 762,651.22	$ 785,530.76
Mini Cabins	$ 672,794.87	$ 692,978.71	$ 713,768.07	$ 735,181.12	$ 757,236.55
Miscellaneous Concession	$ 563,510.56	$ 580,415.88	$ 597,828.35	$ 615,763.20	$ 634,236.10
Camp Store Concession	$ 525,719.43	$ 541,491.01	$ 557,735.74	$ 574,467.82	$ 591,701.85
Boating Concession	$ 404,047.08	$ 416,168.50	$ 428,653.55	$ 441,513.16	$ 454,758.55
Special Projects	$ 366,734.67	$ 377,736.71	$ 389,068.81	$ 400,740.88	$ 412,763.10
Concession Commissions	$ 297,836.34	$ 306,771.43	$ 315,974.57	$ 325,453.81	$ 335,217.42
House Rent	$ 295,113.61	$ 303,967.02	$ 313,086.03	$ 322,478.61	$ 332,152.97
Retail Sales	$ 267,724.81	$ 275,756.56	$ 284,029.25	$ 292,550.13	$ 301,326.64
Food Concession	$ 259,184.64	$ 266,960.18	$ 274,968.98	$ 283,218.05	$ 291,714.59
Golden Age Pass	$ 101,734.99	$ 104,787.04	$ 107,930.65	$ 111,168.57	$ 114,503.63
Rights Of Way	$ 88,257.49	$ 90,905.21	$ 93,632.37	$ 96,441.34	$ 99,334.58
Return Of Overcharges Prior F.Y.	$ 87,783.72	$ 90,417.23	$ 93,129.75	$ 95,923.64	$ 98,801.35
Marina Boat Facility	$ 87,074.09	$ 89,686.31	$ 92,376.90	$ 95,148.20	$ 98,002.65
Fines Park Service	$ 85,223.87	$ 87,780.58	$ 90,414.00	$ 93,126.42	$ 95,920.21
Fire Damage Claims	$ 74,218.12	$ 76,444.67	$ 78,738.01	$ 81,100.15	$ 83,533.15
Fuel	$ 68,552.26	$ 70,608.82	$ 72,727.09	$ 74,908.90	$ 77,156.17
Pavilions & Shelters Alcohol Permit Rev	$ 67,839.85	$ 69,875.05	$ 71,971.30	$ 74,130.44	$ 76,354.35
Dnr Managed Hunt Permit	$ 66,603.27	$ 68,601.37	$ 70,659.41	$ 72,779.20	$ 74,962.57
Annual Slip Rental	$ 65,663.26	$ 67,633.15	$ 69,662.15	$ 71,752.01	$ 73,904.57
Boat Launching	$ 55,757.30	$ 57,430.02	$ 59,152.92	$ 60,927.50	$ 62,755.33
Tranmission Lines	$ 33,213.77	$ 34,210.18	$ 35,236.49	$ 36,293.58	$ 37,382.39
Garrett County Season Pass	$ 30,529.11	$ 31,444.98	$ 32,388.33	$ 33,359.98	$ 34,360.78
Naturalist	$ 22,687.35	$ 23,367.98	$ 24,069.01	$ 24,791.09	$ 25,534.82
Cabin Pet Fee	$ 15,964.61	$ 16,443.55	$ 16,936.86	$ 17,444.96	$ 17,968.31
Building Rent	$ 13,568.14	$ 13,975.18	$ 14,394.44	$ 14,826.27	$ 15,271.06
Shortages & Overages	$ 11,590.70	$ 11,938.42	$ 12,296.57	$ 12,665.47	$ 13,045.43
Other Participation In Cost	$ 11,027.12	$ 11,357.93	$ 11,698.67	$ 12,049.63	$ 12,411.12
Program & Activity Support Reimbursement	$ 8,277.88	$ 8,526.21	$ 8,782.00	$ 9,045.46	$ 9,316.82
Forest Products Other Than Timber	$ 8,053.98	$ 8,295.59	$ 8,544.46	$ 8,800.80	$ 9,064.82
Sale Of Ice	$ 6,600.33	$ 6,798.34	$ 7,002.29	$ 7,212.36	$ 7,428.73
Electricity Used	$ 6,522.45	$ 6,718.12	$ 6,919.67	$ 7,127.26	$ 7,341.07
Principal Repayments - Easements	$ 5,866.64	$ 6,042.63	$ 6,223.91	$ 6,410.63	$ 6,602.95
Boat Storage	$ 4,144.32	$ 4,268.65	$ 4,396.71	$ 4,528.61	$ 4,664.47
All Other	$ 15,674.64	$ 16,144.88	$ 16,629.22	$ 17,128.10	$ 17,641.94
Total	**$ 23,032,516.26**	**$ 23,723,491.75**	**$ 24,435,196.50**	**$ 25,168,252.39**	**$ 25,923,299.97**

For a 20% increase across all fees, the base revenue of $23,032,516 sees an addition of $4,606,503, setting the new revenue target at $27,639,020. This approach would provide a significant boost to the parks' budget without a drastic change in fee amounts, possibly maintaining current visitation rates while increasing income.

A larger increment, a 50% increase in fees, would contribute an additional $11,516,258 to the base, resulting in a new revenue figure of $34,548,774. This sizable increase would likely enhance the parks' ability to fund operations and maintenance substantially but could impact visitor affordability and numbers.

Doubling the fees, reflecting a 100% increase, would lead to a matching net increase of $23,032,516, effectively doubling the revenue to a total of $46,065,033. This considerable growth in revenue could support significant improvements across the parks but also poses the risk of making park visits prohibitively expensive for some patrons.

An even more significant fee increase of 150% would add $34,548,774 to the revenue, resulting in a total of $57,581,291. This scenario could provide extensive funding for park enhancements but would require careful implementation to avoid alienating visitors due to high costs.

The most extreme scenario proposed is a 200% increase in all fees, which would add $46,065,033 to the base revenue, resulting in a total revenue of $69,097,549. Such a scenario could also dramatically alter the visitor demographic and possibly decrease overall usage.

Focusing on specific areas, a 100% increase in only Park Facilities Use fees would raise an additional $6,598,117, setting the new revenue at $29,630,633. This targeted increase might be justified by specific enhancements to park facilities that users would directly benefit from.

Similarly, a 100% increase in only camping fees would result in an additional $5,333,836, totaling $28,366,352 in revenue. While this increase would exclusively affect campers, it might make camping less accessible for budget-conscious visitors.

For example, in FY 2022 Park Facilities Use fees at Deep Creek Lake State Park totaled $190,582.21. A 100% fee increase for Park Facilities Use fees would increase the amount collected to $381,164.42. The same park collected $195,374.58 in Camping fees. A 100% fee increase in Camping fees would increase the amount collected to $390,749.16.

Another example park to consider is Patapsco Valley State Park. In FY 2022 Park Facilities Use fees at Patapsco Valley State Park totaled $686,276.43. A 100% fee increase for Park Facilities Use fees would increase the amount collected to $1,372,552.86. The same park collected $208,571.83 in Camping fees. A 100% fee increase in Camping fees would increase the amount collected to $417,143.66.

Table 18 Fee Increases Scenarios

Scenarios	FY 2025 Base	Net Increase	FY 2025 New
Increase all Fees by 20%	$ 23,032,516	$ 4,606,503	$ 27,639,020
Increase all Fees by 50%	$ 23,032,516	$ 11,516,258	$ 34,548,774
Increase all Fees by 100%	$ 23,032,516	$ 23,032,516	$ 46,065,033
Increase all Fees by 150%	$ 23,032,516	$ 34,548,774	$ 57,581,291
Increase all Fees by 200%	$ 23,032,516	$ 46,065,033	$ 69,097,549
Increase Only Park Facilities Use 100%	$ 6,598,117	$ 6,598,117	$ 29,630,633
Increase Only Camping 100%	$ 5,333,836	$ 5,333,836	$ 28,366,352

Table 19 Impact to Deficits from Fee Increases - FY 2025

Impact to Deficits from Fee Increases - FY 2025	Amount Added to MPS	Baseline 1 New Deficit	Baseline 2 Low New Deficit	Baseline 2 High New Deficit	Baseline 3 Low New Deficit	Baseline 3 High New Deficit
Increase all Fees by 20%	$ 4,606,503	$ 99,924,583	$ 135,184,278	$ 148,123,481	$ 230,579,924	$ 284,196,035
Increase all Fees by 50%	$ 11,516,258	$ 93,014,828	$ 128,274,523	$ 141,213,726	$ 223,670,169	$ 277,286,280
Increase all Fees by 100%	$ 23,032,516	$ 81,498,570	$ 116,758,265	$ 129,697,468	$ 212,153,911	$ 265,770,022
Increase all Fees by 150%	$ 34,548,774	$ 69,982,312	$ 105,242,007	$ 118,181,210	$ 200,637,652	$ 254,253,764
Increase all Fees by 200%	$ 46,065,033	$ 58,466,054	$ 93,725,749	$ 106,664,952	$ 189,121,394	$ 242,737,506
Increase Only Park Facilities Use 100%	$ 6,598,117	$ 97,932,969	$ 133,192,664	$ 146,131,867	$ 228,588,310	$ 282,204,421
Increase Only Camping 100%	$ 5,333,836	$ 99,197,251	$ 134,456,945	$ 147,396,149	$ 229,852,591	$ 283,468,703

Increasing fees would reduce the structural deficits in Baselines #1-#3. Fee increases could reasonably cover operating deficits, but are not a realistic option for overcoming the capital deficit. It would take an over 1,000% increase in fees to overcome both the operating and capital deficits. Table 19 shows the impact to the deficits for various fee increase scenarios.

The projected impact of fee increases for Maryland State Parks in fiscal 2025 shows varying outcomes across several baselines, depending on the percentage increase and whether the increase is applied across all fees or targeted to specific areas like Park Facilities Use or Camping.

A 20% increase in all fees would add $4,606,503 to the Maryland Park Service (MPS), reducing the new deficit across all baselines but still leaving significant gaps, ranging from $99,924,583 in Baseline 1 to $284,196,035 in Baseline 3 High.

Increasing all fees by 50% would yield an additional $11,516,258 for the MPS. This would further reduce the deficits, bringing them down to $93,014,828 in Baseline 1 and lowering the highest deficit to $277,286,280 in Baseline 3 High.

Doubling the fees with a 100% increase would have a more pronounced impact, adding $23,032,516 to the MPS funds. The new deficits would be reduced, with Baseline 1 seeing a new deficit of $81,498,570 and Baseline 3 High being lowered to $265,770,022.

A 150% increase in fees would contribute an additional $34,548,774, resulting in even smaller new deficits. Baseline 1 would be reduced to $69,982,312, and Baseline 3 High would see a deficit of $254,253,764.

A 200% fee increase would add $46,065,033, which would dramatically decrease the new deficits, with Baseline 1 potentially seeing a new deficit as low as $58,466,054 and Baseline 3 High a deficit of $242,737,506.

Targeting a 100% increase only in Park Facilities Use fees would add $6,598,117, leaving a new deficit of $97,932,969 in Baseline 1 and $282,204,421 in Baseline 3 High. Similarly, exclusively doubling Camping fees would bring an additional $5,333,836 and result in a new deficit of $99,197,251 in Baseline 1, with Baseline 3 High reaching $283,468,703.

Fee increases will have the most direct, negative impact on users, while only having a limited impact on the funding deficit. The limitations of fee increases mean that they will not be the primary source for closing this shortfall.

An increase in fees should be balanced with a commitment to robust financial aid and discount policies, to ensure that all Maryland residents have equitable access to parks. By offering assistance to those with demonstrated need, a fee increase would not disproportionately burden the most vulnerable citizens.

It is not apparent that the National Park Service and state park systems provide reduced entry fees to low-income residents. However, MPS should look beyond park system benchmarks to other organizations that provide fee for entry services – like private, non-profit land trusts and cultural institutions.

Museums for All, an initiative that is part of the Institute of Museum and Library Services, advocates for and promotes free or reduced entry to museums across the country for people receiving food assistance (WIC, SNAP, etc). Visitors show their benefit at the ticket counter for entry. Several museums in the Baltimore area currently participate in this program.

The Trust for Public Land is a Massachusetts-based land trust that relies on memberships, private donations, and entry fees to support the stewardship and acquisition of over 120 properties across the state. Like the National Park Service, the Trustees provide several free admission days to all visitors across the calendar year. The Trustees also provides free entry for EBT, WIC, SNAP, or Connector Care Card holders and their families, Massachusetts Teachers Associate members, and active military and veterans.

Other Revenue Sources

In addressing the financial deficits within Maryland State Parks, several alternative revenue streams can play contributory roles alongside the primary sources such as Transfer Tax, Sporting Goods Sales Tax, and User Fees.

Public-private partnerships (P3s) can invite investment in park infrastructure, potentially reducing the burden on public funds. Endowments and philanthropic contributions can provide sustainable, albeit often limited, funding for specific projects or programs. Lottery proceeds and funds from a state constitutional amendment could offer periodic boosts to park budgets.

A bond initiative can raise significant capital upfront, although it would require repayment over time. Corporate sponsorships could yield ongoing support, especially for high-visibility projects or facilities within the parks. Green bonds, an emerging financial tool designed to fund environmental projects, could provide targeted funds for sustainability initiatives.

Privatization of certain park services might also generate revenue, but this would have to be weighed against public access and control considerations.

While each of these sources can contribute to reducing the fiscal shortfall, their cumulative impact is likely to be modest when compared to the overarching deficit. The bulk of the necessary funds is expected to come from more substantial and consistent sources such as the transfer tax and the dedicated sporting goods sales tax, which can provide the significant and steady financial support needed for the parks' operation and maintenance.

Recommended Funding Scenario - Multiple New Revenue Streams

To overcome the deficit in the three Baselines, MPS will need multiple new and enhanced revenue sources. The recommended funding scenario for fiscal 2025 suggests a multifaceted approach to address the deficits in the MPS budgets across several baselines. Table 20 shows the recommended funding scenario with associated impacts to the fiscal 2025 budgets.

The proposal includes increasing the MPS Transfer Tax allocation to 0.3 and increasing the total transfer tax collected to 1.0%, which would add $67,940,260 to the MPS budget. This alone significantly narrows the new deficit in Baseline 1 to a very manageable $36,590,826 and also reduces the deficits in the other baselines, down to $220,862,278 in the most challenging scenario, Baseline 3 High.

Next, increasing all user fees by 50% contributes an additional $11,516,258 to MPS' budget. This measure alone would not entirely cover the new deficits but would bring them down substantially, especially in Baseline 1, where the new deficit would be $93,014,828.

A major impact then comes from allocating 100% of Sporting Equipment Sales Tax to MPS, which would be a substantial $166,601,271. This creates a surplus of $62,070,185 in Baseline 1 and significantly reduces deficits or results in surpluses in other baselines, except for Baseline 3 Low and High, where it reduces the deficit to $68,585,156 and $122,201,267, respectively.

The addition of $1,000,000 each from Public Private Partnerships, Endowments & Philanthropic

Contributions, and Corporate Sponsorships represents smaller but still important contributions to the overall funding. These amounts are targets for what MPS should aspire to achieve from these sources.

Voluntary contributions on tax returns and a general fund contribution both combine to provide an additional $3,000,000 to further assist in reducing the deficits, especially in Baseline 1, suggesting that community and state support can play vital roles in park funding.

Table 20: Recommended Funding Scenario - fiscal 2025

Recommended Funding Scenario - FY 2025	Amount Added to MPS	Baseline 1 New Deficit	Baseline 2 Low New Deficit	Baseline 2 High New Deficit	Baseline 3 Low New Deficit	Baseline 3 High New Deficit
Increase MPS Allocation to .3 and Transfer Tax to 1.0%	$ 67,940,260	$ 36,590,826	$ 71,850,521	$ 84,789,724	$ 167,246,167	$ 220,862,278
Increase all Fees by 50%	$ 11,516,258	$ 93,014,828	$ 128,274,523	$ 141,213,726	$ 223,670,169	$ 277,286,280
100% of Sporting Equipment Sales Tax goes to MPS	$ 166,601,271	$ (62,070,185)	$ (26,810,490)	$ (13,871,287)	$ 68,585,156	$ 122,201,267
Public Private Partnerships	$ 1,000,000	$ 103,531,086	$ 138,790,781	$ 151,729,984	$ 234,186,427	$ 287,802,538
Endowments & Philanthropic Contributions	$ 1,000,000	$ 103,531,086	$ 138,790,781	$ 151,729,984	$ 234,186,427	$ 287,802,538
Corporate Sponsorships	$ 2,000,000	$ 102,531,086	$ 137,790,781	$ 150,729,984	$ 233,186,427	$ 286,802,538
Voluntary Contributions on Tax Returns	$ 1,000,000	$ 103,531,086	$ 138,790,781	$ 151,729,984	$ 234,186,427	$ 287,802,538
General Fund Contribution	$ 2,000,000	$ 102,531,086	$ 137,790,781	$ 150,729,984	$ 233,186,427	$ 286,802,538
TOTAL	**$ 253,057,789**	**$ (148,526,703)**	**$ (113,267,008)**	**$ (100,327,805)**	**$ (17,871,363)**	**$ 35,744,749**

Funding Recommendations

#	Key Findings / Current State	Recommendation
76	Park System total revenue in FY 22 was $25.5 million, covering only 41.95 of the park system's total expenditures ($60.7 million).There are various revenue strategies that state park systems are using to generate revenue and achieve high levels of self-support for state park systems. Every State Park System has significant Deferred Maintenance Backlog, ranging from $252M -$1B. The infrastructure (maintenance, rehabilitation, and capital) needs are far greater than expected and exceed the estimated ~$100M in Deferred Maintenance.	**Establish a long-term level of self-support goal** and strategies to achieve that level of self-support for the Maryland State Park System within 5 years. Based on benchmarking, the long-term level of self-support goal should be a minimum of 80%. As part of this strategic work, State Parks needs to: • Establish a statutory funding goal for the State park system with the intent of supporting Maryland as a National Park System model and to ensure that even with increasing visitation levels there are fewer State park capacity closures, there is improved equity of access, and there is green infrastructure in place to mitigate climate change. • Develop a permanent, sustainable, dedicated funding source that can adequately fund the additional resources identified and recommended by the State Park Commission. This funding source should not redirect/reallocate existing funding sources. • Track how DNR's budget has changed over the last decade, compared to changes in the state's total operating budget, to ensure that DNR is maintaining the same appropriation. • Better align future budget allocations to visitor counts of parks. • Identify ways to diversify revenue streams or increase revenues from traditional revenue streams. • Use outcomes of LPRP to be strategic about next investments. • Take a proactive approach to increasing staff capacity and resources to support the system. • To the degree there is coordination between the State and local governments about overall park needs in the State, additional funding could be allocated to support local park needs. • Action should be taken to create targeted funding sources for cultural resource areas, including archaeological sites, historic sites, and battlefields. Funds could be used for inventory, designation, and enhancing visitor interpretation.

#	Key Findings / Current State	Recommendation
77	Maryland State Parks' cost recovery stands at approximately 41.9%. This means that 41.9% of the park's total funds come from its revenue-generating activities, while the remaining 58.1% is subsidized as of fiscal 2022. While a higher cost recovery percentage indicates greater self-sufficiency, it's essential to balance financial sustainability with the park's MPS's mission of serving the public good.	**Hire an outside entity to create a cost recovery analysis.** At its core, a cost recovery model aims to determine the extent to which the expenses of a particular program or operation are offset by the revenues it generates. For entities like MPS, this model can provide a clear picture of the financial viability of various programs, helping decision-makers prioritize and allocate resources more effectively. Using the Cost Recovery Model to guide operations could result in: • Strategic Pricing: Based on the balance of public vs. individual benefit, MPS can implement a tiered pricing strategy. For instance, general park entry might remain low-cost, while specialized activities or facilities that offer individual benefits could be priced higher. • Operational Efficiency: Understanding the cost and revenue of each program allows for better allocation of resources. Underperforming programs can be identified and assessed for improvements or discontinuation. • Stakeholder Communication: With a clear cost recovery model in place, parks can communicate more transparently with stakeholders, justifying fee structures and demonstrating the value provided. • Future Planning: Data from the cost recovery model can guide future investments and developments. It can help in understanding which programs have the potential for growth and which ones might need reconsideration.
Contracting, Partnerships and Sponsorships		
78	Maryland can look to various revenue strategies that state park systems are using to generate revenue and achieve high levels of self-support for state park systems.	**Contract with private firms to operate parks or elements therein,** carefully weighing the full cost of the contract approach, including the cost of oversight and enforcement, with that of public service provision. Case Study: Florida State Parks

#	Key Findings / Current State	Recommendation
79	Maryland can look to various revenue strategies that state park systems are using to generate revenue and achieve high levels of self-support for state park systems.	**Allow and encourage public-private partnerships for park management, infrastructure development, and maintenance.** This could involve partnering with private entities for services like concessions, guided tours, and lodging, with a portion of the revenue going to support park operations. DNR should refer to peer models such as Arizona State Parks - ASPT, which established concessionaire partnerships with private companies to enhance visitor experiences, manage facilities, and generate revenue for the state park system. These partnerships allowed private entities to operate various amenities within state parks, such as lodges, campgrounds, restaurants, gift shops, and guided tours. Outcomes from this program include: Outsourced Operations: Under the PPP model, private companies are responsible for management and operating certain park facilities and services. This allows the state to focus its resources on core functions while benefiting from the expertise and investments of private partners. Revenue Sharing: The concessionaire partnerships typically involved revenue-sharing arrangements. Private partners pay a percentage of their gross revenues to the state in exchange for the right to operate within the park. Investment in Infrastructure: Private partners often made investments in infrastructure improvements, modernizing existing facilities and creating new amenities to enhance the visitor experience. Quality Enhancement: The involvement of private companies led to improved services, upgraded accommodations, and new recreational offerings, resulting in better experiences for park visitors.
80	Maryland can look to various revenue strategies that state park systems are using to generate revenue and achieve high levels of self-support for state park systems.	**Allow corporate sponsorships for park facilities, events, and programs. In exchange for sponsorships, companies could receive branding opportunities and other incentives. Branding opportunities would need to comply with existing state policies and Maryland Board of Public Works guidance.** Implementing a Corporate Partners Program in Maryland to support the State Park System could have several advantages. Corporate partners would offer financial contributions, invest in infrastructure enhancements, assist with promotion and marketing, support educational programs, sponsor events, participate in conservation initiatives, encourage public engagement, and help improve access and inclusivity within State parks. These partnerships have the potential to help enhance the parks' quality and accessibility but may also stimulate tourism and economic activity in the State. By establishing long-term commitments with corporate partners, Maryland's State Park System would benefit from an additional source of funding to sustain continuous improvement.

#	Key Findings / Current State	Recommendation
81	Currently, Maryland "Friends Groups" are established for individual parks and other nonprofit organizations and volunteer groups dedicated to supporting and enhancing specific state parks. One example of a successful Friends Group in Maryland is the Friends of Patapsco Valley State Park. This volunteer organization actively supports the park through trail maintenance, educational programs, and fundraising efforts.	**Establish a State Park System Alliance nonprofit organization dedicated to supporting the mission and goals of the state's park system and facilitate collaboration among state parks and share resources.** The Alliance would work alongside the Maryland State Parks staff focused on advocacy and public outreach to raise funds, awareness, support for the state park system, and organize events and programs to benefit their respective parks. The benefits of a State Park System Alliance include: • Enhanced Resource Sharing: Collaboration allows for sharing resources, best practices, and expertise among state parks, leading to more efficient management and cost savings. • Increased Funding: Foundations can raise funds through donations, grants, and membership dues, • Providing additional financial support for park improvements, conservation, and programs. • Community Engagement: These partnerships foster stronger connections between the parks and local communities, leading to increased public engagement, volunteerism, and advocacy for parks. • Conservation Efforts: Alliances and Foundations can support conservation initiatives, helping protect and restore natural resources within state parks.
Special Funds		
82	Maryland can look to various revenue strategies that state park systems are using to generate revenue and achieve high levels of self-support for state park systems.	**Create an endowment fund for the Maryland State Park system.** This fund could be built over time with contributions from various sources, including philanthropic organizations, individuals, and government allocations. The interest generated by the endowment could provide a steady income stream for park maintenance and improvements. Establishing a separate, dedicated endowment fund for Maryland's State Park system would help to provide a stable, long-term funding source for park maintenance, conservation, and enhancements. This dedicated fund would assist in shielding the parks from budget fluctuations, fostering accessibility, inclusivity, and the development of new facilities and programs, securing Maryland's natural heritage and quality of life for its citizens.
83	Maryland can look to various revenue strategies that state park systems are using to generate revenue and achieve high levels of self-support for state park systems.	**Redirect a portion of lottery proceeds or surplus revenue from other state programs towards the state park system.** Maryland State Lottery proceeds established all-time record profits in FY2022, yielding $673.7 Million. Allocating a percentage of Maryland's State lottery proceeds to the State Park System could have a substantial positive impact. This funding would help sustain park operations by supporting maintenance, conservation efforts, visitor services, accessibility, staffing, infrastructure improvements, environmental stewardship, public engagement, marketing, and emergency response. It would provide a stable financial source to maintain and enhance state parks by helping to ensure long-term sustainability.

#	Key Findings / Current State	Recommendation
84	Maryland can look to various revenue strategies that state park systems are using to generate revenue and achieve high levels of self-support for state park systems.	**Create a new sales tax on outdoors and sporting goods sold in the State.** This sales tax would be assessed on the sale of outdoor and sporting goods in the State. This approach aligns the purchases of potential parks users with the well-being of the spaces they enjoy. Those investing in outdoor or sporting equipment would concurrently be contributing to the upkeep of trails, campgrounds, and natural habitats. This dedicated tax ensures that as the demand for outdoor activities grows, so will the financial support for our parks.
85	Maryland can look to various revenue strategies that state park systems are using to generate revenue and achieve high levels of self-support for state park systems.	**Allow taxpayers to voluntarily contribute a portion of their tax refunds to support state parks.** Maryland could establish a fund allowing taxpayers to contribute directly to MPS, taking inspiration from California's State Parks Protection Fund, with either or both funding program options. Tax forms could include a designated donation line, allowing taxpayers to indicate their donation preference, either adding to their tax liability or deducting from their refund. The State tax agency would then transfer these contributions directly to MPS. Promoting and publicizing the program via various channels, including the State's website and collaboration with State parks and volunteers, would raise awareness and encourage taxpayer participation.
86	Funding for the preservation of historic properties is catch as catch can, competing with all other budgetary needs. In a system with such limited funding, every project is competing for funding, with historic preservation needs often the last or nearly last in line. These properties are managed both as part of individual park management and specifically funded projects. NOTE: This recommendation is specifically addressing the distribution of funding for state parks and the need to devote specifically identified funds to historic properties. Historic properties in state parks are currently being inventoried under a DNR/MPS contract with Preservation Maryland, which is helping to fulfill NR, § 5-210.1(C)(2) of the GMOA.	**Continue management of historic resources through the combination of specifically funded projects and as part of overall individual park management.** For "specifically funded projects," DNR needs a separate historic preservation funding category in the budget for these historic preservation projects that is restricted for historic preservation purposes and cannot be used for other purposes. For "overall individual park management," in general, facility maintenance is an ongoing responsibility that will increasingly include historic buildings, even if purposefully-built as park structures; parks should not use special funding for ordinary facility needs. The special funding could be tapped for when a park needs special treatment of its buildings beyond ordinary maintenance and upgrades, e.g., for preservation and restoration expenses beyond the usual approach such as using wooden shingles rather than ordinary asbestos.

#	Key Findings / Current State	Recommendation
87	Maryland's state parks encompass some of the state's most important historic resources (e.g., Fort Frederick). As a result, more funding and specialized staff at both the system and park levels are needed to care for these resources.	**Prioritize and develop targeted additional funding sources and specialized staff for historic and cultural resources.** DNR should consider the following: • The dedication of Program Open Space funding to historic and cultural resources, beyond acquisition and maintenance. DNR should explore whether such funding should include funding for interpretation and planning activities. • Leveraging the Maryland Heritage Areas Authority (MHAA), which stands ready to fund related programs (i.e., South Mountain). The MHAA is unlikely to fund MPS directly, but it should be able to support nonprofit partners working with various parks. Both MHAA and partners would have to overcome the restriction that MHAA funding must be matched with non-state funds. • The MHT has both cap and non-cap grants, however, it is likely that these grant funds cannot be used for state properties. It is strongly recommended that DNR work to encourage MHT to dedicate some funds (newly appropriated) for this purpose (NOT from Program Open Space) to enlist MHT expertise and extra funding to help MPS address historic priorities. • Action should be taken to create targeted funding sources for cultural resource areas, including archaeological sites, historic sites, and battlefields. Funds could be used for inventory, designation, and enhancing visitor interpretation. • Reach out to major foundations and community foundations, to explore more innovative and collaborative approaches to funding. • Create a statewide "friends of"/community foundation. Through public support and small donations, either through direct donations, memberships fees (i.e., special license plate fees) or a checkoff on state taxes (i.e., as done for funding the Special Olympics). • Explore the option of using Maryland State Lottery funding to support historic preservation. • Target and identify the specialized staff positions at both the system level and the park level needed to manage and care for these resources and the resources needed to fund the positions.
General Fund		
88	The LPRP can be used as a tool to inform prioritization of investments.	**Use outcomes from the LPRP to help prioritize next investments**. As outlined by the LPRP goals, investment should prioritize coordination and collaboration, promote the benefits of outdoor recreation and conservation of natural lands, increase access to open space and waterfronts, improve the quality of existing recreational infrastructure, and develop an informed stewardship culture.

#	Key Findings / Current State	Recommendation
89	Southern Region parks have the smallest budget appropriations, whereas the Western Region has the most significant budget appropriations, proportional to their overall expenditures and revenue.	**Better align future budget allocations while also increasing funding to visitor counts of parks.** Currently, Patapsco Valley, Fair Hill, Gunpowder Falls, Sandy Point, and Assateague State Park have the largest budgets in the park system. All of these parks, except Fair Hill, are also among the top 5 most visited parks. Fair Hill is ranked the 13th most visited park. Moreover, Seneca Creek, despite being among the top 5 in terms of total annual visitors, has the 16th largest budget in the park system.
90	The State transfer tax of 0.5%, of the consideration paid for the transfer of real property, is used to fund several land conservation programs as well as State forest and park operations.	**Address the POS transfer tax diversions that have occurred in the past with the repayment plan for POS funds diverted but not yet repaid from fiscal 2006 and between fiscal 2016 and 2018.** The repayment plan should be modified in order to advance the repayment and allocate a greater portion of the funding to the Critical Maintenance Program, acquisitions of new State parks, and the creation of amenities in existing State parks.
91	Funding for parks, recently, is concentrated in older, whiter communities that are typically higher income than the state average.	**Allocate more work order funding to parks in communities of color and younger communities in future fiscal years.** In doing so, utilize data from the Maryland Department of the Environment's Environmental Justice Screening Tool to determine which parks fall within a 10-minute drive of the most underserved and overburdened communities. Weigh this data against parks with the highest need for maintenance funding in order to determine those parks which will provide the most environmental justice benefit to their surrounding communities with increased funding. Leverage grant programs such as the recently passed Greenspace Equity Program to increase funding for projects within parks that serve the most underserved and overburdened communities.
92	It is important to publish maintenance projects for the public and lawmakers to see progress on the GMOA, yet thresholds for public sharing will make the sharing process onerous for the Department.	**Increase the threshold identified by the GMOA for public communication of projects to $100,000.**

#	Key Findings / Current State	Recommendation
93	Increase funding for parks through a variety of funding streams.	**Consider issuing Green Bonds that are designed to fund projects within the Maryland State Park System with positive environmental benefits.** These bonds are issued by federal, state, and local governments, corporations, and other organizations to raise capital specifically for projects that have a positive impact on the environment and contribute to sustainability goals. The key feature of green bonds is their earmarked use for environmentally friendly initiatives. Maryland could issue green bonds to directly fund projects in the State Park System. Green bonds can offer multiple benefits for the State, such as attracting investors, diversifying funding sources, demonstrating sustainability leadership, and contributing to environmental sustainability and climate change mitigation. Maryland Department of Housing and Community Development issued its first sustainability bonds in June 2021, raising $95 million to support affordable housing and neighborhood revitalization programs, which could be used as a template to issue green bonds to support MPS. **Issue additional bonds to support Great Maryland Outdoors Act initiatives.** The Great Maryland Outdoors Act has demonstrated the significance of investing in outdoor recreation, land preservation, and environmental conservation. An additional bond initiative could provide further necessary financial resources to continue acquiring and protecting vital natural lands, enhancing outdoor recreational opportunities, and addressing operational deficiencies and 5-year critical maintenance improvement program. It would further solidify Maryland's commitment to preserving its natural heritage and ensuring that residents and visitors alike can enjoy the State's pristine landscapes and outdoor experiences. These additional bonds would administratively function like Green Bonds, without the explicit requirement to be spent on projects that have environmental benefits.
94	Fees for park programs, entry, and lodging have not increased in alignment with inflation.	**Increase fees for services.** It has been more than 10 years since park fees were last adjusted, and in that time the expenses associated with maintaining and operating the parks have grown significantly. The stagnant fee structure no longer reflects the reality of the costs involved in preserving and enhancing the park system. Fee adjustments will help sustain existing positions and maintenance levels and will also allow for the implementation of the ambitious Great Maryland Outdoors Act. The Act's vision for expanding access to green spaces and protecting the environment hinges on financial support, which can only be achieved through a more relevant fee structure. This adjustment will play a pivotal role in securing the Act's success and ensuring the long-term well-being of the park system.

PILOT PARKS
Harriet Tubman Underground Railroad State Park: Existing Conditions

Legend

Harriet Tubman SP Boundary

STRUCTURES

DNR Building Footprints

Other Building Footprints

ROADS

DNR Roads

Maryland Local and Other Roads

Maryland_Routes

WATER

Water Access Site - Small Scale

DNR Water Trails

Waterbodies

OTHER PROTECTED LANDS

Maryland Federal Lands

POINTS OF INTEREST

1. Harriet Tubman SP Visitors Center
2. Harriet Tubman SP Admin Offices
3. Harriet Tubman SP Pavilion
4. Blackwater National Wildlife Refuge Visitors Center

0 285 570 1,140 1,710 Feet

N

Why This Park?

- NPS partnership
- Historical narrative and resources
- Flood risk & climate change impacts

Facts & Recommendations

Pilot Park Name	Harriet Tubman Underground Railroad State Park
County	Dorchester
Area (Acres)	17
Region	Eastern
Visitors (2022)	41,895
Closures (2022)	0
Existing Parking Spaces	224
Recommended Additional Parking	0
Total Expenditures (2022)	$763,042.86
Total Revenue (2022)	$2,357.39
5-Year Critical Maintenance Improvement Program	$75,000.00
Current Full-Time Staff*	6
Recommended Additional Full-Time Staff*	1

*Staffing numbers reflect totals for the entire park complex

Entrance to the park and facility.

Native planting area and interpretive trail.

CASE STUDY:
Black Public History Institute, VA

The following initiative has had profound effects on the surfacing of undertold stories about Virginia's Black History and has enabled the state to leverage funds for preserving important lands, facilities, and programs to support the preservation and sharing of those stories.

In summer 2021, the Virginia African American Cultural Resources (VAACR) Task Force partnered with acclaimed preservation architect and Saving Slave Houses founder Jobie Hill to pilot the Virginia Black Public History Institute. Entitled The Descendants Workshop, this first of its kind, hybrid virtual/in-person workshop series brought together a multi-generational group of slavery descendants from five Virginia historical sites, along with student research assistants from Norfolk State University, the University of Virginia, and Virginia State University, and leading innovators in Black Public History. For 12 weeks, participants engaged in collaborative place- and project-based learning and co-research.

The purpose of the Virginia Black Public History Institute is to surface stories about Virginia's Black history, preserve that history, and steward its thoughtful preservation throughout the state using funding and staff resource support.

Harriet Tubman Underground Railroad State Park: Future Conditions

Legend

Harriet Tubman SP Boundary

STRUCTURES

DNR Building Footprints

Other Building Footprints

ROADS

DNR Roads

Maryland Local and Other Roads

Maryland_Routes

WATER

Water Access Site - Small Scale

DNR Water Trails

Waterbodies

SEA LEVEL RISE

Sea Level Rise Vulnerability - 1'

Sea Level Rise Vulnerability - 2'

OTHER PROTECTED LANDS

Maryland Federal Lands

PROPOSED

ADA Accessible, Flood Resilient Boardwalk Trails

POINTS OF INTEREST

1. Harriet Tubman SP Visitors Center
2. Harriet Tubman SP Admin Offices
3. Harriet Tubman SP Pavilion
4. Blackwater National Wildlife Refuge Visitors Center

0 285 570 1,140 1,710 Feet

N

Recommendations

Mission Alignment

- Meet with NPS and DNR Land Acquisition and Planning to identify how DNR/MPS can proactively monitor opportunities to expand National Historic Park footprint. Use this conversation to create a strategy for monitoring. Regularly update NPS on properties that could be acquired.
- Consider creating a land acquisition policy that includes a mix of proactive and reactive methods for acquisition (e.g., easements, right of first refusal, fee simple).

Visitor Experience

- Partner with Blackwater Wildlife Refuge to plan and construct continuous ADA, flood resilient boardwalk trails that connect the Harriet Tubman Underground Railroad State Park Visitor Center trails along Key Wallace Drive to the Blackwater Wildlife Refuge Visitor Center and from the Harriet Tubman Underground Railroad State Park Visitor Center to the Route 335 Soft Boat Launch along Blackwater River.
- Monitor and share updates about bird migrations through the area, and share images and names of bird populations in the Visitor Center.
- Regrade degraded visitor paths to ensure paths are ADA accessible.
- Use the facility to serve as a venue for action planning to review Maryland State Parks with significant Black history and to create an action plan to amplify and protect those places through a series of pilot investments. A best practice to learn from is the Virginia Black Public History Institute (see case study).

Funding

- Even if no new features are introduced, increase the level of care in the park by increasing the current maintenance staff hours being dedicated to its upkeep, in order to address existing maintenance and stewardship needs.
- Create a maintenance plan for the State Park grounds in partnership with Chesapeake and Coastal Service. In that plan, include guidelines for invasive species management, erosion control, and native species support.

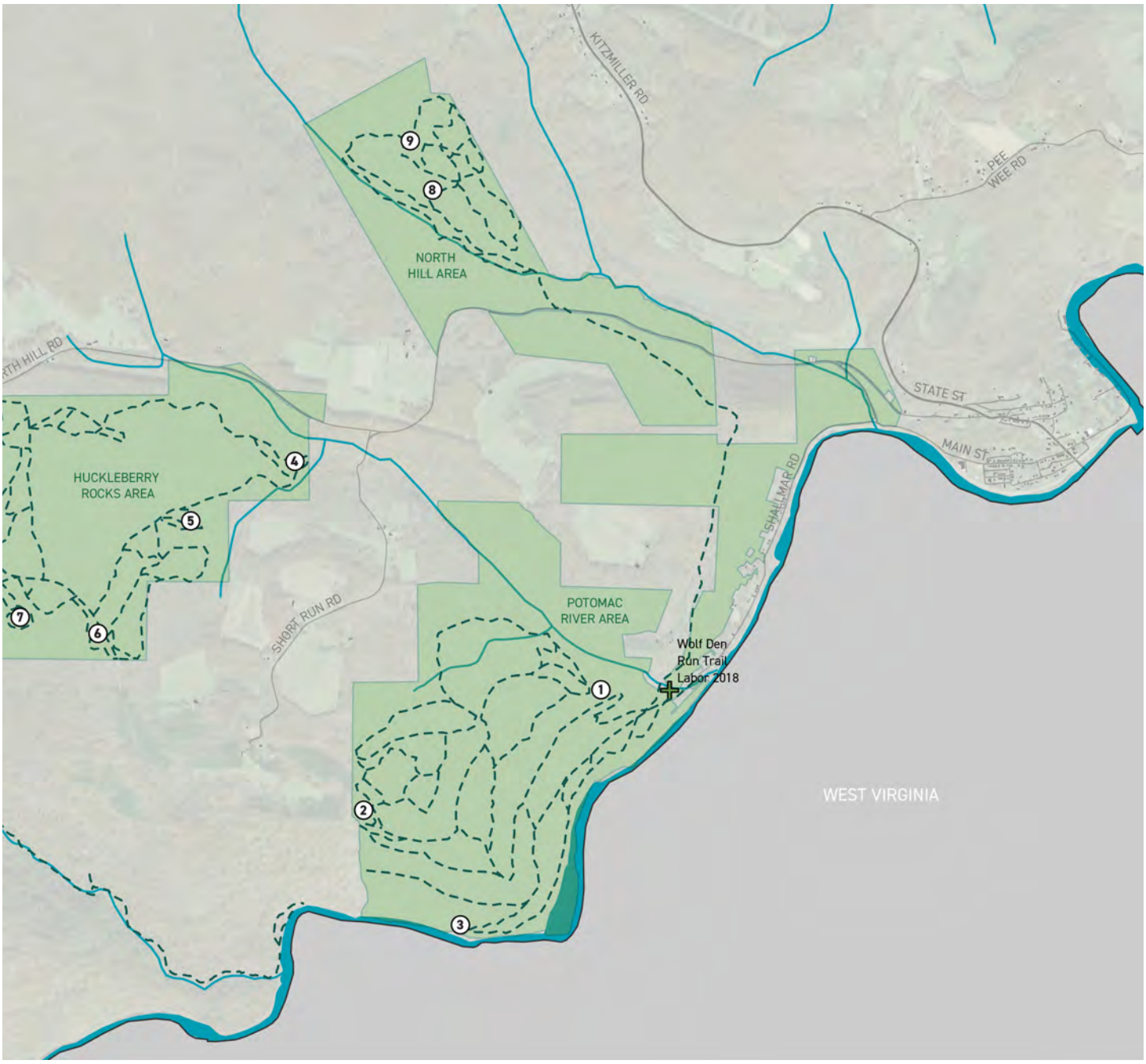
Climate Change, Public Health and Equity

- When temperatures rise above 90 degrees, provide space in the facility for area residents (especially those without access to reliable cooling systems, vulnerable populations (youth and older residents).
- Launch a campaign to communicate the role of the center as a cooling center for local residents on hot days.

Comparable DNR Parks

- Chapman State Park (historical narrative/ interpretation & resources)
- Freedman's State Park (partnership opportunities & historical narrative/interpretation

PILOT PARKS
Wolf Den Run State Park: Existing Conditions



Legend

- Wolf Den Run SP Boundary
- Maryland State Boundary
- Other States

TRAILS

- DNR Land Trails
- MDOT RTP Trail Projects

STRUCTURES

- Other Building Footprints

ROADS

- Maryland Local and Other Roads
- Maryland Routes

WATER

- Waterbodies

HISTORY

- MHT Preservation Easements

OTHER PROTECTED LANDS

- Maryland Federal Lands

POINTS OF INTEREST

1. Dodson Overlook
2. Slag Pile
3. Fisherman's Camp Foot Trail
4. The Pit
5. Time Warp
6. Orchard
7. Racetrack
8. North Hill Overlook
9. Crossroads

0 500 1,000 2,000 3,000 Feet

N

Why This Park?

- Far West location
- Off road vehicle recreation

Facts & Recommendations

Pilot Park Name	Wolf Den Run State Park
County	Garrett
Area (Acres)	2,024
Region	Western
Visitors (2022)	3,694
Closures (2022)	0
Existing Parking Spaces	108
Recommended Additional Parking	0
Total Expenditures (2022)	$274,144.59
Total Revenue (2022)	$9,902.49
5-Year Critical Maintenance Improvement Program	0
Current Full-Time Staff*	15
Recommended Additional Full-Time Staff*	1-2

*Staffing numbers reflect totals for the entire park complex

Sign at entrance to Wolf Den Run State Park.

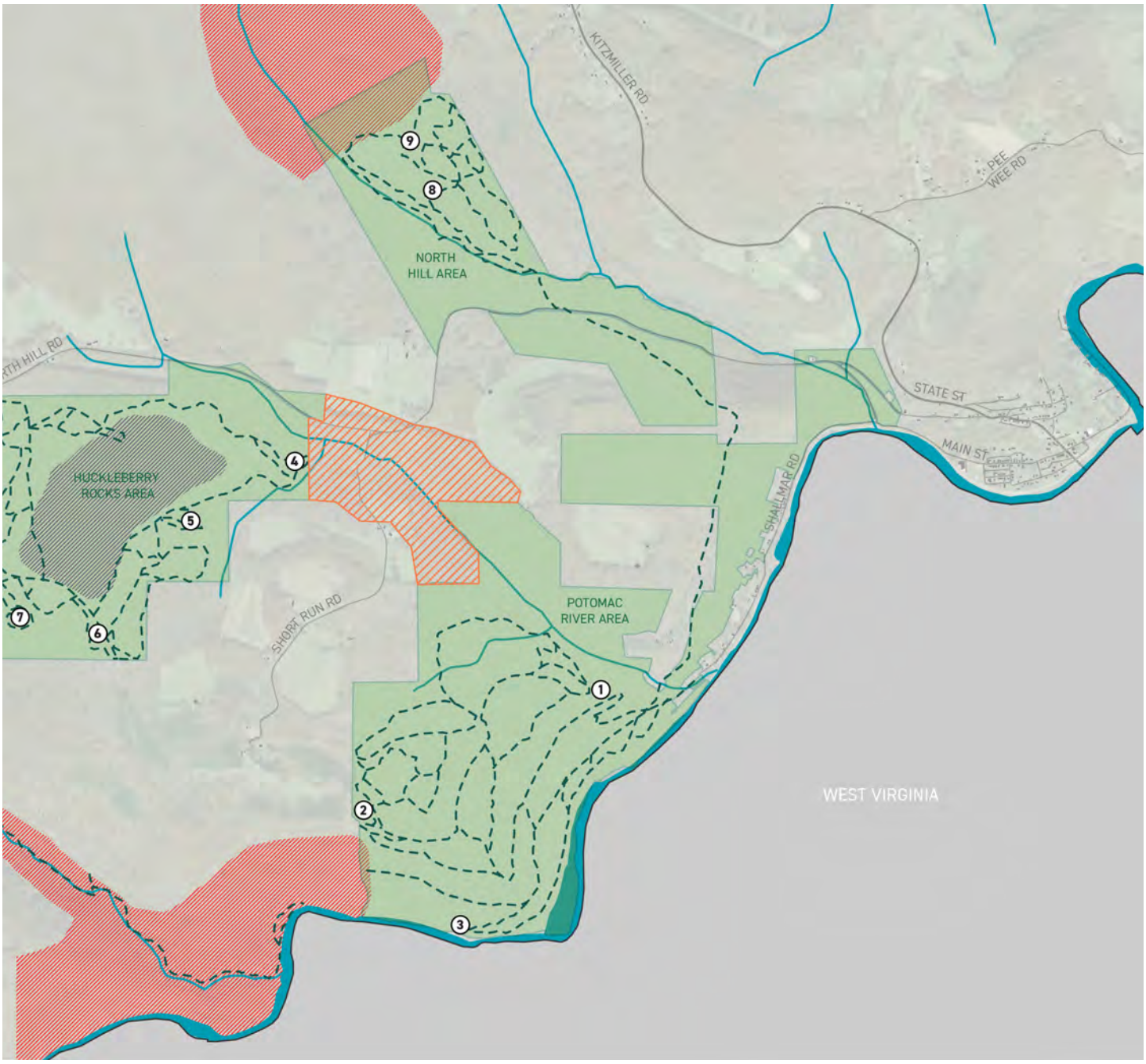

Different trails support various off road vehicles, to balance recreation with natural resource impacts.

CASE STUDY:
New Hampshire State Parks

This program expands beyond the boundaries of the individual state parks in partnership with advocates and businesses. Working together with landowners and volunteer organizations, the State of New Hampshire provides roughly 1200 miles of trails for summertime Off Highway Recreational Vehicle (OHRV) riding.

The state branded the largest interconnected trail network within the northeast, "Ride the Wilds". A national destination, the State Park system has partnered with its tourism organization to communicate the various restaurants, shops, gas, and other destinations along this network and has actively partnered with OHRV providers and rentals to expand the economic development impacts of recreational riding. DNR should consider a similar program to expand access and awareness of Wolf Den Run State Park.

Wolf Den Run State Park: Future Conditions



Legend

- Wolf Den Run SP Boundary
- Maryland State Boundary
- Other States

TRAILS

- DNR Land Trails

STRUCTURES

- Other Building Footprints

ROADS

- Maryland Local and Other Roads
- Maryland Routes

WATER

- Waterbodies

HISTORY

- MHT Preservation Easements

MD LIVING RESOURCES

BioNetTier

- Tier 1
- Tier 2

OTHER PROTECTED LANDS

- Maryland Federal Lands

PROPOSED

- ADA Accessible Trails
- Proposed Park Boundaries

POINTS OF INTEREST

1. Dodson Overlook
2. Slag Pile
3. Fisherman's Camp Foot Trail
4. The Pit
5. Time Warp
6. Orchard
7. Racetrack
8. North Hill Overlook
9. Crossroads

0 500 1,000 2,000 3,000 Feet

N

Recommendations

Mission Alignment

- Consider easement agreements or other land acquisition strategies to connect Huckleberry Rocks and Potomac River Areas.
- Improve and maintain pollinator habitat and increase efforts to educate visitors on the importance of pollinators.

Visitor Experience

- Reduce the barrier to entry for households without access to an off-road vehicle. Consider ways to provide financial assistance to visitors who otherwise could not participate in off-road vehicle activities, through off-road vehicle rentals (likely through an outside vendor).

Funding

- Install solar-powered parking fee kiosks at all parking lots to increase funding and better understand the number of visitors, patterns of park visits, and as a way to understand where visitors are coming from (through credit card and debit card information).

Climate Change, Public Health and Equity

- Pilot a flexible and accessible transportation solution for families with limited access to a car, but interest in getting outdoors or in outdoor adventure recreation. One way to pilot transportation access could be through a partnership with a non-profit organization to provide a grant funded shuttle to the park and lodging for weekend adventures.

Comparable DNR Parks

- Dans Mountain State Park (multi-use trails, Western location)
- Rosaryville State Park (multi-use trails, special use facilities)

CONSIDERATIONS FOR IMPLEMENTATION

The following are intended to serve as key recommendations and considerations for successful Plan implementation:

Internal Capacity Building

- Review of recommendations and develop a prioritized implementation plan with timeframe for implementation of each recommendation.

External Communications

- DNR provides an annual report on implementation of recommendations for the current year and priorities for implementation for upcoming year.

Process for collaboration between the Commission and DNR

- In alignment with GMOA recommendations, DNR sets up quarterly meetings between the Commission and DNR to coordinate and update advancing recommendations.
- Share prioritized implementation plan with the Commission for their feedback and support.
- DNR provides updates on the implementation plan at quarterly meetings with the Commission.
- DNR seeks assistance, as appropriate and where needed, from the Commission to advance implementation efforts.

Photo:

Merkle Natural Resource Management Area

Implementation Matrix

Short-term Recommendations

Recommendations that could be completed within five years.

#	Recommendation	Key Performance Indicators	Early Steps	Phasing (Short 0-5 yrs, Mid 6-10 yrs, Long 10+ yrs, Ongoing)
28	Adopt temporary policies to support additional overtime for existing staff as DNR works to fill PINs. A policy could include overtime up to a certain number of hours for all in-field and supportive staff.	• Inventory of when the training curriculum was last reviewed		Short; Immediate
39	Conduct a complete review of the training and certification incentive compensation program to ensure it is equitable, appropriately compensates staff, and is implemented appropriately and in a timely manner for the training and certifications achieved by staff to improve their work performance.	• Difference in compensation of maintenance staff and ranger staff with comparable job titles		Short; Immediate
2	Hire a conservation biologist to assist existing GIS staff in keeping these datasets as up to date and accurate as possible.	• Position created for conservation biologist		Short
3	Update trail maps using accurate surveys to ensure existing trails reduce impact on existing living resources, and limit intrusion by humans via unlawful trail creation through critical habitats and natural resources.	• Number of updated trail maps	Include trail mapping as part of Asset Inventory work to geocode trail inventory	Short
5	Partner with other agencies and organizations such as NPS, Friends groups, Chesapeake Conservancy to lighten DNR's upfront load when new lands are acquired.	• Number of partnership projects Ease of acquiring new land"	Identify initial agencies and organizations to partner with for land acquisition work. Work through establishing formal relationships with these initial agencies and organizations.	Short
6	Implement watershed monitoring strategies at MPS-identified water access points in order to determine whether water bodies within existing MPS park lands or future park sites are considered to be "healthy" or "unhealthy".	• Count of monitoring stations Increase number of "healthy" water bodies, as defined by the United States Environmental Protection Agency standards"	Conduct a system-wide water quality assessment.	Short
7	Create and publish a public awareness campaign, informed by the most recent findings of DNR's Maryland Biological Stream Survey, about the current status of watersheds in Maryland and how Marylanders can do their part to help improve water quality in their everyday lives.	• Number of opened emails, website visits, and social media shares		Short
9	Establish a new category of "Historical Parks" to support budgeting and specialized staff training and positions.	• Existence of "Historical Parks" designation		Short
13	Develop memorandum/a of agreement for collaboration with and among MHT, DGS, and other agencies responsible for capital improvements involving DNR properties.	• Creation of a memorandum/a		Short

#	Recommendation	Key Performance Indicators	Early Steps	Phasing (Short 0-5 yrs, Mid 6-10 yrs, Long 10+ yrs, Ongoing)
15	Improve the yearly MPS Customer Satisfaction Survey to assess and benchmark the demographic by race/ ethnicity, gender, ability, income, age nuances of a park goers' experience in Maryland Parks.	• Added questions to Survey Data collected on demographics of park visitors	"Develop Customer Satisfaction Survey Staff Team. Staff Team develops survey schedule, timeline and staff assignments. Hold a series of brainstorming sessions focused on improving the reliability of data collected by the MPS Customer Satisfaction Survey. From those brainstorming sessions, select strategies to implement and develop a plan with specific steps and timeline to increase sample size of survey respondents, the diversity of demographic responses and range of experiences at specific parks and incorporate that plan into the schedule and timeline for implementing the upcoming year's Customer Satisfaction Survey. Throughout implementation of the MPS Customer Satisfaction Survey, evaluate success of strategies, make recommendations for improvements for upcoming year, and incorporate the recommendations into the upcoming year's Survey process."	Short
16	Improve the reliability of data collected by MPS Customer Satisfaction Survey by increasing the overall sample size of survey respondents, the diversity of demographic responses, and the range of experiences at specific parks.	• Number of Survey responses		Short
17	Develop a standing, community-based advisory body within DNR to bring a community-led racial equity perspective to current and future park planning and investment.	• Formation of advisory body	"Identify staff to develop equity advisory board charter. Identified staff work on development of advisory board charter."	Short
19	Initiate outreach to the City of Baltimore to discuss the feasibility or potential of a partnership park in a pre-existing Baltimore park space.		DNR Secretary reaches out to City of Baltimore Recreation and Parks Director to initiate conversation about a partnership with a pre-existing Baltimore park.	Short
24	Create a Staff Advisory Committee (SAC) to review each PIN, which would be responsible for reviewing PINs and providing management with recommendations for whether to fill permanent full-time positions.	• Creation of a Staff Advisory Committee (SAC)		Short

#	Recommendation	Key Performance Indicators	Early Steps	Phasing (Short 0-5 yrs, Mid 6-10 yrs, Long 10+ yrs, Ongoing)
25	Allocate additional positions to DNR Human Resource and Administrative positions, which currently bottleneck the hiring and recruitment DNR process.	• Number of new Human Resources and Administrative positions	Staff team charged with developing a strategic plan for expansion of the state park system.	Short
29	Develop a standardized training curriculum for both ranger training and maintenance training that training personnel will utilize consistently, implement a review process for this curriculum every two years to ensure the curriculum is up-to-date with the latest DNR policies.	• "Existence of standardized training curriculum Regular updates to training curriculum"	Convene ranger and maintenance stakeholders to workshop standardized training curriculum	Short
30	Continue to host on-site ranger trainings (Ranger School) once a year for hands-on field training and testing, but also supplement this with more frequent (at least twice a year), virtual training sessions for less hands-on, written study and testing.	• "Number of in-person training session trainings offered per year • Number of participants attending in-person training session • Number of virtual training session trainings offered per year • Number of participants attending virtual training session	"Begin with recommendation 39 to ensure equitable policies drive training process and outcomes. Develop ranger school training plan for 2024, incorporating a schedule for both in-person and virtual trainings"	Short
31	Provide grade and compensation equality between maintenance staff and ranger staff.	Difference in compensation of administrative staff, maintenance staff and ranger staff with comparable job titles	Inventory current salary disparities and develop plan for fairly compensating all staff	Short
32	Formalize the maintenance training program, similar to the existing park ranger training program.	• "Number of maintenance training programs offered (disaggregated by year) • Number of staff certificates offered for completing maintenance training (disaggregated by year) • Inclusion of basic historic preservation training for front-line maintenance staff."	"Begin with recommendation 39 to ensure equitable policies drive training process and outcomes. Consult maintenance staff leadership to develop a maintenance training program curriculum and schedule"	Short
36	Expand or build new partnerships with local organizations dedicated to the upward mobility of communities of color.	• "Number of local partnerships developed with BIPOC organizations Racial and Ethnic breakdown of DNR and MPS staff Racial and Ethnic breakdown of DNR and MPS's leadership teams"	"Survey DNR and MPS staff about current departmental equity and gaps in inclusion Identify new partnerships with local organizations dedicated to the upward mobility of communities of color."	Short

#	Recommendation	Key Performance Indicators	Early Steps	Phasing (Short 0-5 yrs, Mid 6-10 yrs, Long 10+ yrs, Ongoing)
37	Create more spaces for staff of similar ethnic backgrounds or affinities to interact and help each other feel welcomed and heard, similar to NPS's employee resource groups which provides staff with the opportunity to join voluntary affinity groups that celebrate employees' identities and values.	• "Number of ethnic/racial employee resource groups Number of affinity groups developed"	Survey MPS and DNR staff about what gaps currently exist in employee resource and affiinity groups	Short
38	Fill vacant in-park staff positions at parks within communities of color first. DNR should aim to have park staff be reflective of those communities they are serving. It is also important to put resources in place to support these new hires and help them feel safe, welcomed, and supported by their cohorts.	• "Racial and Ethnic breakdown of DNR and MPS staff Racial and Ethnic breakdown of DNR and MPS's leadership teams Number of ethnic/racial employee resource groups Number of staff equity trainings held per year"	"Create an office of Diversity, Inclusion, Equity and Access (DEIA) Hire an ombudsman to act as a safe, voluntary and confidential connection between staff and upper management"	Short
41	In the short-term, use the most recent year's data for annual visitor numbers to understand the average number of visitors per parking space. For all state parks with ratios that exceed between 1,350 annual visitors to 1,500 visitors, add additional parking spaces to accommodate visitors, while also considering the carrying capacity of comfort station infrastructure and ecological sensitivity of the park itself. In the long-term, DNR should take a more localized approach to redefine DNR's desired carrying capacity for each unique area (day use, overnight amenities, wildlands, preserved areas) within publicly accessible parks in order to determine the appropriate management strategies to employ there.	• "Number of new parking spaces Number of unique carrying capacity metrics designated"		Short
42	Implement management strategies for adjusting visitor counts to meet desired carrying capacity.			Short
45	Assess whether existing camping and recreational facilities in parks can cater to day-long family visitation and gatherings.	• "Number of camping and recreational facilities in high-visitor parks Number of camping and recreational facilities added to high visitor parks Number of restrooms and trash bins added to high visitor parks Percentage of visitors that indicated high satisfaction with existing conditions of park facilities in MPS costumer satisfaction survey"	Develop inventory of camping and recreational facilities in parks, documenting capacity by available restrooms and trash bins	Short
46	Expand MPS customer satisfaction survey to include a short answer component following any inquiry into the customer's satisfaction with existing conditions of park facilities.	• "Number of MPS customer satisfaction surveys disseminated per year Summary of what aspects of park facilities are failing to meet visitor expectations"	Update and expand MPS customer satisfaction survey	Short
48	Provide real-time online information about parking availability and wait times.	• Readily available online information about parking availability and wait times		Short

#	Recommendation	Key Performance Indicators	Early Steps	Phasing (Short 0-5 yrs, Mid 6-10 yrs, Long 10+ yrs, Ongoing)
49	Explore an alternative approach for recreational licenses for surf fishing, with caps on the number sold.			Short
62	Allocate park funding for the creation of park-specific priority lists of the most pernicious invasive species, as well as for the implementation of enduring strategies aimed at eradicating these species, reintroducing native inhabitants, and perpetually monitoring ecosystem health.	• "Number of invasive plant and animal species (disaggregated by park)" • "Number of native species reintroduced (disaggregated by park)"	Develop environmental strategy plan for eliminating pernicious invasive species and reintroducing native species across the park system	Short
63	Actively seek dedicated state and federal funding to support the restoration and sustained monitoring of ecosystems.	• "Number of state and federal grants applied for per year" • "Number of state and federal grants award per year"	Inventory existing grant opportunities for ecological restoration and monitoring efforts	Short
65	Continue to invest in and expand DNR's Bilingual Rangers Program, with the goal of placing at least 1 bilingual ranger staff member in all State Parks by 2030.	• "Number of bilingual ranger on staff" (disaggregated by park) • "Share of parks with at least 1 bilingual park rangers" • "Number of languages spoken by bilingual rangers on staff (disaggregated by park)"	Identify gaps in current Bilingual Ranger Program, including current language capacity and location across the park system	Short
68	Develop a complete inventory of currently deferred preservation, rehabilitation, and restoration projects and prioritize them according to criteria.			Short
71	Building off the Maryland Park Equity Mapper, continue to work with the Maryland Department of Planning and DNR to gather and analyze detailed demographic information that articulates the State of Maryland's current and trending population breakdowns by race and ethnicity, income, age, geography, and ability to understand the population makeup of the state.		Conduct annual analysis of state park visitors against the demographics of the state by race and ethnicity, income, age, geography and disabled population breakdowns.	Short
88	Use outcomes from the LPRP to help prioritize next investments.		Review this document and identify any relevant recommendations to further study in the LPRP and recommendations to support in the LPRP	Short
89	Better align future budget allocations while also increasing funding to visitor counts of parks.			Short

#	Recommendation	Key Performance Indicators	Early Steps	Phasing (Short 0-5 yrs, Mid 6-10 yrs, Long 10+ yrs, Ongoing)
91	Allocate more work order funding to parks in communities of color and younger communities in future fiscal years.		Confirm parks in communities of color using the Maryland Equity Mapping tool	Short
92	Increase the threshold identified by the GMOA for public communication of projects to $100,000.		This recommendation is currently underway	Short
94	Increase fees for services. It has been more than 10 years since park fees were last adjusted, and in that time the expenses associated with maintaining and operating the parks have grown significantly.		Start with recommendation 78. Ensure the cost recovery study includes a review of fees and benchmarking of fees between MPS and other similar providers to understand fees that are significantly below market.	Short

Mid-term Recommendations

Recommendations that could be completed within ten years.

#	Recommendation	Key Performance Indicators	Early Steps	Phasing (Short 0-5 yrs, Mid 6-10 yrs, Long 10+ yrs, Ongoing)
1	Update TEAs and the conservation mapping datasets, such as BioNet, that are used to determine TEAs at least every 5 years, or as major projects are undertaken, or when protections are extended to newly listed species.	• "Number of updates to TEAs and conservation mapping datasets"		Mid/Ongoing
33	Create more supervisor and senior level career pathways for maintenance staff.	• "Number of current senior maintenance staff positions (disaggregated by park)" • "Number of new senior maintenance staff positions created (disaggregated by park)"	Inventory current senior staff positions and convene current maintenance staff leadership to workshop what new leadership positions should be created	Mid/Ongoing
55	Place a high priority on evaluating and acquiring additional land to meet the demand for new campsites and recreational opportunities, which can serve as substitutes for areas vulnerable to shoreline erosion and flooding.	• "Number of new parkland acquisitions (disaggregated by access to water, acreage, flood vulnerability, and accessibility to both vehicular and bicycle traffic)"	Develop inventory of potential new land acquisition	Mid/Ongoing
35	Obtain short-term affordable housing. To expand housing access for short-term housing for seasonal staff, DNR should put out a call to local residences interested in subletting or renting space to seasonal staff, similar to announcement made by NPS for its seasonal staff housing needs in 2023.	• "Number of short-term affordable housing available to staff (disaggregated by park location)" • "Number of staff housed in short-term affordable housing each year (disaggregated by park location)"	Put out online public announcement (similar to that made by NPS) for its seasonal staff housing needs in 2024.	Mid/Long
64	Consider creating a Park Police Division (not internal to MPS) so state laws remain intact and appropriately licensed and trained personnel are able to handle any situations that arise.		Begin outreach to NRP to discuss appropriateness of the Division falling within NRP	Mid/Long

#	Recommendation	Key Performance Indicators	Early Steps	Phasing (Short 0-5 yrs, Mid 6-10 yrs, Long 10+ yrs, Ongoing)
90	Address the POS transfer tax diversions that have occurred in the past with the repayment plan for POS funds diverted but not yet repaid from fiscal 2006 and between fiscal 2016 and 2018.		Coordinate with Department of Legislative Services	Mid/Long
4	Develop SMPs for recently acquired lands intended for future park use.	• "Number of completed SMPs" • "Acres of recently acquired land planned for as part of an SMP"		Mid; Ongoing
11	Undertake interpretive planning for the entire park system.	• "Number of interpretive stations" • "Number and range of new stories told"		Mid; Ongoing
8	Use established protocols developed by the NPS and other federal land management agencies for balancing the visitor experience with resource protection. Incorporate a planning process for visitor use management into existing agency planning and decisionmaking processes based on the federal Interagency Visitor Use Management Council's Visitor Use Management Framework.	• "Establish a process for visitor use management planning" • "Number of decisionmaking processes using this process"		Mid
10	Develop a system wide survey to inventory all historical and cultural resources in Maryland.	• "Number of historical and cultural resources surveyed"		Mid
12	Establish a system-wide policy that mandates that projects undertaken to treat historic resources follow the Secretary of the Interior's Standards for the Treatment of Historic Properties (36 CFR Part 68, 1995).	• Existence of policy		Mid
14	Develop detailed policies supporting DNR protocols and commitments to historic preservation, reliant at their core on the best practices articulated by the Secretary of the Interior's Standards, supporting DNR's special needs and applying as well to other state agencies supporting DNR's capital improvements.			Mid
18	Distribute Visitor Park Attendance using the data collected from counties and the City of Baltimore as part of the local 5-year Maryland Land Preservation and Recreation Plan (LPRP) process to create an interactive map of State, County and City parks and their amenities for online access by the public.	• "Creation of map" • "Distribution of data"		Mid

#	Recommendation	Key Performance Indicators	Early Steps	Phasing (Short 0-5 yrs, Mid 6-10 yrs, Long 10+ yrs, Ongoing)
22	This study proposes that there is a 91 full-time position deficiency in the system compared to peer agencies' staffing levels based on the visitor count ratio of one full-time staff position for every 35,000 visitors. The following articulates where staff deficiencies could be accommodated. Furthermore, DNR should strive for one park staff for every 30,000 park visitors, or 716 staff, to support future staff growth and capacity, and prioritize the distribution of positions to complexes within the Maryland Parks Service (MPS) system with staffing gaps to ensure adequate service levels for visitors.		Begin with Recommendation 28.	Mid
23	Maintain the current distribution of seasonal positions and focus on the allocation of new full-time positions.	• "Number of new full-time positions allocated"	Begin with Recommendation 22.	Mid
26	Prioritize hiring staff with more specialized or professional expertise to support existing staff with more "jack-of-all-trades" skill set.	• "Number of specialized staff hired"	Staff team develops protocols and potential schedule for expansion of the system including elements articulated in the recommendation.	Mid
40	Strengthen the State Park System volunteer program, with particular focus on creating a strong volunteer system at each state park.	• "Number of total state park volunteers (disaggregated by park)" • "Number of new state park volunteers per year (disaggregated by park)"		Mid
43	Standardize approaches to visitor counts across all park complexes.	• "Number of parks that adopt trailhead monitors and vehicle counters" • "Number of park visits documented per trailhead monitor and vehicle counter (disaggregated by park)"	Identify high-visitor parks to pilot trailhead monitors and vehicle counters	Mid
44	Limit park ranger time monitoring parking and traffic.	• "Number of automated gates implemented in park system (disaggregated by park) " • "Amount of fee collected from computerized fees of automated gates (disaggregated by park)" • "Number of solar powered parking kiosks implemented (disaggregated by park" • "Amount of fee collected from solar powered parking kiosks (disaggregated by park)"	Identify parks for automatic gate and solar powered parking kiosks pilot programs	Mid
47	Establish a cleanliness standard and develop a matrix of standards to rate and score the cleanliness of public spaces in parks such as beaches, sidewalks, facilities, and parking lots.	• "Establishment of cleanliness standard Tracking of data over time"		Mid

#	Recommendation	Key Performance Indicators	Early Steps	Phasing (Short 0-5 yrs, Mid 6-10 yrs, Long 10+ yrs, Ongoing)
50	Expand the day use reservation pilot at Kilgore Falls to other Maryland parks. Consider a mechanism for confirming use of reserved spaces day-of to prevent no shows while also incorporating strategies that allow for a percent of walk ups. Look to peer communities for models of system improvements, including their approaches to providing equitable access.	• "Number of parks that adopt day-use reservation pilot program • "Number of reservations granted in parks with day-use reservation pilot program (disaggregated by online reservations and walk ups)" • "Number of no show reservations per day (disaggregated by park)"	Confirm barriers to implementation for visitors and staff to confirm a path forward for streamlining the system long term. Identify additional parks for day use reservation pilot program	Mid
51	Institute a mandate requiring that all state parks, NEAs, NRMAs, and other land under MPS's control establish comprehensive, long-term resilience and maintenance plans that address both current and future climate risks.	• "Percentage of state parks, NEAs, NRMAs, and MPS parkland with a climate resilience and maintenance plans (to be updated on an annual basis)"	Create statewide mandate for climate and environmental specialists on staff to inventory the climate vulnerability of every park. Mandate should set clear deliverable and timelines for when parks should conduct individualized environmental vulnerability assessment and submit climate resilience and maintenance plans to DNR. Additional specialized teams of scientists should be hired, to build capacity for vulnerability assessment.	Mid
52	Harness the $5,000,000 starter fund provided under GMOA 5-221(L) for infrastructure projects aimed at mitigating the impacts of climate change.	• "Number of climate resilient and adaptive infrastructure across the park system" • "Number of park buildings vulnerable to sea level rise and flood projections." • "Number of new and current building and infrastructure projects that adhere to Maryland Coast Smart Council's Coast Smart Construction Program's climate-resilient principles." • "Percentage of park roads and parking areas vulnerable to sea level rise and flood projections." • "Number of existing and future climate adaptations and renovations. "	Develop database infrastructure for long-term inventory of park infrastructure climate resiliency	Mid
53	Initiate a specialized climate and vulnerability assessment tailored to the 11 historic and cultural resource sites that are at risk due to rising sea levels (SLR).	• "Percentage of historic and cultural resource sites at risk of Seal Level Rise (SLR). (prioritized by greatest vulnerability)" • "Number of completed climate adaptations and renovation projects in historic and cultural resource sites"	Allocate or hire climate and environmental specialists on staff to inventory the climate vulnerability of all historic and cultural resource sites	Mid
54	Enhance informational campaigns and materials pertaining to climate-related risks within parks.	• "Number of public education campaigns developed every year (disaggregated by type of dissemination)" • "Number of public access brochures developed every year (disaggregated by park and type of environmental issue)" • "Number of public exhibits and workshops held each year (disaggregated by park and type of environmental issue)"	Develop a 2024 communication and public engagement plan on climate change education, to be updated on an annual basis	Mid

#	Recommendation	Key Performance Indicators	Early Steps	Phasing (Short 0-5 yrs, Mid 6-10 yrs, Long 10+ yrs, Ongoing)
56	Broaden and formalize ongoing initiatives aimed at gathering feedback from park visitors regarding two key aspects: 1) the impact of climate change on their visitor experiences and 2) ways in which parks can enhance information and education about climate change's effects.	• "Number of climate change surveys distributed annually (disaggregated by park)"	Create a development and distribution plan for an annual climate change visitor survey	Mid
57	Offer dedicated support to staff through comprehensive training, workshops, and adept management strategies tailored to meet the evolving challenges posed by climate change.	• "Number of staff trainings and workshops held on climate change annually" • "Number of wilderness first aid and wilderness first responder training held annually" • "Number of additional staff hired to meet climate change and adaptation project needs (disaggregated by park)" • "Number of climate change programs or visitor center exhibits provided to visitors"	Develop staff climate adaptation training plan for 2024 Consider tying this training initially to in-park staff training recommendations to start.	Mid
61	Establish a mandate that requires park staff to create a dedicated catalog for climate-related maintenance tasks, in the development of an ongoing park maintenance inventory. Furthermore, the department should engage the expertise of environmental economists to conduct comprehensive economic cost-benefit assessments of these maintenance requirements and climate resilience initiatives.	• "Number and percentage of completed climate-related maintenance tasks (disaggregated by park) • "Amount of funding dedicated to climate-related maintenance (includes: climate-induced damages and adaptations)" • "Number of climate-related renovation and adaptions projects (disaggregated by park)"	Contract an environmental economist to consultant on the development of a climate-related maintenance inventory and conduct a comprehensive economic cost-benefit assessment of maintenance requirements and climate resilience initiatives across MPS.	Mid
66	Expand the number of languages available on DNR's COMPASS portal to include the top 5 languages spoken at home among Maryland over the next two years.	• "Number of languages included in DNR's COMPASS portal"	Contract translators provide COMPASS portal in Chinese (including Mandarin,Cantonese), French (including Cajun), Korean, and a variation of African languages (including Afro-Asiatic Languages such as Amharic and Somali, as well as Western African language such as Yoruba, Twi, and Igbo)	Mid
69	Invest in free recreational swimming classes for children and adults across the state of Maryland.	• "Number of new recreational swimming classes held across Maryland"	Identify funding opportunities and school partnership for recreational swimming classes	Mid
70	Develop a robust approach to a welcoming and inclusive interpretive program relevant to all audiences by undertaking the development of an interpretive plan that explicitly addresses diversity, equity, inclusion, and access (DEIA) through strategies for outreach, events, education, access, and staffing initiatives (recruitment, placement, training, etc.).			Mid

#	Recommendation	Key Performance Indicators	Early Steps	Phasing (Short 0-5 yrs, Mid 6-10 yrs, Long 10+ yrs, Ongoing)
76	Establish a long-term level of self-support goal and strategies to achieve that level of self-support for the Maryland State Park System within 5 years.			Mid
77	Hire an outside entity to create a cost recovery analysis.			Mid
82	Create an endowment fund for the Maryland State Park system.			Mid
83	Redirect a portion of lottery proceeds or surplus revenue from other state programs towards the state park system.		Coordinate with Department of Legislative Services	Mid
84	Create a new sales tax on outdoors and sporting goods sold in the State.		Coordinate with Department of Legislative Services	Mid
85	Allow taxpayers to voluntarily contribute a portion of their tax refunds to support state parks.	• "Total dollars allocated to the State Parks annually"	Coordinate with Comptrollers Office	Mid
86	Continue management of historic resources through the combination of specifically funded projects and as part of overall individual park management.	• "Number of historic properties managed"		Mid

Long-term Recommendations

Recommendations that could be completed over the next ten to thirty years.

#	Recommendation	Key Performance Indicators	Early Steps	Phasing (Short 0-5 yrs, Mid 6-10 yrs, Long 10+ yrs, Ongoing)
74	Formalize strategies to ensure equitable access to and equitable services at state parks.	• "Number of parks with ADA transition plans" • "Number of parks with ADA improvements"	Maryland current and trending demographics, State Park usage data, and transit access data is collected and analyzed for equitable access to and equitable service delivery at state parks. Identification of intentional strategies to address access and service inequities and ways to measure strategy impacts. Implementation of intentional strategies. Measure impact of strategies.	Long/Ongoing
78	Contract with private firms to operate parks or elements therein, carefully weighing the full cost of the contract approach, including the cost of oversight and enforcement, with that of public service provision.			Long/Ongoing
20	Add parks and acreage to Maryland's state park system in order to increase its current service of 0.023 acres of park per resident to at least 0.036 acres of park per person by 2030.	• "Total number of park acres added to MPS system"	Staff team charged with developing a strategic plan for expansion of the state park system. Staff team develops protocols and potential schedule for expansion of the system including elements articulated in the recommendation.	Long; Ongoing
21	Expand park acreage and park acquisitions to the state's Southern and Central regions, which tend to have less available acreage, and use mapping of target ecological areas and assets aligned with community demand based on the future LPRP community engagement process to prioritize site selection.	• "Number of parks and park acreage in the Southern and Central regions"	Identify staff to develop equity advisory board charter.	Long; Ongoing
27	Address personnel needs for Cartographers and Historians: Boost the personnel specialized in interpretation available at both the central office and park levels; train at least one full-time, year-round staff member in each park and assure that each park at all times has at least one staff member who has received this interpretive training; and support continuing ed in interpretation for staff to pursue individually.	• "Number of personnel trained in interpretation"		Long; Ongoing

#	Recommendation	Key Performance Indicators	Early Steps	Phasing (Short 0-5 yrs, Mid 6-10 yrs, Long 10+ yrs, Ongoing)
34	Increase compensation to be competitive with other job prospects within the field.	• "Average compensation of park administrative and in-field staff positions (disaggregated by county)" • "Average compensation of NPS staff positions in state (disaggregated by county)" • "Average cost of living (disaggregated by county) "	Develop inventory of average park administrative and in-field staff position compensations and cost of living by county	Long
58	Actively recruit and employ specialized staff possessing expertise in climate change research and scientific disciplines within MPS, responsible for spearheading, managing, and supervising climate change-related initiatives across all state parks.	• "Number of climate change expert staff hired per year (disaggregated by climate change/scientific expertise and by park site)"	Develop a MPS and DNR staff inventory and identify gaps in scientific expertise	Long
59	Enhance park resilience to rising temperatures by allocating funding for strategic tree planting and the restoration of coastal bays vegetation.	• "Number of trees planted per year (disaggregated by park)"	Develop a tree planting plan, identifying priority park site	Long
60	Allocate specific funding for parks to enhance shade and temperature mitigation amenities for visitors.	• "Number of current and new public cooling centers (disaggregated by park)" • "Percentage of funding allocated by park for temperature mitigation strategies"	Develop a temperature mitigation and shade fund for parkland	Long
67	Using the equity analysis identified within this section alongside building age, create a 10-year investment plan that replaces or renovates all restrooms over 30 years old within that timeframe.			Long
72	Develop and implement data tracking strategies and methodologies.		Data tracking work team created. Data collection strategies and methodologies developed. GIS staff positions identified and hired.	Long
73	Collaborate with MDOT to conduct a final-mile inventory on sidewalk, trail, bike lane, and road conditions near park entrances to identify potential improvement needed for transit expansion, multi-modal commuting, and provide equitable access.	• "Number of park entrances within a 1/4 mile radius from a public transit stop Number of park entrances with accessible sidewalks" • "Number of parks entrances with publicly accessible bike lanes" • "Number of park entrances with bike parking structure/spaces"	Develop final-mile inventory plan with MDOT	Long

#	Recommendation	Key Performance Indicators	Early Steps	Phasing (Short 0-5 yrs, Mid 6-10 yrs, Long 10+ yrs, Ongoing)
75	Conduct an ADA transition plan for all developed State Parks within the system, with a focus on publicly accessible parking lots and facilities, playgrounds, and popular destinations within parks.	• "Number of parks with ADA transition plans" • "Number of parks with ADA improvements" • "Create ADA transition plan with accessibility data collected."	Conduct an accessibility analysis of all developed State Parks for parking and facilities, playgrounds, and popular park destination.	Long
79	Allow and encourage public-private partnerships for park management, infrastructure development, and maintenance.			Long
80	Allow corporate sponsorships for park facilities, events, and programs. In exchange for sponsorships, companies could receive branding opportunities and other incentives. Branding opportunities would need to comply with existing state policies and Maryland Board of Public Works guidance.	• "Percentage growth in sponsorship revenue"		Long
81	Establish a State Park System Alliance nonprofit organization dedicated to supporting the mission and goals of the state's park system and facilitate collaboration among state parks and share resources.			Long
87	Prioritize and develop targeted additional funding sources and specialized staff for historic and cultural resources.	• "Number of historic and cultural resources staff hired"	Using the historic resources study currently underway, identify staffing needs and hire accordingly.	Long
93	Consider issuing Green Bonds that are designed to fund projects within the Maryland State Park System with positive environmental benefits.			Long

Report Conclusion

The independent study conducted under the Great Maryland Outdoors Act (GMOA) by the Department of Legislative Services (DLS) represents a significant milestone in Maryland's commitment to enhancing its state parks in the wake of the COVID-19 pandemic. The pandemic highlighted the critical importance of outdoor spaces for public health and well-being, revealing both the strengths and shortcomings of the Maryland Park Service (MPS). The independent study, mandated by the GMOA and carried out with guidance from the Maryland Department of Legislative Services (DLS) and an Advisory Committee, aimed to align MPS's mission with its practices, improve visitor experiences, optimize funding, and address environmental sustainability and public health.

Key findings from the study include the increased demand for outdoor recreation activities, highlighted by the surge in park visitors during the pandemic. This surge, however, also exposed issues like inadequate infrastructure, maintenance backlogs, and staffing challenges within the MPS. Additionally, demographic shifts and changing recreational habits indicate a need for MPS to adapt to a more diverse and evolving visitor base.

The study involved a thorough review of MPS's missions, demographic analysis, capacity assessments, and funding and project evaluations. Recommendations were developed to enhance visitor experiences, identify funding opportunities, and support initiatives against climate change.

MPS is not meant to implement recommendations in this study on its own, nor is it required to implement all of the recommendations identified by this report. The actions highlighted above are communicated to provide a menu of options that MPS should consider as it continues to implement the GMOA requirements.

In conclusion, the study under the GMOA identifies a menu of options for the Maryland Park Service to consider moving forward in support of the requirements and recommendations of the GMOA. By addressing the issues highlighted by the report and implementing the recommended strategies, MPS is poised to better serve the diverse needs of Marylanders and ensure the long-term viability and accessibility of its state parks.