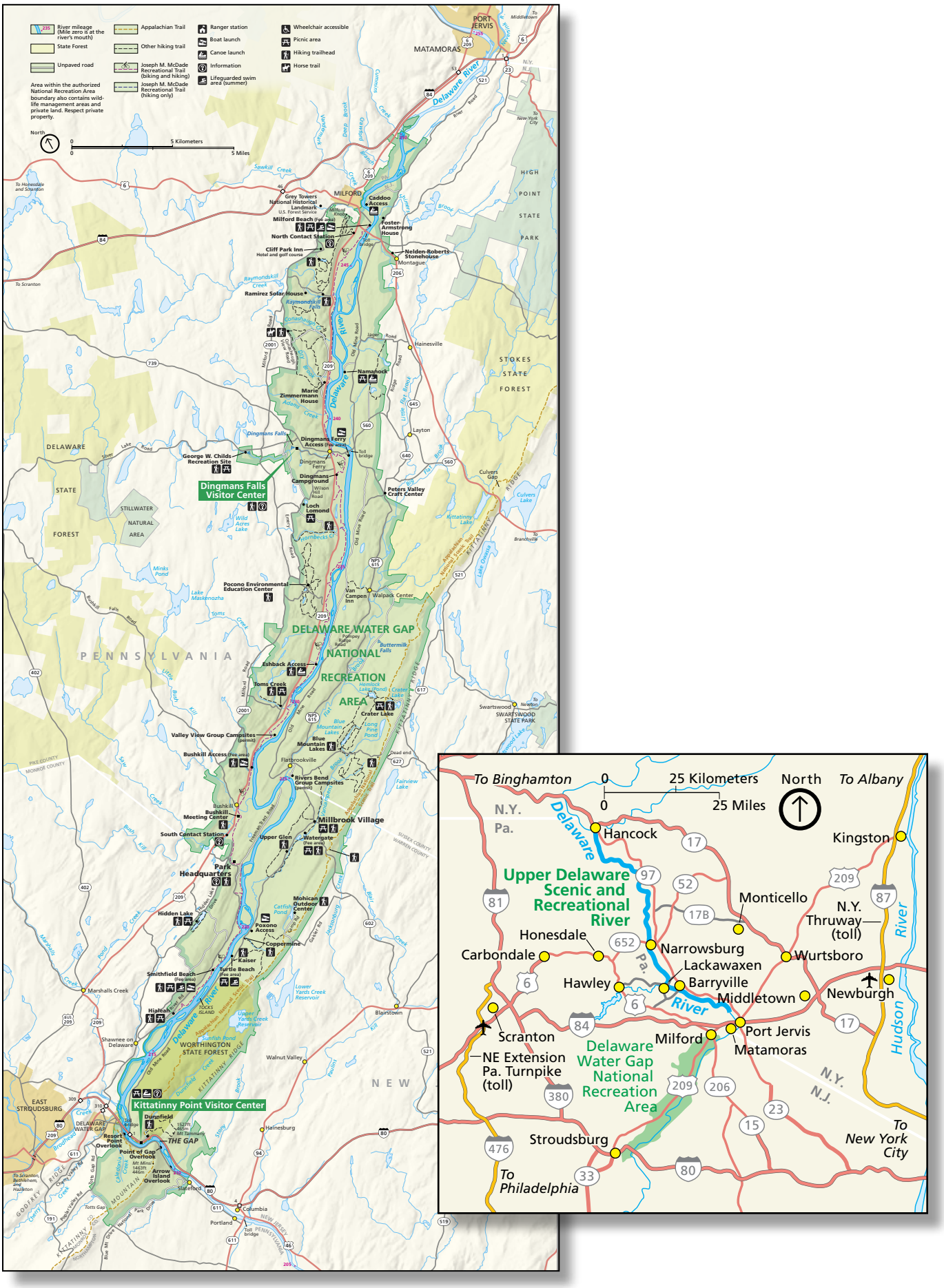
NATIONAL PARK SERVICE • U.S. DEPARTMENT OF THE INTERIOR

Foundation Document

Delaware Water Gap National Recreation Area and Middle Delaware National Scenic and Recreational River

New Jersey and Pennsylvania

October 2014


River mileage (Mile zero is at the river's mouth)
State Forest
Unpaved road
Appalachian Trail
Other hiking trail
Joseph M. McDade Recreational Trail (biking and hiking)
Joseph M. McDade Recreational Trail (hiking only)
Ranger station
Boat launch
Canoe launch
Information
Lifeguarded swim area (summer)
Wheelchair accessible
Picnic area
Hiking trailhead
Horse trail
Area within the authorized National Recreation Area boundary also contains wildlife management areas and private land. Respect private property.
North
5 Kilometers
5 Miles
PORT JERVIS
MATAMORAS
Delaware River
MILFORD
Grey Towers National Historical Landmark
Milford Beach
North Contact Station
Caddoo Access
Foster-Armstrong House
Cliff Park Inn
Nelden-Roberts Stonehouse
Ramirez Solar House
HIGH POINT STATE PARK
STOKES STATE FOREST
Hainesville
Namanock
Maria Zimmermann House
Layton
Dingmans Falls
Dingmans Ferry Access
George W. Childs Recreation Site
Dingmans Falls Visitor Center
Dingmans Campground
Peters Valley Craft Center
Loch Lomond
DELAWARE STATE FOREST
STILLWATER NATURAL AREA
Culvers Gap
Pocono Environmental Education Center
Van Campen Inn
Walpack Center
DELAWARE WATER GAP NATIONAL RECREATION AREA
PENNSYLVANIA
Eshback Access
Toms Creek
Crater Lake
Swartswood
SWARTSWOOD STATE PARK
Valley View Group Campsites
Blue Mountain Lakes
Bushkill Access
Flatbrookville
Rivers Bend Group Campsites
Millbrook Village
Bushkill
Bushkill Meeting Center
South Contact Station
Upper Glen
Watergate
Park Headquarters
Mohican Outdoor Center
Hidden Lake
Poxono Access
Coppermine
Kaiser
Turtle Beach
Smithfield Beach
Marshalls Creek
Hialeah
Shawnee on Delaware
WORTHINGTON STATE FOREST
Walnut Valley
Blairstown
NEW
EAST STROUDSBURG
DELAWARE WATER GAP
Kittatinny Point Visitor Center
Dunnfield
Resort Point Overlook
THE GAP
Point of Gap Overlook
Arrow Island Overlook
Hainesburg
Slateford
Columbia
Portland
To Binghamton
To Albany
N.Y.
Pa.
Hancock
Kingston
Upper Delaware Scenic and Recreational River
Monticello
N.Y. Thruway (toll)
Honesdale
Narrowsburg
Wurtsboro
Carbondale
Lackawaxen
Hawley
Barryville
Middletown
Newburgh
Scranton
Milford
Port Jervis
Matamoras
NE Extension Pa. Turnpike (toll)
Delaware Water Gap National Recreation Area
Hudson River
N.Y.
N.J.
Stroudsburg
To New York City
To Philadelphia

Contents

Mission of the National Park Service 1

Introduction. 2

Part 1: Core Components 2

Brief Description of the Park. 3
Park Purpose 4
Park Significance 5
Fundamental Resources and Values 6
Other Important Resources and Values 8
Interpretive Themes 9

Part 2: Dynamic Components 10

Special Mandates and Administrative Commitments 10
Assessment of Planning and Data Needs 10
Analysis of Fundamental and Other Important Resources and Values . . . 11
Identification of Key Issues and Associated Planning and Data Needs . . . 11
Planning and Data Needs 12

Part 3: Contributors 20

Appendixes 21

Appendix A: Fundamental and Other Resources and Values Analysis Tables for Delaware Water Gap National Recreation Area and Middle Delaware National Scenic and Recreational River 21
Appendix B: Enabling Legislation and Legislative Acts for Delaware Water Gap National Recreation Area and the Middle Delaware National Scenic and Recreational River . . . 42
Appendix C: Related Federal Legislation, Regulations, and Executive Orders 46
Appendix D: Inventory of Special Mandates and Administrative Commitments 48
Appendix E: Wild and Scenic River Values 56

Mission of the National Park Service

The National Park Service (NPS) preserves unimpaired the natural and cultural resources and values of the national park system for the enjoyment, education, and inspiration of this and future generations. The National Park Service cooperates with partners to extend the benefits of natural and cultural resource conservation and outdoor recreation throughout this country and the world.

The NPS core values are a framework in which the National Park Service accomplishes its mission. They express the manner in which, both individually and collectively, the National Park Service pursues its mission. The NPS core values are:

- **Shared stewardship:** We share a commitment to resource stewardship with the global preservation community.
- **Excellence:** We strive continually to learn and improve so that we may achieve the highest ideals of public service.
- **Integrity:** We deal honestly and fairly with the public and one another.
- **Tradition:** We are proud of it; we learn from it; we are not bound by it.
- **Respect:** We embrace each other's differences so that we may enrich the well-being of everyone.

The National Park Service is a bureau within the Department of the Interior. While numerous national park system units were created prior to 1916, it was not until August 25, 1916, that President Woodrow Wilson signed the National Park Service Organic Act formally establishing the National Park Service.

The national park system continues to grow and comprises 401 park units covering more than 84 million acres in every state, the District of Columbia, American Samoa, Guam, Puerto Rico, and the Virgin Islands. These units include, but are not limited to, national parks, monuments, battlefields, military parks, historical parks, historic sites, lakeshores, seashores, recreation areas, scenic rivers and trails, and the White House. The variety and diversity of park units throughout the nation require a strong commitment to resource stewardship and management to ensure both the protection and enjoyment of these resources for future generations.

The arrowhead was authorized as the official National Park Service emblem by the Secretary of the Interior on July 20, 1951. The sequoia tree and bison represent vegetation and wildlife, the mountains and water represent scenic and recreational values, and the arrowhead represents historical and archeological values.

Introduction

Every unit of the national park system will have a foundational document to provide basic guidance for planning and management decisions—a foundation for planning and management. The core components of a foundation document include a brief description of the park as well as the park's purpose, significance, fundamental resources and values, other important resources and values, and interpretive themes. The foundation document also includes special mandates and administrative commitments, an assessment of planning and data needs that identifies planning issues, planning products to be developed, and the associated studies and data required for park planning. Along with the core components, the assessment provides a focus for park planning activities and establishes a baseline from which planning documents are developed.

A primary benefit of developing a foundation document is the opportunity to integrate and coordinate all kinds and levels of planning from a single, shared understanding of what is most important about the park. The process of developing a foundation document begins with gathering and integrating information about the park. Next, this information is refined and focused to determine what the most important attributes of the park are. The process of preparing a foundation document aids park managers, staff, and the public in identifying and clearly stating in one document the essential information that is necessary for park management to consider when determining future planning efforts, outlining key planning issues, and protecting resources and values that are integral to park purpose and identity.

While not included in this document, a park atlas is also part of a foundation project. The atlas is a series of maps compiled from available geographic information system (GIS) data on natural and cultural resources, visitor use patterns, facilities, and other topics. It serves as a GIS-based support tool for planning and park operations. The atlas is published as a (hard copy) paper product and as geospatial data for use in a web mapping environment. The park atlas for Delaware Water Gap National Recreation Area can be accessed online at: http://insideparkatlas.nps.gov/.

Part 1: Core Components

The core components of a foundation document include a brief description of the park, park purpose, significance statements, fundamental resources and values, other important resources and values, and interpretive themes. These components are core because they typically do not change over time. Core components are expected to be used in future planning and management efforts.

© Jim Davis

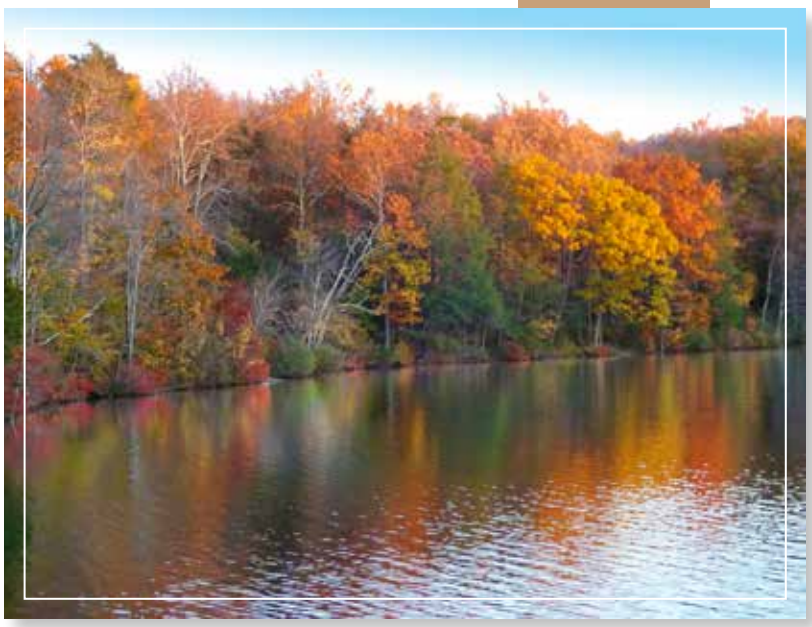
Brief Description of the Park

The Delaware Water Gap National Recreation Area is a 67,210-acre park that includes the Middle Delaware National Scenic and Recreational River in New Jersey and Pennsylvania. At the southern end of this park, the river cuts a pass through the mountains, forming the Delaware Water Gap. The park contains an environment of unique geologic and natural features as well as cultural landscapes and historic resources. The park's outstanding geologic and natural features form some of the best-known scenic landscapes in the northeastern United States and illustrate the characteristic landforms and biotic areas of the Appalachian Ridge and Valley Province and the Southern Appalachian Plateau Province. The diverse ecosystems and landscape features provide unique scenery and experiences for visitors and crucial habitat for plants and animals. Furthermore, the mainstem of the Delaware River is the longest undammed river in the eastern United States, and one of the cleanest rivers in the nation due to years of effort to protect and restore it. The park protects a long segment of that river designated as the Middle Delaware National Scenic and Recreational River. The Upper Delaware Scenic and Recreational River and the Lower Delaware National Wild and Scenic River along the mainstem Delaware River are also included in the Wild and Scenic River System.

The geographic area surrounding the Delaware Water Gap became an important leisure retreat for working-class people in the wake of the industrial revolution, when an increasing trend in American leisure time spurred a trend in vacationing in western New Jersey and the Pocono Mountains in northeastern Pennsylvania. These two trends were embodied in the legislative history of Delaware Water Gap National Recreation Area, which asserts the need to establish publicly owned outdoor recreation areas and open space for city dwellers in the northeastern United States.

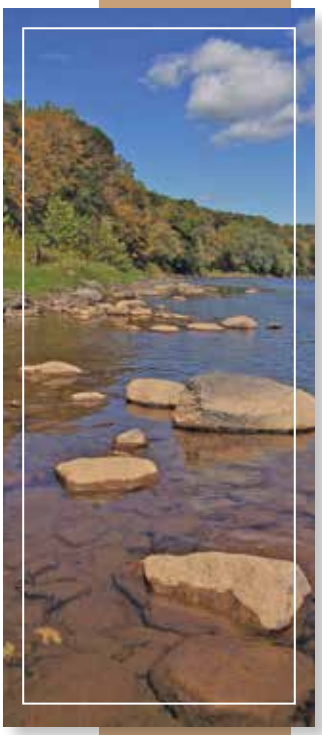
Delaware Water Gap National Recreation Area was established in 1965 as a way to provide for public outdoor recreational use and enjoyment of the reservoir that was to be created by the proposed Tocks Island Dam. The dam project represented a long-time interstate interest in water supply, hydropower, and flood control from the Delaware River. The associated recreation was viewed as an additional benefit to the urban populations of the region's major cities. The park was created by Congress to be a park for the people and near the people. Throughout the 1960s and into the 1970s, the costs of the dam project and associated infrastructure climbed, the available funding diminished (largely due to the Vietnam War), engineering challenges became evident, and opposition to the project from grassroots organizations representing local and environmental concerns began to sway popular opinion about the need and appropriateness of the dam.

In 1975, the Delaware River Basin Commission (DRBC), composed of the four governors of the basin-states (Pennsylvania, New York, New Jersey, and Delaware) and one federally appointed commissioner, voted to discontinue the Tocks Island Dam project. The land already acquired by the federal government was transferred in its entirety to the National Park Service for stewardship, and Delaware Water Gap National Recreation Area, originally intended as a narrow swath of land around a reservoir, became a 67,210-acre park. In 1978, 40 miles of free-flowing river were added to the Wild and Scenic River System as the Middle Delaware National Scenic and Recreational River, to add extra protection for the river. In 1992, the Tocks Island Dam project was officially deauthorized.



Delaware Water Gap National Recreation Area's open spaces anchor a multistate greenway corridor, supplemented with other regional protection and preservation initiatives. This corridor preserves essential habitat for the sustained health of plant and animal communities, including special status species, in the region. Terrestrial habitats include native hardwood and hemlock forests, wetlands, ephemeral ponds, mixed successional forests, grasslands, talus slopes, dry cactus barren landscapes, and riparian corridors. The park provides opportunities to view native wildlife such as black bears, bald eagles, and migratory fish, within well-preserved ecosystems.

The most popular geologic feature in the park is the Delaware Water Gap itself, which is approximately 1,200 feet deep from the summit of the mountains to the surface of the Delaware River. The Gap is one mile wide from New Jersey's Mount Tammany to Pennsylvania's Mount Minsi.



The park also contains a significant concentration of cultural resources spanning 11,000 years of human habitation. The valley has been inhabited for thousands of years, and dozens of historic structures dot the park's scenic drives. Historic rural villages from the 18th and 19th centuries remain intact on the New Jersey side, and landscapes of past settlements are scattered throughout the park. Additionally, the park encompasses significant American Indian archeological sites.

The park offers a variety of outdoor recreational opportunities, including boating, fishing, hunting, swimming, biking, cross-country skiing, rock climbing, sightseeing, natural and cultural history, and the opportunity to experience natural and cultural history and the general solitude of a rural environment. In addition, the recreation area offers more than 100 miles of hiking trails, including nearly 27 miles of Appalachian Trail. Each year, the park receives more than 5.2 million recreational visitors. Much of this visitation is from the nearby, rapidly expanding, New York / northern New Jersey and Philadelphia greater metropolitan areas.

Park Purpose

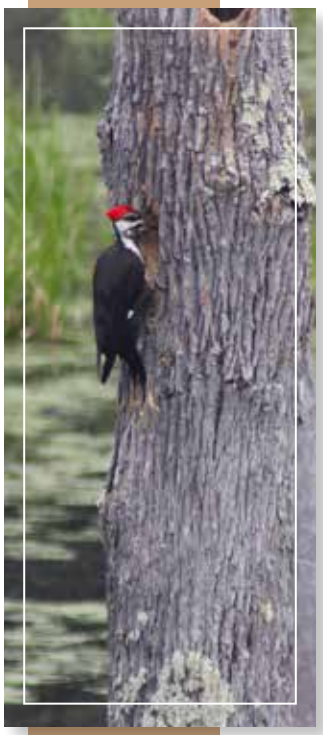
The purpose statement identifies the specific reason(s) for establishment of a particular park. The purpose statement for Delaware Water Gap National Recreation Area and the Middle Delaware National Scenic and Recreational River was drafted through a careful analysis of the enabling legislation and the legislative history that influenced their development. The park was established when the enabling legislation adopted by Congress was signed into law on September 1, 1965. The river was designated as part of the Wild and Scenic River System through an amendment to the Wild and Scenic River Act on November 19, 1978. See appendix B for the enabling legislation. The purpose statement lays the foundation for understanding what is most important about the park and the river.

The purpose of Delaware Water Gap National Recreation Area and the Middle Delaware National Scenic and Recreational River is to preserve the natural, cultural, and scenic resources and values of the Delaware River valley and provide opportunities for resource-based recreation, education, and enjoyment in close proximity to the most densely populated region of the nation.

Park Significance

Significance statements express why a park's resources and values are important enough to merit designation as a unit of the national park system. These statements are linked to the purpose of Delaware Water Gap National Recreation Area, and are supported by data, research, and consensus. Statements of significance describe the distinctive nature of the park and why an area is important within a global, national, regional, and systemwide context. They focus on the most important resources and values that will assist in park planning and management.

The following significance statements have been identified for Delaware Water Gap National Recreation Area and the Middle Delaware National Scenic and Recreational River. (Please note that the sequence of the statements does not reflect the level of significance.)



1. Delaware Water Gap National Recreation Area's outstanding scenery, interwoven with cultural landscapes and historic sites, is defined by the composition of natural landscapes that range from the cliffs of the Pocono Plateau and Kittatinny Ridge to the broader floodplain valley and include dramatic bends in the Delaware River and the iconic Delaware Water Gap.
2. Delaware Water Gap National Recreation Area is the keystone of an extensive network of local, state, and federally protected natural landscapes that preserves and connects essential habitat for the sustained health and adaptability of native plant and animal communities.
3. The complex mosaic of landforms and aquatic habitats within the Delaware Water Gap National Recreation Area supports an exceptional concentration and diversity of native plant and animal communities, including ecological communities and species that are rare, threatened, or endangered.
4. The Middle Delaware National Scenic and Recreational River is a vital component of and contributes substantially to the exceptional ecological integrity of the Delaware River, the longest undammed river within the eastern United States.
5. Visitors to the Middle Delaware National Scenic and Recreational River within the Delaware Water Gap National Recreation Area have opportunities to immerse themselves in an environment of solitude, tranquil natural landscapes, striking river valley scenery, and a substantially undeveloped river corridor that is unmatched among large rivers in the most densely populated region of the United States.
6. Documenting approximately 11,000 years of human use and adaptation, Delaware Water Gap National Recreation Area contains the most well-preserved concentration and intact diversity of known archeological sites and artifacts in the northeastern United States, including the Minisink National Historic Landmark District, with ongoing significance to American Indian tribes.
7. The variety of 18th through 20th century historic structures at Delaware Water Gap National Recreation Area demonstrates the transition from the Colonial frontier to an agrarian-based economy to the early 20th century when the area became a center of working class leisure in the wake of the industrial revolution.
8. Delaware Water Gap National Recreation Area offers easily obtainable opportunities for diverse, year-round, outdoor recreation and leisure to residents of major Northeast urban centers; this need was specifically recognized in the park's legislative history.
9. The effort to preserve a free-flowing Delaware River, rather than construct the Tocks Island Dam within Delaware Water Gap National Recreation Area, contributed to the 20th century "grass-roots" environmental movement that led to Earth Day and passage of the National Environmental Policy Act.

Fundamental Resources and Values

Fundamental resources and values (FRVs) are those features, systems, processes, experiences, stories, scenes, sounds, smells, or other attributes determined to warrant primary consideration during planning and management processes because they are essential to achieving the purpose of the park and maintaining its significance. Fundamental resources and values are closely related to a park's legislative purpose and are more specific than significance statements.

Fundamental resources and values help focus planning and management efforts on what is truly significant about the park. One of the most important responsibilities of NPS managers is to ensure the conservation and public enjoyment of those qualities that are essential (fundamental) to achieving the purpose of the park and maintaining its significance. If fundamental resources and values are allowed to deteriorate, the park purpose and/or significance could be jeopardized.

The following fundamental resources and values have been identified for Delaware Water Gap National Recreation Area and the Middle Delaware National Scenic and Recreational River.

- **The Middle Delaware National Scenic and Recreational River and Tributaries.** The Middle Delaware National Scenic and Recreational River and its tributaries are a defining attribute of Delaware Water Gap National Recreation Area. A combination of exceptionally high water quality, fully functioning floodplains, excellent aquatic and riparian habitats, and the absence of dams on the main stem gives rise to a diverse array of species and a productive, complex food web with strong ecological integrity. As an integral part of the entire Delaware River system, this section of the river provides a migration corridor, critical habitat, and a stronghold for native migratory fish species such as American shad and American eel. In addition, the high-quality water of the main stem river provides additional beneficial habitat and a movement corridor for fish species that primarily inhabit tributaries such as native brook trout and at least 52 other species of fish. Miles of mostly undisturbed shoreline, high-quality water, and natural landscapes create opportunities for an exceptional visitor experience.
- **Evidence of Changing Land Use, Settlement Patterns, and Lifeways.** The Middle Delaware river valley is full of examples of the changing land use, settlement patterns, and lifeways of the European settlement starting with the Dutch and English settlers who arrived in the region beginning around 1650 and stretching through the formation of the park in 1965. Throughout the valley examples of landscapes, structures, and archeological resources illustrate the changes in use and economic drivers in the region throughout the centuries. Some of the evidence of land use changes and settlements include agricultural landscapes and associated buildings, ruins of water-powered mills, Delaware River-based resorts and camps, historic villages, and the Old Mine Road Historic District that preserves one of the oldest commercial roadways in the northeastern United States.

- **Rich Archeological Heritage.** Delaware Water Gap National Recreation Area has nearly 500 documented American Indian archeological sites, of which more than 100 are currently considered eligible for inclusion in the National Register of Historic Places. This complex of American Indian sites is the best preserved in the northeastern United States, making it a high-value research area for archeologists and geoarcheologists to study the rich archeological heritage of the park.

- **Mosaic of Terrestrial and Wetland Habitats.** The varied topography, geology, hydrology, and land use history of the park gives rise to a rich mosaic of terrestrial and wetland habitats within the park. Large unbroken tracts of forest dominated by native oaks, hickories, and pines extend along the upper elevations of the Kittatinny Ridge and Pocono Plateau. Forests dominated by various mixtures of eastern hemlock, white pine, maple, birch, ash, sycamore, and other native hardwoods predominate throughout the mid- to lower elevations. Interspersed within the dominant forests are distinct areas of dry cactus barrens, talus slopes, various grasslands and shrub lands, acidic and calcareous wetlands, ephemeral ponds, riparian zones, and floodplains. This mosaic of connected terrestrial and wetland habitats supports a high diversity of native species of birds, mammals, reptiles, amphibians, and invertebrates, including numerous rare, threatened, and endangered species. The large tracts of undisturbed forests, wetlands, riparian zones, and floodplains reduce flood damage downstream of the park.

- **Striking Geological Features.** The most iconic feature in the park is its namesake, the Delaware Water Gap. Other prominent geologic landforms include the Pocono Plateau, Kittatinny Ridge, and the Walpack Bend. Other geologic features within the park include talus slopes, glacial features, cave and karst features, dramatic waterfalls, alluvial fans, and paleontological resources. These striking geological features define the park's landscape, influence its ecology, and shape historic patterns of human settlement.

- **Sustainable Access to High-quality Recreation Opportunities.** The river and surrounding landscape support a wide variety of opportunities to enjoy the natural and cultural resources of the park during all four seasons. High-quality outdoor recreational opportunities include canoeing, swimming, hiking, hunting, fishing, scenic driving, bird watching, and cross-country skiing. The remoteness found in some areas of the park offers the chance to experience solitude, while other areas provide social recreational settings.

- **Stunning Scenic Resources and Distinct Aesthetic Values.** The Middle Delaware River is framed by the mountains of the Kittatinny Ridge in New Jersey and the cliffs of Pocono Plateau in Pennsylvania. The diverse floodplain includes islands, woodlands, tributary crossings, grassland, and agricultural fields. The adjoining landscape includes steep hemlock- and rhododendron-lined ravines and hardwood forests cut through by streams and waterfalls. Visitors are immersed in the forested and pastoral characters of the area by day and dark skies by night. The nuances of the changing seasons, such as spring wildflowers, summer greenery, fall foliage, and winter frost, provide a backdrop for visitors to enjoy the stunning scenic resources and striking aesthetic values.

Other Important Resources and Values

Delaware Water Gap National Recreation Area contains other resources and values that are not fundamental to the purpose of the park and may be unrelated to its significance, but are important to consider in planning processes. These are referred to as "other important resources and values" (OIRV). These resources and values have been selected because they are important in the operation and management of the park and warrant special consideration in park planning.

The following other important resources and values have been identified for Delaware Water Gap National Recreation Area and the Middle Delaware National Scenic and Recreational River:

- **Landscape-scale Habitat Connectivity.** Delaware Water Gap National Recreation Area is the keystone of an extensive network of local, state, and federally protected natural landscapes that preserves and connects essential habitat for the sustained health and adaptability of plant and animal communities. Many populations of plants and animals are more stable and secure because they can inhabit an unfragmented landscape. The ecological integrity of the river and the park is dependent on the protected and managed landscapes in the 3,500-square-mile Delaware River watershed. Landscape-scale habitat connectivity is not only essential to present-day ecosystems, but also provides opportunities for climate change adaptation and sustainable natural communities into the future.

- **Management Through Collaboration.** Collaboration and cooperation with partners; volunteers; and state, local, and federal agencies, to achieve common goals allow all stakeholders to become better stewards of resources. Collaborative management of Delaware Water Gap National Recreation Area provides many essential services such as public safety, interpretation, education, art appreciation, and facility maintenance.

Interpretive Themes

Interpretive themes are an organizational tool. They provide the conceptual framework for visitor experience planning and programming. Interpretive themes are derived from and capture the essence of park significance, resources, and values. They can help explain why a park story is relevant to people who may be disconnected to an event, time, or place. Themes go beyond a description of an event or process; they reflect the context and effects of those events or processes in order to foster opportunities to experience and consider the meanings, concepts, and values represented by park resources.

While themes are important as a framework to help guide interpretation and management decisions, they are not necessarily intended for public use. They serve to focus and develop visitor experience, services, and programming.

The following interpretive themes have been identified for Delaware Water Gap National Recreation Area and the Middle Delaware National Scenic and Recreational River:

- Predestined by distinctive geography, the Middle Delaware River Valley is a stage for playing out the changing relationship between people and this American landscape over time.
- Precariously situated within the most densely populated region of the United States, the middle Delaware River Valley, with its iconic landforms and uncommon ecological integrity, is part of an extensive network of protected landscapes contributing to the sustained health of natural processes.
- The diversity and integrity of cultural resources at Delaware Water Gap National Recreational Area offers exceptional opportunities to examine changing human communities and values along societal frontiers.

Part 2: Dynamic Components

The dynamic components of a foundation document include special mandates and administrative commitments and an assessment of planning and data needs. These components are dynamic because they will change over time. New special mandates can be established and new administrative commitments made. As conditions and trends of fundamental and other important resources and values change over time, the analysis of planning and data needs will need to be revisited and revised, along with key issues. Therefore, this part of the foundation document will be updated accordingly.

Special Mandates and Administrative Commitments

Many management decisions for a park unit are directed or influenced by special mandates and administrative commitments with other federal agencies, state and local governments, utility companies, partnering organizations, and other entities. Special mandates are requirements specific to a park that must be fulfilled. Mandates can be expressed in enabling legislation, in separate legislation following the establishment of the park, or through a judicial process. They may expand park purpose or introduce elements unrelated to the purpose of the park. Administrative commitments are, in general, agreements that have been reached through formal, documented processes, often through memorandums of agreement. Examples include easements, rights-of-way, arrangements for emergency service responses, etc. Special mandates and administrative commitments can, in many cases, support a network of partnerships that help fulfill the objectives of the park and facilitate working relationships with other organizations. They are an essential component of managing and planning for Delaware Water Gap National Recreation Area.

For more information about the existing special mandates and administrative commitments for Delaware Water Gap National Recreation Area and the Middle Delaware National Scenic and Recreational River, please see appendix D.

Assessment of Planning and Data Needs

Once the core components of part 1 of the foundation document have been identified, it is important to gather and evaluate existing information about the park's fundamental and other important resources and values, and develop a full assessment of the park's planning and data needs. The assessment of planning and data needs section presents planning issues, the planning projects that will address these issues, and the associated information requirements for planning, such as resource inventories and data collection, including GIS data.

There are three sections in the assessment of planning and data needs:

1. analysis of fundamental and other important resources and values
2. identification of key issues and associated planning and data needs
3. identification of planning and data needs (including spatial mapping activities or GIS maps)

The analysis of fundamental and other important resources and values and identification of key issues leads up to and supports the identification of planning and data collection needs.

Analysis of Fundamental and Other Important Resources and Values

The fundamental and other important resource or value analysis table includes current conditions, potential threats and opportunities, planning and data needs, and selected laws and NPS policies related to management of the identified resource or value. Detailed analyses of fundamental and other important resources or values are provided in appendix A.

Identification of Key Issues and Associated Planning and Data Needs

This section considers key issues to be addressed in planning and management and therefore takes a broader view over the primary focus of part 1. A key issue focuses on a question that is important for a park. Key issues often raise questions regarding park purpose and significance and fundamental and other important resources and values. For example, a key issue may pertain to the potential for a fundamental or other important resource or value in a park to be detrimentally affected by discretionary management decisions. A key issue may also address crucial questions not directly related to purpose and significance, but still indirectly affects them. Usually, a key issue is one that a future planning effort or data collection needs to address and requires a decision by NPS managers.

The following are key issues for Delaware Water Gap National Recreation Area and the Middle Delaware National Scenic and Recreational River, and the associated planning and data needs to address them:

- **Lack of Funding and Staff.** Delaware Water Gap National Recreation Area covers nearly 70,000 acres; includes more than 700 structures, more than 200 miles of roads, 100 miles of trails, 100 impoundments, and a multitude of utility rights-of-way and other easements; and receives approximately 5.2 million visitors annually. Protecting resources, maintaining structures, and providing high-quality visitor experiences requires considerable investments of both time and money. Lack of funding and staff undermines the ability to implement mission critical plans and initiatives, to protect natural and cultural resources, and to provide for visitor safety. The assessment of planning and data needs reflects the staff's emphasis on sustainability and innovative ways to manage the park within existing budget and staffing levels.
- **Legislation and General Management Plan.** The park's enabling legislation is based on a recreation area that would surround a reservoir, and does not address the type of park in existence today. The current general management plan (GMP) for the park was developed in 1987 and sets a vision for the park to be everything for everyone. A high-level directional shift is needed to develop a more sustainable vision for the park. Updated legislation and a new general management plan were identified in the assessment of planning and data needs to provide this change in direction.
- **Park Identity and Community Relationships.** Park staff recognize the importance of cultivating relationships with local town and county officials. Establishing and maintaining regular lines of communication will improve the park's visibility within and importance to the community. Ideas on how to improve relationships and establish a stronger community presence ranged from enhancing signage to educational outreach in schools to a potential new visitor center. These ideas are described in the various planning and data needs identified in the assessment below.

Planning and Data Needs

To maintain connection to the core elements of the foundation and the importance of these core foundation elements, the planning and data needs listed here are directly related to protecting fundamental resources and values, park significance, and park purpose, as well as addressing key issues. To successfully undertake a planning effort, information from sources such as inventories, studies, research activities, and analyses may be required to provide adequate knowledge of park resources and visitor information. Such information sources have been identified as data needs. Geospatial mapping tasks and products are included in data needs.

Items considered of the utmost importance were identified as high priority, and other items identified, but not rising to the level of high priority, were listed as either medium- or low-priority needs. These priorities inform park management efforts to secure funding and support for planning projects.

Planning Needs – Where a Decision-making Process Is Needed

Related FRV/OIRV or Key Issue	Planning Need	Rationale	Priority (H, M, L)
Key Issue: Outdated General Management Plan	General management plan	This new general management plan would change the high-level direction of the park to provide a vision of sustainable park management in an era of decreasing budgets and higher visitor demand. This general management plan would be initiated following the completion of the visitor use management plan.	H
Sustainable Access to High-quality Recreation Opportunities	Visitor use management plan	This plan will include visitor use management planning for the entire park. The visitor use management component would assess all types of visitor activities in the park, determine what services and facilities need to be available to accommodate different types of use, and ensure that visitors are using the appropriate facilities for the corresponding use. Strategies for shifting use to the most appropriate locations, whether inside or outside park boundaries, would be included. A reservation system to limit use in certain locations would be considered, as would increasing fees in certain areas or charging fees in new areas. This plan would incorporate recommendations from the vehicle access point study as another method to manage use. The plan would include indicators and thresholds for monitoring and managing visitor impacts on resources and would establish visitor capacities, or the maximum amounts and types of visitor use that each area could accommodate while sustaining desired resource conditions and visitor experiences. The comprehensive understanding of visitor use throughout the park would also assist in setting visitor capacities for the river and feed into future planning such as a river management plan and/or general management plan.	H
The Middle Delaware National Scenic and Recreational River and Tributaries; Sustainable Access to High-quality Recreation Opportunities	River management plan	This plan would include goals for protecting river values, boundary delineation for the river, guidance for the development of lands and facilities, evaluation of water resources projects, in-stream flow, a monitoring strategy, and determination of visitor capacities. The river management plan could be an amendment to the current general management plan or part of a new GMP planning process. The capacity studies and visitor use strategies identified in the visitor use management plan would be used as the base for a river management plan.	H

Related FRV/OIRV or Key Issue	Planning Need	Rationale	Priority (H, M, L)
Sustainable Access to High-quality Recreation Opportunities; Stunning Scenic Resources and Distinct Aesthetic Values; Key Issue: Park Identity and Community Relationships	Identity strategy	This strategy would include several components, including a signage plan and design guidelines that set park-specific standards for installed infrastructure (e.g., head walls, tail walls, overlooks, etc.). The purpose of this strategy would be to provide a strong, clear NPS identity at key locations throughout the park.	H
All FRVs and OIRVs	Short-range interpretive plan	The short-range interpretive plan would be an implementation-level component that tiers from the long-range plan. The short-range interpretive plan would also further define the time period and interpretive stories found at Millbrook Village and Peters Valley in preparation for development concept plans at these areas.	H
Mosaic of Terrestrial and Wetland Habitats	Data management plan	This plan would develop a comprehensive strategy for the identification and management of datasets needed to measure baseline conditions and provide long-term monitoring of resources and impacts. Management considerations to be addressed in this plan include managing data generated by park staff and by outside researchers/agencies, ensuring that data being gathered are useful and relevant, providing for long-term storing and archiving of data, and allowing for incorporation of / compatibility with other databases, if needed. The database should be useful and accessible to internal and external staff and partners.	H
Landscape-Scale Habitat Connectivity; Sustainable Access to High-quality Recreation Opportunities	Land protection plan	The updated plan would identify particularly unique, fragile, or important cultural and natural resources within the administrative boundary of the park, and specific options for their long-term protection and preservation.	H
Evidence of Changing Land Use, Settlement Patterns, and Lifeways	Historic properties management plan	The park contains more than 100 historic structures that require ongoing maintenance and restoration. In an era of reduced budgets, many of these properties have, or are falling into a state of disrepair. The historic structures management plan is needed to identify a long-term strategy for each historic property, taking into consideration the limited funding available for restoration and maintenance. Potential strategies the plan may consider include removal, benign neglect, adaptive re-use, and establishing partnerships with nonprofit entities and concessioners.	H
Evidence of Changing Land Use, Settlement Patterns, and Lifeways	Millbrook Village development concept plan and facilities management master plan	The facilities management master plan would develop a condition assessment, facility priorities, and maintenance schedule/plan, as well as funding options and strategies for long-term maintenance of the facilities in the Millbrook Village district. This plan would build on the short- and long-range interpretive plans to identify the facilities and infrastructure needed to convey the interpretive themes and stories represented at the site.	H
Management Through Collaboration	Partner outreach expansion strategy	This strategy would identify and guide development of new partnership opportunities, including commercial services partners and volunteers. Outcomes would include additional partner-specific compliance and increased engagement on park planning efforts, with the goal of giving partners a more comprehensive view of park management.	H

Related FRV/OIRV or Key Issue	Planning Need	Rationale	Priority (H, M, L)
Mosaic of Terrestrial and Wetland Habitats	Resource stewardship strategy	This strategy presents reference conditions for natural and cultural resources as objective measurable indicators, develops target values for the selected indicators that represent reference conditions, and designs comprehensive strategies to achieve target values.	M
Key Issue: Community Relationships	Public outreach strategy	This strategy would develop a range of ways to increase public awareness of the park and increase civic engagement through techniques such as listening sessions.	M
Sustainable Access to High-quality Recreation Opportunities	Updated trails plan	This update to the existing trails plan would include direction based on current conditions such as the new McDade Trail location and changes in the suitability and sustainability of some other planned trails.	M
Mosaic of Terrestrial and Wetland Habitats; Sustainable Access to High-quality Recreation Opportunities; Stunning Scenic Resources and Distinct Aesthetic Values; Rich Archeological Heritage	Nonpersonal services plan	This plan would provide direction for the development or enhancement of waysides, bulletin boards, mobile apps, the park website, and other interpretive services that do not require interpretive staff. It would include additional educational tools that would be tailored to meet the needs of diverse audiences, and would better integrate the park's archeological collections into the exhibits. This plan may be developed in conjunction with the long-range interpretive plan, or it may be developed after that plan is completed. All nonpersonal services would comply with Americans with Disabilities Act / Architectural Barriers Act programmatic accessibility guidelines.	M
Evidence of Changing Land Use, Settlement Patterns, and Lifeways	Peters Valley development concept plan and facilities management master plan	The facilities management master plan would develop a condition assessment, facility priorities, and maintenance schedule/plan, as well as funding options and strategies for the long-term maintenance of the facilities in the Peters Valley historic district. This plan would build on the short- and long-range interpretive plans to identify the facilities and infrastructure needed to convey the interpretive themes and stories represented at the site.	M
The Middle Delaware National Scenic and Recreational River and Tributaries	Dam management plan for tributaries	The park contains more than 100 water impoundments of various sizes and design. While these dams served an important purpose for early settlers, they diminish the ecological health of stream systems in the park. This plan would provide compliance for dam removal and outline best management practices for all the impoundments within the park.	M
The Middle Delaware National Scenic and Recreational River and Tributaries	Fisheries management plan	This plan, which would include the mainstem of the Delaware River along with its tributaries and ponds, would ensure that the existing management of fisheries are consistent with NPS standards.	M
Evidence of Changing Land Use, Settlement Patterns, and Lifeways	Updated collections management plan	This updated plan would identify the park's preferred strategies for the care of collections with concern for their long-term physical well-being and safety. The plan would also address deaccessioning and considerations for what items should be collected and preserved.	M
Stunning Scenic Resources and Distinct Aesthetic Values	Viewshed management plan	This plan would use the results of the scenic overlook study/ viewshed analysis to better maintain key vistas throughout the park, such as views of the Delaware Water Gap. The plan would include strategies for working with local communities for viewshed preservation both inside and outside of the park.	M
Stunning Scenic Resources and Distinct Aesthetic Values	Corridor management plan	This management plan would be developed to designate a scenic byway along U.S. Route 209 and River Road in Pennsylvania, and Old Mine Road and NPS 615 in New Jersey.	M

Related FRV/OIRV or Key Issue	Planning Need	Rationale	Priority (H, M, L)
Sustainable Access to High-quality Recreation Opportunities	Accessibility transition plan	This plan would guide phased developments and maintenance efforts to address all instances in which the park is not in compliance with physical and programmatic accessibility standards and guidelines for people with disabilities.	M
Key Issue: Park Identity and Community Relationships	Development concept plan for a new LEED visitor center and headquarters	This plan would explore prominent locations within the park and state-of-the-art designs for Platinum LEED-certified visitor center and headquarters. This would support the identity strategy by establishing strong NPS branding within the park.	M
Landscape-Scale Habitat Connectivity	Conservation plan	The conservation plan would be developed collaboratively with surrounding states, counties, and townships to promote landscape-scale connectivity via open space plans and development zoning. The plan would promote protection of outstanding waters and scenic vistas, not only in the context of their national significance but also for the local quality of life.	M
Evidence of Changing Land Use, Settlement Patterns, and Lifeways	Development concept plan for a regional museum and archive	This plan would explore alternatives for the development of a multipurpose structure that would serve as a museum, learning center for school groups and families, and an archive, all related to the region's cultural and natural history. This might be included as part of the new visitor center, or may be a separate endeavor.	M
Mosaic of Terrestrial and Wetland Habitats	Climate change scenario plan	Scenario planning uses models and available data to explore different "what if" scenarios for a range of reasonably possible outcomes of climate change and the resulting impacts on park resources such as brook trout. This type of planning allows park managers to develop strategies that are flexible enough to address each possibility.	L
Striking Geological Features	Monitoring and protection plan for sensitive paleontological resources	The paleontological resources at the park are some of the least understood and explored resources. A paleontological resource study and monitoring plan would help the park better understand and protect these resources	L
Evidence of Changing Land Use, Settlement Patterns, and Lifeways	Walpack Village development concept plan	This plan would be developed in conjunction with the Walpack Historical Society and would build on the short- and long-range interpretive plans to identify the facilities and infrastructure needed to convey the interpretive themes and stories represented at the site.	L
Striking Geologic Features	Vulnerability assessment and plan	This assessment would identify the current conditions and vulnerabilities of infrastructure and create a plan for improvement, replacement, stabilization, removal, etc., to protect natural resources from concerns such as elevation and flooding potential.	L

Data Needs: Where Information Is Needed Before Decisions Can Be Made

Related FRV / OIRV or Key Issue	Data Need	Rationale	Priority (H, M, L)
Mosaic of Terrestrial and Wetland Habitats; Sustainable Access to High-quality Recreation Opportunities	Visitor capacity study	This study would analyze the current amounts and types of visitor use that each area accommodates, as well as the current resource and visitor experience conditions for each area. This would support the visitor use management plan.	H
Sustainable Access to High-quality Recreation Opportunities	Vehicle access point study	This comprehensive survey of all vehicle access points would identify current conditions and use types and levels of each access point. This study would support the visitor use management plan by providing the data necessary to make decisions about which access points to rehab, leave, or close/remove to maximize sustainability and public health and safety.	H
Sustainable Access to High-quality Recreation Opportunities	Visitor survey	This survey would gather data to better understand visitor use characteristics, including visitor activities, use of facilities, and desired experiences. The survey would cover all areas of the park, not just the river. This study would support the visitor use management plan.	H
Sustainable Access to High-quality Recreation Opportunities; Key Issue: Park Identity and Community Relationships	Updated signage data collection	This comprehensive study would photograph and document with GPS coordinates all signs within the park to understand signage locations, conditions, and needs. This study would support the identity strategy.	H
Sustainable Access to High-quality Recreation Opportunities	Improved visitor counting methodology	This methodology would allow park staff to better track and monitor the locations and activities of visitors to support the visitor use management plan.	H
Sustainable Access to High-quality Recreation Opportunities	Accessibility assessment	This comprehensive assessment would identify all instances in which the park is not in compliance with physical and programmatic accessibility standards and guidelines for people with disabilities. This assessment is needed for legal compliance and would support an accessibility transition plan.	H
Management Through Collaboration	Agreement management	This effort would consolidate into one place all agreements the park has to allow for more accurate and efficient monitoring, enforcement, and auditing. This would support the partner outreach expansion strategy.	H
Stunning Scenic Resources and Distinct Aesthetic Values	Viewshed analysis study	This study would inventory the overlooks and viewsheds within the park, identify their current conditions, and inform the viewshed management plan.	H
Sustainable Access to High-quality Recreation Opportunities	Updated comprehensive trails assessment and monitoring program	Providing a high-quality trail network with a variety of trail experiences and recreational uses is a high priority for the park. This comprehensive study would map all trails within the park, monitor the type and level of use they receive, assess trail conditions, and identify potential locations for development of new, sustainable trails. This study would be conducted in tandem with the updated trails plan and would use the outcomes of the visitor use management plan. Continued monitoring of the trails network would help identify use patterns and resource impacts from trail use and would enhance the park staff's ability to keep up with ongoing maintenance concerns.	H

Related FRV / OIRV or Key Issue	Data Need	Rationale	Priority (H, M, L)
Sustainable Access to High-quality Recreation Opportunities	River campsite monitoring	River camping is one of the most popular and unique experiences in the region; however, the riparian corridor is also one of the most sensitive resources. An ongoing monitoring program of the campsite conditions would help determine the use of the campsites and their impact(s) on the surrounding sensitive natural and cultural resources.	H
Evidence of Changing Land Use, Settlement Patterns, and Lifeways	Historic structures reports	Historic structures reports would be completed to fill in the gaps for all properties on the List of Classified Structures and/or included in the historic properties management plan.	H
Mosaic of Terrestrial and Wetland Habitats	Water quality monitoring program	This program would build on existing water quality monitoring in some streams and would expand the monitoring to comprehensively include all the streams, tributaries, ponds, and wetlands. This program would support the river management plan, the fisheries management plan, and the climate change scenario plan.	M
Sustainable Access to High-quality Recreation Opportunities; Mosaic of Terrestrial and Wetland Habitats	Hunting use study	This study, which may include a survey of hunters and/or more detailed monitoring of hunting activities, would seek to better understand the types of hunters that use the park, how many hunters use the park, how hunting use varies by season, and desired experiences. This study would support the visitor use management plan.	M
Rich Archeological Heritage	Catalog collections	The park is currently in line to receive funding in Fiscal Year 2016 for backlog cataloguing of archeological collections. This would support the paleontological resources monitoring plan and the updated collections management plan.	M
Rich Archeological Heritage	Comprehensive archeological survey	This parkwide survey would include National Register of Historic Places eligibility assessments of historic sites for criterion D. This would support the historic properties management plan.	M
Rich Archeological Heritage	National historic landmark eligibility study	This comprehensive study would identify additional sites within the park and other protected lands that are eligible for national historic landmark designation. This study would also inform the historic properties management plan and future national historic landmark nominations.	M
Evidence of Changing Land Use, Settlement Patterns, and Lifeways	Update nominations to the National Register of Historic Places	This effort would update the nomination documentation for Cliff Park, Old Mine Road, Marie Zimmerman, and Ramirez Solar House. This would support the historic properties management plan.	M
Management Through Collaboration	Law enforcement statistics database	This database would be developed to obtain and track statistics from other law enforcement agencies (local, state, federal) for crimes such as poaching, etc.	M
Stunning Scenic Resources and Distinct Aesthetic Values	Soundscape monitoring	This monitoring program would gather reliable data about the park's existing acoustical environment, such as what natural and cultural sounds can be heard at the park; what types of human-caused noises can be heard; where, when, and how often are they heard; and how loud the sounds are. The information gathered could be used to identify the potential impacts of unnatural sounds and proposed developments or actions that may affect the acoustical environment, and would support the visitor use management plan.	M

Related FRV / OIRV or Key Issue	Data Need	Rationale	Priority (H, M, L)
Stunning Scenic Resources and Distinct Aesthetic Values	Feasibility study for increased use of fire management	This study would determine if fire is a feasible tool to manage open space within the park for scenic vistas. This would inform park operations.	M
Stunning Scenic Resources and Distinct Aesthetic Values	National natural landmark nomination	This effort would gather all necessary documentation and data to nominate the Delaware Water Gap, Kittatinny Ridge, and the Pocono Plateau as national natural landmarks.	M
The Middle Delaware National Scenic and Recreational River and Tributaries	Fisheries use study	Quantitative data are needed to document how many people are fishing; where they are fishing; what they are fishing for; and what fish they are actually harvesting (as opposed to catch-and-release). These data will determine whether consumptive fishing is impacting fish populations and if so, to what degree. This study would include not just the Delaware River, but also the streams, lakes, ponds, and impoundments in the park. This study, in conjunction with the fish stocking study (see below) would support the fisheries management plan.	M
The Middle Delaware National Scenic and Recreational River and Tributaries	Down-scale climate change model data	Down-scaled climate change data provide information about the severity and kinds of climate change (precipitation, temperature) park resources are likely to be exposed to, which is required to determine their vulnerability. These data would support the vulnerability assessment and plan.	M
Sustainable Access to High-quality Recreation Opportunities	Alternative transportation feasibility study	Plan establishes goals and management strategies for managing transportation related issues to manage use, visitor experience, and protect resources. The plan will also address how to manage changing conditions such as climate change, sustainable operations, and ensuring access and safety.	M
Stunning Scenic Resources and Distinct Aesthetic Values	Night skies survey	This survey would provide information about existing night sky quality and the departure from natural conditions, and would identify what is causing any degradation. This study would establish a baseline and become the foundation for monitoring programs to detect long-term changes.	L
Landscape-Scale Habitat Connectivity	Boundary survey	The park has a growing number of issues related to land ownership. In the past several decades utility and road projects have brought the park boundary line in question. Each year private landowners, many without knowledge, encroach on park land. Without funding to order surveys, many of these boundary discrepancies go unresolved. A survey of the park would establish land ownership on the ground with permanent monuments in place for contractors, private land owners, and utility companies to determine an allowable distance for planning projects.	L
The Middle Delaware National Scenic and Recreational River and Tributaries	Fish stocking study	This study would examine the history and trends of state fish stocking and harvesting in the Delaware River and its tributaries. This study, along with the fisheries use study (see above), would support the fisheries management plan.	L

Related FRV / OIRV or Key Issue	Data Need	Rationale	Priority (H, M, L)
Sustainable Access to High-quality Recreation Opportunities	Wilderness suitability study	This study would assess lands within the park to determine if any areas are eligible for wilderness designation based on the Wilderness Act and NPS Management Policies 2006. This study is needed to meet the legal requirement.	L
Striking Geological Features	Geohazard monitoring	This monitoring program would seek to understand how geohazards are impacting park infrastructure. This would inform management actions.	L
Stunning Scenic Resources and Distinct Aesthetic Values	Air quality monitoring	Monitoring of air quality parameters and air quality-related values. This may include special studies to examine pollution dose-response relationships in sensitive park ecosystems.	L
Evidence of Changing Land Use, Settlement Patterns, and Lifeways	Cultural landscape reports for historic sites throughout the park	A comprehensive review is necessary to identify the priority landscapes that are in need of cultural landscape reports. These reports would be the primary guides to treatment and use of key cultural landscapes, such as Old Mine Road.	L
Striking Geological Features	Paleontological study	The paleontological study would be a review of the work done in the 1960s by David Parris, to improve on the digital data and update information regarding the paleontological resources throughout the park. This study would support the monitoring and protection plan for sensitive paleontological resources	L

Part 3: Contributors

Delaware Water Gap National Recreation Area

John J. Donahue, Superintendent

Bill Leonard, Deputy Superintendent

Leslie Morlock, Chief of Strategic Planning and Project Management (Acting)

Carla Beasley, Chief of Interpretation, Education and Partnerships

Kara Deutsch, Chief of Resource Management and Science

Eric Lisnik, Chief of Visitor Management and Resource Protection

Andrew Olexson, Chief of Maintenance (Acting) / Facility Manager, Buildings and Utilities

Chiara Palazzolo, Project Manager

Kathleen Sandt, Management Assistant (Acting) / Interpretive Park Ranger

William Tagye, Facility Manager, Roads and Trails, Maintenance Division

Jon Mee, Engineering Equipment Operator

Susan Powell, Facility Management Specialist

Brinnen Carter, Cultural Resource Manager

Lori Rohrer, Museum Technician

Michael Croll, Law Enforcement Park Ranger, Visitor Management & Resource Protection

Michael Glore, Supervisory Interpretive Park Ranger

Allan Ambler, Biologist

Richard Evans, Ecologist

Northeast Region

Allen Cooper, Chief of Park Planning and Special Studies

Kristina Heister, Chief of Natural Resources

Charles Barscz, Wild and Scenic River Manager

WASO Park Planning and Special Studies

Nancy Shock, Foundations Coordinator

Pam Holtman, Program Analyst

Cliff McCreedy, Program Analyst (Detail)

Denver Service Center – Planning Division

Jordan Hoaglund, Project Manager

Nancy Doucette, Visitor Use Management Specialist

Tatiana Márquez, Natural Resource Specialist

Appendixes

Appendix A: Fundamental and Other Resources and Values Analysis Tables for Delaware Water Gap National Recreation Area and Middle Delaware National Scenic and Recreational River

Fundamental Resource or Value	The Middle Delaware National Scenic and Recreation River and Tributaries
Related Significance Statements	• The Middle Delaware National Scenic and Recreational River and its tributaries are a defining attribute of Delaware Water Gap National Recreation Area. A combination of exceptionally high water quality, fully functioning floodplains, excellent aquatic and riparian habitats, and the absence of dams on the main stem gives rise to a diverse array of species and a productive, complex food web with strong ecological integrity. As an integral part of the entire Delaware River system, this section of the river provides a migration corridor, critical habitat, and a stronghold for native migratory fish species such as American shad and American eel. In addition, the high-quality water of the main stem river provides additional beneficial habitat and a movement corridor for fish species that primarily inhabit tributaries such as native brook trout and at least 52 other species of fish. Miles of mostly undisturbed shoreline, high-quality water, and natural landscapes create opportunities for an exceptional visitor experience.
Current Conditions	• Upstream reservoirs used for water supply and hydroelectric generation modify the flow of the river significantly. Small impoundments on tributaries within and outside of the park boundaries elevate the summer temperatures of many streams in the park. • The water quality of the main stem river and most of the tributaries is excellent. • There is limited information on streams and other aquatic resources, particularly small streams, ponds, and lakes. Most monitoring has focused on the Delaware River with some extension into larger streams. The majority of monitoring activities is in cooperation with and funded by the Delaware River Basin Commission, with a focus on establishing baseline conditions for Special Protection Waters regulations.
Trends	• There has been a trend of increasing specific conductivity in the river. • Since 2004 there have been a highly unusual number of extreme river and tributary floods. • Hemlock trees have been dying and falling into streams, and stream banks have been eroding and failing, causing increased sedimentation and destabilizing stream channels. • Nonnative brown trout have been increasingly displacing native brook trout in many of the tributaries.
Threats	• Anthropogenic management of river flows are impacting the natural flow regimes. River flows are controlled by dam releases. • Future water withdrawals as water becomes scarce. The decision-making process for the flow and water quality of the river is outside the park's control. • Point and nonpoint water discharges/pollution that includes stormwater and agricultural runoff. • Infrastructure development, including roads and upstream development, increases impervious surfaces, which alter natural water cycles. • Climate change that impacts the hydrological cycle, including the amount and intensity of precipitation. • Loss of hemlock and riparian buffers around tributaries.

Fundamental Resource or Value	The Middle Delaware National Scenic and Recreation River and Tributaries
Threats *(Continued)*	• Climate change is expected to change the form (e.g., rain vs. snow), amount, timing, and intensity of precipitation, resulting in increased floods and droughts, which will affect aquatic biota. • The many small impoundments on tributaries makes the streams more sensitive to air temperature increases. • Increased land disturbance and impervious surfaces from infrastructure development is likely to also increase floods and droughts and increase water pollution from run-off. • Increased human population is likely to lead to increased septic and sewage and increased nitrogen and phosphorous input to the streams and river, and increased surface and ground water salinity and conductivity, altering stream ecology. • Environmental changes threaten to diminish native brook trout populations in the park. • Nonnative Northern snakehead fish are present in the lower Delaware River and likely to spread upstream to the Middle Delaware and tributaries. • Nonnative emerald ash borer is likely to infest and kill most of the riparian ash trees in the park, leading to further stream bank failure, sedimentation, and destabilization.
Opportunities	• Improve management of river flows through collaboration with reservoir managers. • Improve riparian buffers in the agricultural areas and developed areas adjacent to riparian buffers. • Remove some dams, or divert water around some dams to maintain colder water for brook trout. • Identify park roads construction standards / best practices for road and bridge reconstruction to protect the streams and rivers. Generally, the development of more sustainable infrastructure. • Remove excess infrastructure from floodplain. For example, the three bridges at Flat Brook. • Continue relationship with Common Waters. • Pursue the national water trail river designation with Upper Delaware Scenic and Recreational River and Lower Delaware National Wild and Scenic River. • Continue and expand or improve working relationships with relevant organizations, e.g., the Delaware River Basin Commission, The Nature Conservancy - Delaware River Basin Conservation Initiative, the Delaware River Basin Fish and Wildlife Management Cooperative, New Jersey and Pennsylvania fish and wildlife management agencies, the U.S. Geological Survey (Biological Resources Disipline), etc. • Identify key/core ways to interpret the Middle Delaware River values.
Existing Data and Plans Related to the FRV	• The partnership framework provided by Common Waters. • Water quality monitoring data from the NPS-DRBC Water Quality Monitoring Program. • Fisheries data from New Jersey and Pennsylvania agencies and the Delaware River Basin Fish and Wildlife Management Cooperative. • Data from numerous U.S. Geological Survey research projects (tributary water chemistry, river vegetation, mussels, brook trout, hemlock vs. hardwood streams, etc.). • The DRBC Special Protection Waters Regulations.
Data and/or GIS Needs	• Fish stocking study. • Fisheries use study. • Down-scaled climate change model data.

Fundamental Resource or Value	The Middle Delaware National Scenic and Recreation River and Tributaries
Planning Needs	• River management plan. • Dam management plan for tributaries. • Fisheries management plan. • Short-range interpretive plan.
Laws and Policies That Apply to the FRV, and NPS Policy-level Guidance	**Laws and Policies That Apply to the FRV** • Wild and Scenic Rivers Act (1968) • Clean Water Act • Executive Order 11514: "Protection and Enhancement of Environmental Quality" • Executive Order 11988: "Floodplain Management" • National Invasive Species Act • Federal Noxious Weed Act of 1974, as amended • Clean Air Act (42 USC 7401 et seq.) • Executive Order 13112, "Invasive Species" • Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources" **NPS Policy-level Guidance** • NPS *Management Policies 2006* (4.3.4) • Director's Order 77-2: *Floodplain Management* • Special Directive 93-4 "Floodplain Management, Revised Guidelines for National Park Service Floodplain Compliance" (1993) • National Flood Insurance Program (44 CFR 60) • NPS *Natural Resource Management Reference Manual 77*

Fundamental Resource or Value	Evidence of Changing Land Use, Settlement Patterns, and Lifeways
Related Significance Statements	• Expansion into the Middle Delaware valley between 1650 and 1750 by Dutch and English settlers gave rise to construction of one of the oldest commercial roadways in the northeastern United States, a portion of which is preserved as the Old Mine Road Historic District. Evidence of agriculture, water-powered mills, Delaware River based resorts, and numerous other cultural resources across the landscape preserve evidence of changing land use, settlement patterns, and lifeways throughout the area.
Current Conditions	• Most historic structures are in fair to poor condition. • Most historic structures have high deferred maintenance costs. • Most historic structures are continuing to deteriorate.
Trends	• Some historic districts are maintained by partners.
Threats	• Some partners do work on historic structures and/or in historic districts without notifying or consulting with staff, so conditions are not recorded and historic integrity can be lost. • Looting, such as taking stones and other building components, damages the historic integrity. • Arson is always a risk to the historic structures. • Lack of funding prevents park staff from providing a level of maintenance that would protect the structures. • Deferred maintenance for all infrastructure throughout the park continues to grow, limiting the financial and personnel resources available for historic structures.
Opportunities	• Invest mitigation money from the transmission line right-of-way project to protect cultural resources. • Increase interpretation and curriculum-based education related to these cultural resources. • Investigate the possibility of using historic structures as rentals or short-term leases. • Provide virtual interpretive tours of facilities that are closed to the public. • Provide interpretive publications for cultural resources. • Provide interpretive tours that connect time periods, activities, and/or concepts. • Interpret the old hunting and fishing club. • Increase interpretation of pre-Revolutionary War sites, such as through first person costumed interpretation. • Work with the Appalachian Mountain Club to expand operations to include Camp Ken-Etiwa-Pec. • Interpret the grassroots activism in the park's history. • Have nonsupervisory maintenance employees participate in the Preservation and Skills Training Program to be able to better preserve and maintain NPS historic structures and archeological resources.
Existing Data and Plans Related to the FRV	Park staff maintain a database that includes more than 150 plans and reports related to cultural resources. Notable sources include: • Park asset management plan. • Historic structure reports. • Cultural landscape reports. • List of Classified Structures. • National Register of Historic Places nominations. • Oral histories about the activism that helped prevent the dam. • Historic and current aerial photos and current GIS data that document the land use patterns and changes.
Data and/or GIS Needs	• Update nominations to the National Register of Historic Places. • Cultural landscape reports. • Historic structures reports.

Fundamental Resource or Value	Evidence of Changing Land Use, Settlement Patterns, and Lifeways
Planning Needs	• Historic properties management plan. • Millbrook Village development concept plan. • Updated collections management plan. • Walpack Village development concept plan. • Peters Valley development concept plan and facilities management master plan. • Short-range interpretive plan. • Development concept plan for a regional museum and archive.
Laws and Policies That Apply to the FRV, and NPS Policy-level Guidance	**Laws and Policies That Apply to the FRV** • The Antiquities Act of 1906 • Historic Sites, Buildings, and Antiquities Act of 1935 • National Historic Preservation Act of 1966, as amended (16 USC 470) • American Indian Religious Freedom Act of 1978 • Archaeological Resources Protection Act of 1979 • Native American Graves Protection and Repatriation Act of 1990 • Executive Order 11593, "Protection and Enhancement of the Cultural Environment" • Executive Order 13007, "Indian Sacred Sites" • Executive Order 13287, "Preserve America" • 36 CFR 79 "Curation of Archeological Collections" • 36 CFR 800 "Protection of Historic Properties" **NPS Policy-level Guidance** • NPS *Management Policies 2006* (chapter 5) • Director's Order 28: *Cultural Resource Management* (1998) • Director's Order 28A: *Archeology* (2004) • Director's Order 38: *Real Property Leasing* • Director's Order 42: *Accessibility for Visitors with Disabilities in National Park Service Programs and Services* • Director's Order 50C: *Public Risk Management Program* • Director's Order 58: *Structural Fire Management* • Director's Order 80: *Real Property Asset Management*

Fundamental Resource or Value	Rich Archeological Heritage
Related Significance Statements	• Delaware Water Gap National Recreation Area has nearly 500 documented American Indian archeological sites, of which more than 100 are currently considered eligible for inclusion in the National Register of Historic Places. This complex of American Indian sites is the best preserved in the northeastern United States, making it a high-value research area for archeologists and geoarcheologists to study the rich archeological heritage of the park.
Current Conditions	• The archeological collection is well documented and well preserved. • The archeological collection is held in multiple locations, which makes it vulnerable to threats. • The archeological sites are generally in good or fair condition. • The archeological sites in farm fields are being minimally impacted by current agricultural practices; however, best management practices such as no-till agriculture, are being used in most fields to minimize these impacts. • Many areas of the park do not have completed archeological surveys. Therefore, there are potentially many unknown archeological sites throughout the park.
Trends	• There is an increase in nonpermitted digging and looting.
Threats	• Soil disturbance without consultation with archeology expertise.
Opportunities	• Work with academic institutions to conduct additional archeological research. • Use interpretation to help visitors understand the relevance of archeological resources. • Have nonsupervisory maintenance employees participate in the Preservation and Skills Training Program to be able to better preserve and maintain NPS historic structures and archeological resources. • Partner with the Earthwatch Institute to fund archeological research. • Develop interpretive materials on American Indian paths and transportation routes to and from the Minisink Archeological Site National Historic Landmark that are compatible with 4th grade curriculum. • Revise simulated archeological digs.
Existing Data and Plans Related to the FRV	Park staff maintain a database that includes more than 240 reports and plans related to archeological resources. Notable sources include: • Predictive modeling reports – multiple sites (1992–1996). • Pedological and geomorphological reports – (1990–2004). • Physical security management plan (2012). • Collections management plan (1996).
Data and/or GIS Needs	• Catalog collections. • Comprehensive archeological survey. • National historic landmark eligibility study.
Planning Needs	• Nonpersonal services plan. • Short-range interpretive plan.

Fundamental Resource or Value	Rich Archeological Heritage
Laws and Policies That Apply to the FRV, and NPS Policy-level Guidance	**Laws and Policies That Apply to the FRV** • The Antiquities Act of 1906 • Historic Sites, Buildings, and Antiquities Act of 1935 • National Historic Preservation Act of 1966, as amended (16 USC 470) • American Indian Religious Freedom Act of 1978 • Archaeological Resources Protection Act of 1979 • Native American Graves Protection and Repatriation Act of 1990 • Executive Order 11593, "Protection and Enhancement of the Cultural Environment" • Executive Order 13007, "Indian Sacred Sites" • 36 *Code of Federal Regulations (CFR) 79 "Curation of Archeological Collections"* • 36 CFR 800 "Protection of Historic Properties" **NPS Policy-level Guidance** • NPS *Management Policies 2006* (chapter 5) • Director's Order 28: *Cultural Resource Management* (1998) • Director's Order 28A: *Archeology* (2004)

Fundamental Resource and Value	Mosaic of Terrestrial and Wetland Habitats
Related Significance Statements	• The varied topography, geology, hydrology, and land use history of the park gives rise to a rich mosaic of terrestrial and wetland habitats within the park. Large unbroken tracts of forest dominated by native oaks, hickories, and pines extend along the upper elevations of the Kittatinny Ridge and Pocono Plateau. Forests dominated by various mixtures of eastern hemlock, white pine, maple, birch, ash, sycamore, and other native hardwoods predominate throughout the mid- to lower elevations. Interspersed within the dominant forests are distinct areas of dry cactus barrens, talus slopes, various grasslands and shrub lands, acidic and calcareous wetlands, ephemeral ponds, riparian zones, and floodplains. This mosaic of connected terrestrial and wetland habitats supports a high diversity of native species of birds, mammals, reptiles, amphibians, and invertebrates, including numerous rare, threatened, and endangered species. The large tracts of undisturbed forests, wetlands, riparian zones, and floodplains reduce flood damage downstream of the park.
Current Conditions	• Infestations of hemlock woolly adelgid have resulted in mortality of approximately 35% of the hemlock trees in the park over the past ~20 years. • The decline of hemlock trees, periodic infestations of gypsy moth, and high density of deer has increased the spread of invasive nonnative plants, which are now prevalent in many areas. • Deer browse has also caused a lack of forest tree regeneration. • Major nonnative plants in forested areas include Japanese barberry, Japanese stiltgrass, garlic mustard, multiflora rose, and tree of heaven (Ailanthus altissima). • Nonnative invasive plants that have impacted riparian and wetland areas include purple loosestrife and Japanese knotweed. • Vegetation near river campsites has been trampled and destroyed by visitors, and most downed wood has been removed for use as firewood, increasing the use of live trees as firewood.
Trends	• Visitors are expanding into natural areas, thus impacting wildlife habitat. • There has been an increase in invasive, nonnative plants, insects, and diseases in the park, which includes white nose syndrome in bats. • There has been a decline and mortality of trees and forests, especially eastern hemlock. • There has been a significant loss of adjacent habitat for wildlife due to development in adjacent properties. • Adjacent development along streams increases streamflows and increases damages within the park. • The increased frequency and intensity of extreme precipitation events is redefining stream channel morphology and increasing the design flood flows for infrastructure protection and replacement. • Failing roads or improperly sized or planned infracture (e.g., culverts and bridges) have contributed to erosion of streambanks, along roadways, and on trails. • Hemlock forests are being replaced by hardwood forests. • Oak regeneration has not been sufficient in many areas (in part due to intensive deer browse and lack of fire) whereas red maple regeneration is expanding, leading to succession from oak-type forests to more red maple forests. • Nonnative invasive plants are continuing to spread throughout most forested areas. • The number of users who are hunting within the park is not currently monitored.

Fundamental Resource and Value	Mosaic of Terrestrial and Wetland Habitats
Trends *(Continued)*	• Since the park was established, the acreage of formerly open areas in various stages of succession has greatly decreased as forests matured and former farmland was abandoned. This positively impacts some species such as bears, while negatively impacting the numbers and variety of species that rely on early successional habitats for their existence, including huntable species like ruffed grouse and woodcock. • There has been little active open space management in upland areas due to various constraints, resulting in more acres of more mature forest and fewer acres in a state of early succession. The park has been historically important as one of the few places in Northeastern Pennsylvania and Northwestern New Jersey that offers a significant amount of acreage open to upland bird hunting. • The forest understory historically was heavily browsed by deer in many areas, promoting the invasion of invasive nonnative vegetation and causing a shift in forest age structure and likely species composition. While to some extent deer numbers have been increasingly impacted by hunting regulations changes by Pennsylvania and New Jersey, and forest understory is responding, it remains unknown if this trend will continue. • Nationally and in general, while the number of hunters is up according to the U.S. Fish and Wildlife Service (USFWS), the trend from 2006 to 2011 in New Jersey shows an increase in hunters and Pennsylvania shows a decrease. Public lands such as the park typically have consistent public hunting pressure versus many private areas. It is important to repeat the study of more than 20 years ago and evaluate how the population of hunters has changed if at all from the 1989 study. In addition it is important to assess how the park is continuing to facilitate hunting recreation as directed in Executive Order 13443, "Facilitation of Hunting Heritage and Wildlife Conservation" (2007).
Threats	• There is the potential for unknown impacts on ecosystems from atmospheric deposition including sulfur. • Continued invasions of and impacts from existing and new nonnative insects, diseases, and plants. • Continued intensive deer browse reducing forest regeneration and altering the trajectory of plant succession. • Atmospheric deposition of excessive amounts of sulfur and nitrogen is leaching calcium from the soils and ecosystem. • Climate change, with increased droughts and severe storms, leading to increased tree damage and mortality. • Deteriorating road network in park limits access to sites and visitor experience.
Opportunities	• Help visitors/public understand the importance of having an intact ecosystem. • Increase collaborative culture between interpretive and resource management divisions for better understanding of resource conditions and threats, and how to communicate those to the public. • Make inventory and monitoring research more easily available to park staff and visitors.

Fundamental Resource and Value	Mosaic of Terrestrial and Wetland Habitats
Existing Data and Plans Related to the FRV	• Annual reports on hemlock forests and hemlock woolly adelgid. • Hemlock forest vegetation research publications (Eschtruth et al.). • Numerous reports from the Eastern Rivers & Mountains (I&M) Network, especially re: forest vegetation. • Numerous U.S. Forest Service data and reports, including Delaware River Basin Collaborative Environmental Monitoring and Research Initiative data and reports and annual gypsy moth defoliation reports. • Confronting Climate Change in the U.S. Northeast (Frumhoff et al. 2007). DRBC/NPS monitoring data are entered into the U.S. Environmental Protectiton Agency's Storet database. • The U.S. Geological Survey maintains data in their National Water Information System database. • NPS I&M Program data maintained by Eastern Rivers and Mountains Network. • Data from several surveys about fishing, hunting, and wildlife-associated recreation.
Data and/or GIS Needs	• Visitor capacity study. • Water quality monitoring program. • Hunting use study, including survey.
Planning Needs	• Resource stewardship strategy. • Data management plan. • Climate change scenario plan. • Short-range interpretive plan.
Laws and Policies That Apply to the FRV, and NPS Policy-level Guidance	**Laws and Policies That Apply to the FRV** • The Wild and Scenic Rivers Act • Endangered Species Act of 1973, as amended • National Invasive Species Act • Lacey Act, as amended • Federal Noxious Weed Act of 1974, as amended • Clean Water Act • Clean Air Act (42 USC 7401 et seq.) • Executive Order 13112, "Invasive Species" • Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources" **NPS Policy-level Guidance** • NPS *Management Policies 2006* (1.6, 4.1, 4.1.4, 4.4.1, 4.7.2) • NPS *Natural Resource Management Reference Manual 77*

Fundamental Resource and Value	Striking Geologic Features
Related Significance Statements	• The most iconic feature in the park is its namesake, the Delaware Water Gap. Other prominent geologic landforms include the Pocono Plateau, Kittatinny Ridge, and the S-shaped Rivers Bend. Other geologic features within the park include talus slopes, glacial features, cave and karst features, dramatic waterfalls, alluvial fans, and paleontological resources. These striking geological features define the park's landscape, influence its ecology, and shape historic patterns of human settlement.
Current Conditions	• The Delaware Water Gap is considered a "classic water gap," one that all other Appalachian gaps are compared to. It is about 1 mile wide and 1,240 feet deep. • The park is home to the tallest and second-tallest waterfalls in Pennsylvania, Dingmans Falls and Raymondskill Falls, respectively. • The "Taconic Unconformity," a regionally significant break in the stratigraphic record between Ordovician and Silurian rock, is within the park. • While typical karst features are found in a portion of the Middle Devonian Onondaga Formation, a 270-foot-thick limestone that outcrops on the northwest-facing slope of the Wallpack Ridge, limestone and dolomite outcrops parallel the Delaware River on the New Jersey side for about two-thirds the length of the park unit. While not widespread, surface karst features are diverse and include dozens of sinkholes, sinking streams, springs, and small caves. • The park preserves an important sequence of fossiliferous Ordovician, Silurian, and Devonian stratigraphic units. The vast majority of paleontological resources include Paleozoic marine invertebrates, along with some rare early fish (vertebrates) and plant material. Marine trace fossils are diverse and abundant in their occurrence in the park.
Trends	• Increased storm activity has caused an increase in slumping and erosion. • Slope movements impact features such as The Gap, waterfalls, and type sections.
Threats	• The installation of wire mesh to stop rockfall along the gap would impact the watershed and would involve removing some of the rock, as well as drilling into rock along I-80. • Infrastructure development in adjacent properties outside park boundaries impacts viewsheds of geologic features and the features themselves. • Unauthorized paleontological looting by fossil collectors. • Potential fracking outside park boundaries could impact scenery, water quality, soundscapes, night skies, and water quantity. • Roads and other infrastructure within the park destabilize the natural geology. • Destabilized stream channels from increased stormwater runoff caused by increased impervious surfaces. • Expansion of a high-powered transmission line in limestone and dolomite areas has the potential to impact and degrade cave and karst features.
Opportunities	• Gain better understanding of the park's paleontological resources. • Offer more interpretive programs that include geology. • More geological data and expertise would help manage this resource, especially adding a geologist to the staff. • Getting the Delaware Water Gap listed as a national natural landmark.
Existing Data and Plans Related to the FRV	• Geological resource inventory and mapping – in progress.
Data and/or GIS Needs	• Geohazard monitoring. • Paleontological study.

Fundamental Resource and Value	Striking Geologic Features
Planning Needs	• Monitoring and protection plan for sensitive paleontological resources. • Short-range interpretive plan. • Vulnerability assessment and plan.
Laws and Policies That Apply to the FRV, and NPS Policy-level Guidance	**Laws and Policies That Apply to the FRV** • Wild and Scenic Rivers Act • Clean Water Act • Executive Order 11514, "Protection and Enhancement of Environmental Quality" • Executive Order 11988, "Floodplain Management" • Executive Order 12088, "Federal Compliance with Pollution Control Standards" • National Flood Insurance Program (44 CFR 60) • Paleontological Resources Protection Act **NPS Policy-level Guidance** • NPS *Management Policies 2006* (4.6.1, 4.6.2, 4.6.4 and 4.8.1.1) • Director's Order 77-2: *Floodplain Management* • Special Directive 93-4 "Floodplain Management, Revised Guidelines for National Park Service Floodplain Compliance" (1993) • NPS *Natural Resource Management Reference Manual 77*

Fundamental Resource or Value	Sustainable Access to High-quality Recreation Opportunities
Related Significance Statements	• The river and surrounding landscape support a wide variety of opportunities to enjoy the natural and cultural resources of the park during all four seasons. High-quality outdoor recreational opportunities include canoeing, swimming, hiking, hunting, fishing, scenic driving, bird watching, and cross-country skiing. The remoteness found in some areas of the park offers the chance to experience solitude, while other areas provide social recreational settings.
Current Conditions	• A wide range of visitor activities are available within the park—the popularity of each varies by activity. • Kittatinny Point, Hialeah picnic area, VanCampen's Glen, and Child's Park are areas that are overused. • Impacts at overused areas include, but are not limited to, crowding, social trailing, denuding of vegetation, building bridges across streams, and a lot of garbage. • The park does not have a trails program staff. • Liveries operate under a commercial use authorization and are charged a fee for monitoring. • The park staff are not able to close facilities when they are full, and visitors often park on roadsides when the lots are full. • There is not enough staff at the park to effectively manage visitors.
Trends	• Use of the park is increasing. • Often, visitors do not realize they are in a national park and therefore they do not treat it as such. • Visitors want to integrate mobile apps into their park experiences. • Geocaching is a new activity that is becoming popular in the park. • There is a decreasing demand for guided/interpreted experiences with rangers. • There is a trend toward large group sizes (100+) using the park.
Threats	• The potential for cell tower development is a threat to the scenic viewsheds within the park that visitors enjoy while recreating. • There are no facilities large enough to handle large group sizes, which could result in visitor-caused impacts as groups spread outside designated areas. • Conflicts among visitor use groups threaten the quality of visitor experience. • An increase in the frequency and intensity of storm events makes it increasingly difficult to maintain facilities. • Increasing deferred maintenance and increasing vandalism threaten the sustainability of maintaining facilities. • Too few law enforcement rangers threatens the effectiveness of visitor use management. • Too few interpretive rangers prevent all visitors from receiving important educational information about how to recreate sustainably. • Some facilities are not being used for their intended purpose, e.g., many facilities are used as river access points even though that is not how they were designed; this threatens visitor safety and damages resources. • Visitor behavior, especially on the river, is often a threat to safety.

Fundamental Resource or Value	Sustainable Access to High-quality Recreation Opportunities
Opportunities	• Work with partners that are able to reach new audiences. • Get involved with "social media." • Educate children in schools about national parks and appropriate uses. • Reach out to urban audiences. • Find sustainable funding for programs that are initiated through grants. • Develop a park brochure to promote bicycle touring in areas of the park such as Old Mine Road. • Develop a trails program with full- and part-time trail staff and use members of the Volunteers in Parks program to complete trail maintenance.
Existing Data and Plans Related to the FRV	• River user survey (2010). • Trails plan (1997). • Experimental shuttle plan with Monroe County. • Park asset management plan (2013). • Audits for fire protection and physical security.
Data and/or GIS Needs	• Visitor capacity study. • Visitor survey. • Wilderness suitability study. • Updated signage data collection. • Hunting use study. • Improved visitor counting methodology. • Accessibility assessment. • Updated comprehensive trails assessment and monitoring program. • Vehicle access point study. • River campsite monitoring. • Alternative transportation feasibility study.
Planning Needs	• Visitor use management plan. • Short-range interpretive plan. • River management plan. • Land protection plan. • Nonpersonal services plan. • Identity strategy. • Accessibility transition plan. • Updated trails plan.

Fundamental Resource or Value	Sustainable Access to High-quality Recreation Opportunities
Laws and Policies That Apply to the FRV, and NPS Policy-level Guidance	**Laws and Policies That Apply to the FRV** • Americans with Disabilities Act / Architectural Barriers Act • Wild and Scenic Rivers Act • NPS Concessions Management Improvement Act of 1988 **NPS Policy-level Guidance** • NPS *Management Policies 2006* (chapters 2, 7, 8, 9, and 10) • Director's Order 6: *Interpretation and Education* • Director's Order 12: *Conservation Planning, Environmental Impact Analysis, and Decision-making* • Director's Order 17: *National Park Service Tourism* • Director's Order 42: *Accessibility for Visitors with Disabilities in National Park Service Programs and Services* • Director's Order 46: *Wild and Scenic Rivers* • Director's Order 48A: *Concession Management* • Director's Order 48B: *Commercial Use Authorizations* • Director's Order 50C: *Public Risk Management Program* • Director's Order 78: *Social Science* • Friends of Yosemite v. Kempthorne opinion 3/27/2008 (Merced WSR ruling) • American Whitewater v. USFS opinion 4/16/2013 (Chattooga WSR ruling)

Fundamental Resource or Value	Stunning Scenic Resources and Distinct Aesthetic Values
Related Significance Statements	• The Middle Delaware River is framed by the mountains of the Kittatinny Ridge in New Jersey and the cliffs of Pocono Plateau in Pennsylvania. The diverse floodplain includes islands, woodlands, tributary crossings, grassland, and agricultural fields. The adjoining landscape includes steep hemlock- and rhododendron-lined ravines and hardwood forests. Visitors are immersed in the forested and pastoral characters of the area by day and dark skies by night. The nuances of the changing seasons, such as spring wildflowers, summer greenery, fall foliage, and winter frost, provide a striking backdrop for visitors to enjoy the stunning scenic resources and striking aesthetic values.
Current Conditions	• Three overlooks on PA 611 need to be rebuilt and trimmed to maintain the vistas. • A few areas within the park have anecdotally been identified for their night skies such as the Walpack township. • There is graffiti at some of the waterfall sites. • Issues with traffic control and parking at Dingmans Falls result in impacts to the enjoyment of the scenery because of overcrowding. Interpretive staff often end up directing traffic. • Air Resources Division standards for visibility, ozone, and deposition are not met.
Trends	• Overlooks and potential vistas are not well defined and are often overgrown.
Threats	• Invasive species are impacting the trees in the hemlock ravines, which is impacting sight lines and the quality of the views. • Climate change is affecting the scenic qualities of the changing seasons. • The Susquehanna to Roseland transmission line and the proposed pipeline for Columbia Gas and Electric may severely diminish the scenic qualities of the respective areas that will be disturbed. • Traffic and model airplane sounds intrude on the soundscape of the Appalachian Trail, other hiking trails, and public use areas such as the beaches.
Opportunities	• Establish a scenic byway(s) along U.S. 209, Old Mine Road, and PA 611. • Consider using fire as a tool to manage open spaces. • Develop interpretive media for overlooks. • Develop a scenic driving guide for Old Mile Road. • A Portland to Gap Trail segment would improve the PA 611 corridor and provide multiuse recreation and scenic resources, bringing recreational opportunities by connecting communities to the park.
Existing Data and Plans Related to the FRV	• Greenhouse gases and carbon footprint studies from the Climate Friendly Parks workshop. • Trails assessment for Liberty to Water Gap Trail (New York City to Flight 93 National Memorial), with cost estimate from 2012. • Visual resource study from Susquehanna to Roseland transmission line environmental impact statement.
Data and/or GIS Needs	• Night skies survey. • Air quality monitoring. • Viewshed analysis study. • Soundscape monitoring. • Feasibility study for increased use of fire management. • National natural landmark nomination.

Fundamental Resource or Value	Stunning Scenic Resources and Distinct Aesthetic Values
Planning Needs	• Viewshed management plan. • Corridor management plan. • Identity strategy. • Short-range interpretive plan. • Nonpersonal services plan.
Laws and Policies That Apply to the FRV, and NPS Policy-level Guidance	**Laws and Policies That Apply to the FRV** • Wild and Scenic Rivers Act • State emissions controls • Clean Air Act of 1963, as amended (42 USC 7401 et seq.) **NPS Policy-level Guidance** • NPS *Management Policies 2006* (sections 1.4, 1.6, 3.1, 4.7) • NPS *Natural Resource Management Reference Manual 77* • Director's Order 47: Soundscape Preservation and Noise Management

Analysis of Other Important Resources and Values

Other Important Resource or Value	Landscape-Scale Habitat Connectivity
Related Significance Statements	• Delaware Water Gap National Recreation Area is the keystone of an extensive network of local, state, and federally protected natural landscapes that preserves and connects essential habitat for the sustained health and adaptability of plant and animal communities. Many populations of plants and animals are more stable and secure because they can inhabit an unfragmented landscape. The ecological integrity of the river and the park is dependent on the protected and managed landscapes in the 3,500-square-mile Delaware River watershed. Landscape-scale habitat connectivity is not only fundamental to present-day ecosystems, but also provides opportunities for climate change adaptation and sustainable natural communities into the future.
Current Conditions	• There are some existing habitat connections between patches of land; however, some of these lands are in state hands while others are privately owned. • There are good connections with protected (state) lands in New Jersey, whereas Pennsylvania is in private ownership. Potential corridors particularly in Pennsylvania are chopped up or surrounded by developments.
Trends	• Forest fragmentation is increasing within and adjacent to the park.
Threats	• Impervious surfaces are on the increase. There has been an increase in infrastructure including roads, pipelines, houses, gas, and oil. • Housing market and development pressure. • Increase of invasive species including emerald ash borer and hemlock woolly adelgid. • Proposed developments surrounding the park, primarily on the Pennsylvania side of the park, and especially in the areas where the park has limited lands.
Opportunities	• Preserving existing wildlife corridors and building more. • Work with developers to promote conservation conscious development and open space. • Development of additional recreation facilities within the corridor may take some pressure off park facilities and resources. • Land acquisition from powerline mitigation. • Work with land trusts, counties, and state to identify and protect lands and maintain protected corridors. This would also help to protect watershed corridors. Cherry National Wildlife Refuge is another good partner to work with on corridor protection. • Continue involvement with the USFWS Design Review Board Blueways Initiative. • Coordination with the National Fish and Wildlife Delaware River Basin Conservation Plan. • Work with Green Acres in New Jersey to help with land acquisition within the corridor. • Interpret the values and benefits of habitat connectivity.
Existing Data and Plans Related to the OIRV	• Park wildlife / green corridor maps. • Pike County open space plan. • Monroe County open space plan.
Data and/or GIS Needs	• Boundary survey.
Planning Needs	• Land protection plan. • Short-range interpretive plan. • Conservation plan.

Other Important Resource or Value	Landscape-Scale Habitat Connectivity
Laws and Policies That Apply to the OIRV, and NPS Policy-level Guidance	**Laws and Policies That Apply to the OIRV** • The Wild and Scenic Rivers Act • Endangered Species Act of 1973, as amended • National Invasive Species Act • Federal Noxious Weed Act of 1974, as amended • Clean Water Act • Clean Air Act (42 USC 7401 et seq.) • Executive Order 13112, "Invasive Species" • Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources" **NPS Policy-level Guidance** • NPS *Management Policies 2006* (1.6, 4.1, 4.1.4, 4.4.1, 4.7.2) • NPS *Natural Resource Management Reference Manual 77*

Other Important Resource or Value	Management Through Collaboration
Related Significance Statements	• Collaboration and cooperation with partners; volunteers; and state, local, and federal agencies, to achieve common goals allow all stakeholders to become better stewards of resources. Collaborative management of Delaware Water Gap National Recreation Area provides many essential services such as public safety, interpretation and education, and facility maintenance.
Current Conditions	• The park has 18 partners with formal partnership agreements. • Joint funding is available through partnerships. • Some partners occupy and maintain buildings that the park staff would not otherwise be able to maintain. • Some partners provide essential services such as interpretation and education and some associated maintenance.
Trends	• Most current partner organizations are not getting new members and current members are aging.
Threats	• The longevity of some of the partnership relationships is uncertain. • Some partner information is not getting into park databases or is not in a usable form (e.g., Facility Condition Index data).
Opportunities	• Find a partner to be a steward of Cliff Park and Childs Park. • Revive the Friends group, both parkwide and site-specific. • Work with Job Corps to get a group involved within the park. • Find partners to help maintain structures such as the Timber Framers Guild. • Work with vocational schools that teach trade skills such as masonry. • Increase youth and civic engagement through volunteer programs. • Provide service learning opportunities in which students learn curriculum through projects at the park. • Consolidate, monitor, and enforce partnership agreements. • Get technical assistance from NPS partnership and youth programs, such as an expansive list of NPS partners that are not park-specific (e.g. Student Conservation Association, Nature Conservancy, Cooperative Ecosystem Studies Unit, etc.); • Work with Eastern Federal Lands Highway on non-jurisdictional roads within the park to conduct outreach and coordination efforts with PennDOT, NJDOT, local towns, and Pike County Roads Taskforce.
Existing Data and Plans Related to the OIRV	• Partnership agreements. • General agreements. • Cooperative management agreements.
Data and/or GIS Needs	• Agreement management. • Law enforcement statistics database.
Planning Needs	• Partner outreach expansion strategy. • Short-range interpretive plan.

Other Important Resource or Value	Management Through Collaboration
Laws and Policies That Apply to the OIRV, and NPS Policy-level Guidance	**Laws and Policies That Apply to the OIRV** • National Park Service *Making Friends Handbook: An Introduction to Building NPS Friends Group* **NPS Policy-level Guidance** • Director's Order 7: *Volunteers in Parks* • Director's Order 20: *Agreements* • Director's Order 21: *Donations and Fundraising* • Director's Oder 26: *Youth Programs* • Director's Order 32: *Cooperating Associations* • Director's Order 52B: *Graphic Identity Framework for Partnerships* • Director's Order 53: *Special Park Uses* • Director's Oder 75A: *Civic Engagement and Public Involvement*

Appendix B: Enabling Legislation and Legislative Acts for Delaware Water Gap National Recreation Area and the Middle Delaware National Scenic and Recreational River

Legislation authorizing the establishment of Delaware Water Gap National Recreation Area, and the Middle Delaware National Scenic and Recreational River.

Public Law 89-158
89th Congress H.R. 89
September 1, 1965

An Act
To authorize establishment of the Delaware Water Gap National Recreation Area, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That in order to further the purposes of the joint resolution approved September 27, 1961 (re Delaware River Basin compact; 75 Stat. 688), and to provide in a manner coordinated with the other purposes of the Tocks Island Reservoir project, for public outdoor recreation use and enjoyment of the proposed Tocks Island Reservoir and lands adjacent thereto by the people of the United States and for preservation of the scenic, scientific and historic features contributing to public enjoyment of such lands and waters, the Secretary of the Interior is authorized, as herein provided, to establish and administer the Delaware Water Gap National Recreation Area, hereinafter referred to as the "area," as part of the Tocks Island Reservoir project, hereinafter referred to as "the project."

SEC. 2. (a) The Secretary of the Army is authorized and directed to acquire, by such means as he may deem to be in the public interest, and as a part of this acquisition of properties for the project, lands and interests therein within the boundaries of the area, as generally depicted on the drawing entitled "Proposed Tocks Island National Recreation Area" dated and numbered September 1962, NRATI- 7100, which drawing is on file in the Office of the National Park Service Department of the Interior. In acquiring these lands, the Secretary of the Army may utilize such statutory authorities as are available to him for the acquisition of project lands: *Provided,* That the Secretary of the Army shall acquire no lands or interests in land by exchange for lands or interests in land in Federal ownership unless the latter are in the States of Pennsylvania, New Jersey, or New York. Periodically, and as soon as practicable after such lands and interests within the area are acquired, the Secretary of the Army shall transfer jurisdiction thereover to the Secretary of the Interior for the purposes of this Act.

(b) Notwithstanding the provisions of subsection (a) of this section, the Secretary of the Interior is authorized, after consultation with appropriate public officials of the affected political subdivisions of the States of Pennsylvania or New Jersey, as the case may be, to designate not more than three hundred acres adjacent and contiguous to the Borough of Milford, Pennsylvania, and not more than one thousand acres in Sussex County, New Jersey, for omission from the Delaware Valley National Recreation Area and the lands so designated shall not be acquired, for said national recreation area under authority of this Act.

(c) The Secretary of the Interior shall investigate, study, and report to the President and the Congress on the feasibility and usefulness of I extending the boundaries of the Delaware Water Gap National Recreation Area to include, in whole or in part, that portion of Tocks Island Reservoir which lies upstream from the northern terminus of the national recreation area as shown on the map hereinbefore referred to and lands adjacent to said portion of said reservoir. No such extension of boundaries, however, shall be made until authorized by Act of Congress.

(d) The beneficial owner, not being a corporation, of a freehold interest acquired before January 1, 1965, in improved residential property within the area to be acquired by the Secretary of the Army under authority of this Act, the continued use of which property for noncommercial residential purposes for a limited time will not, in the judgment of the Secretary of the Interior, unduly interfere with the development of public-use facilities for the national recreation area and will not, in the judgment of the Secretary of the Army/unduly interfere with the operation of the Tocks Island Reservoir project, may retain a right of use and occupancy of such property for noncommercial residential purposes for, as said owner may elect, either (i) a period terminating upon his death or the death of his spouse, whichever occurs later, or (ii) a term of not more than twenty-five years: *Provided,* That in no case shall the period or term for which such right of use and occupancy is retained extend beyond the term of the freehold interest acquired by the United States. The price payable to the owner of such property shall be reduced by on amount equal to the value of the right retained. As used in this Act "improved residential property" means a single-family year-round dwelling, the construction of which was begun before January 21, 1963, which dwelling serves as the owner's permanent place of abode at the time of its acquisition by the United States, together with not more than three acres of land on which the dwelling and appurtenant buildings are located which land the Secretary of the Interior or the Secretary of the Army, as the case may be, finds is reasonably necessary for the owner's continued use and occupancy of the dwelling.

SEC. 3. (a) As soon as practicable after the date of enactment of this Act and following the transfer to the Secretary of the Interior by the Secretary of the Army of jurisdiction over those lands and interests therein within the boundary generally depicted on the drawing described in section 2 hereof which, in the opinion of the Secretary of the Interior, constitute an efficiently administrable unit, the Secretary of the Interior shall declare establishment of the area by publication of notice thereof in the Federal Register. Such notice shall contain detailed description of the boundaries of the area which shall encompass, to the extent practicable, the lands and waters shown on said drawing. Prior to such establishment, the Secretary of the Interior shall administer such transferred lands and waters, consistent with the construction of the project, for purposes in contemplation of the establishment of the area pursuant to this Act.

(b) The Secretary of the Interior may subsequently make adjustments in the boundary of the area by publication of the amended description thereof in the Federal Register and acquire, by such means us lie may deem to be in the public interest, including: an exchange of excluded for included lands or interests therein with or without the payment or receipt of money to equalize values, additional lands and interests therein included in the area by reason of the boundary adjustment: *Provided,* That. the area encompassed by such revised boundary shall not exceed the acreage included within the detailed boundary first described pursuant to this section.

(c) On lands acquired pursuant, to this Act for recreation purposes, the Secretary of the Army, with the concurrence of the Secretary of the Interior, may permit the continuance of existing uses consistent with the purposes of this Act.

SEC. 4. In the administration of the area for the purposes of this Act, the Secretary of the Interior may utilize such statutory authorities relating to areas of the national park system and such statutory authorities otherwise available to him for the conservation, management, or disposal of vegetative, mineral, or fish or wildlife resources as he deems appropriate to carry out the purposes of tills Act. To assure consistent and effective planning, development, and operation for all purposes of the project, the Secretary of the Interior and the Secretary of the Army shall coordinate the administration of their respective responsibilities in the project; and such administration shall be consistent with the joint resolution approved September 27, 1961 (re Delaware River Basin compact; 75 Stat. 688).

SEC. 5. In the administration of the area for the purposes of this Act the Secretary of the Interior, subject to provisions of section 4 hereof, shall adopt and implement, and may from time to time revise, a land and water use management plan, which shall include specific provision for, in order of priority—

1. public outdoor recreation benefits;
2. preservation of scenic, scientific, and historic features contributing to public enjoyment;
3. such utilization of natural resource as in the judgement of the Secretary of the Interior is consistent with, and does not significantly impair, public recreation and protection of scenic, scientific, and historic features contributing to public enjoyment.

SEC. 6. The Secretary of the Interior shall permit hunting and fishing on lands and waters under his jurisdiction within the area in accordance with the applicable laws and regulations of the States concerned and of the United States. The Secretary of the Interior may designate zones where, and establish periods when, no hunting shall be permitted for reasons of public safety, wildlife management, administration, or public use and enjoyment not compatible with hunting, and may, in his plan for the area, provide areas for intensive fish and wildlife management, including public hunting and fishing, and shall issue appropriate regulations after consultation with appropriate officials of the States concerned. The Secretary of the Interior shall encourage such officials to adopt uniform regulations applicable to the whole of the Delaware Water Gap National Recreation Area.

SEC. 7. Nothing in this Act shall be construed to deprive any State or political subdivision thereof, of its right to exercise civil and criminal jurisdiction over the lands and waters within the area or of its right to tax persons, corporations, franchises, or property on the lands and waters included in the area.

SEC. 8. There are hereby authorized to be appropriated to the Secretary of the Interior for the acquisition of lands and interests in land pursuant to the provisions of section 2 of this Act and for expenses incident thereto not more than $37,412,000 which moneys shall be transferred to the Secretary of the Army. There are also authorized to be appropriated not more than $18,200,000 for the cost of installing and constructing recreation facilities on the lands and interests in lands so acquired. The amounts herein authorized to be appropriated are supplemental to those authorized to be appropriated for the Tocks Island project and related facilities by the Flood Control Act of 1962 (76 Stat. ll82).

Approved September 1, 1965

Legislative History:

House Report No. 360 (Comm. on Interior & Insular Affairs)

Senate Report No. 598 (Comm. on Interior & Insular Affairs)

Congressional Record, Vol. 1ll (1965):

July 12: Considered and passed House

Aug. 13: Considered and passed Senate, amended

Aug. 17: House concurred in Senate amendment

Public Law 95-625
95th Congress H.R. 95
November 10, 1978

Title VII – Wild and Scenic River Act Amendments

Subtitle A – Addition of River Segments

Addition of Middle Delaware River Segment

SEC. 7. 05. Section 3 (a) of the Wild and Scenic Rivers Act is amended by adding the following new paragraph at the end thereof:

"(20) Delaware, New York, Pennsylvania and New Jersey. – The segment from the point where the river crosses the northern boundary of the Delaware Water Gap National Recreation Area to the point where the river crosses the southern boundary of such recreation area; to be administered by the Secretary of the Interior. For purposes of carrying out this Act with respect to the river designated by this paragraph, there are authorized to be appropriated such sums as may be necessary. Action required to be taken under subsection (b) of this section with respect to such segment shall be taken within one year from the date of enactment of this paragraph, except that, with respect to such segment, in lieu of the boundaries provided for in such subsection (b), the boundaries shall be the banks of the river. Any visitors facilities established for purposes of use and enjoyment of the river under the authority of the Act establishing the Delaware Water Gap National Recreation Area shall be compatible with the purposes of this Act and shall be located at an appropriate distance from the river."

Appendix C: Related Federal Legislation, Regulations, and Executive Orders

Legislation and Acts

- Archeological and Historic Preservation Act of 1974
- Archaeological Resources Protection Act of 1979
- Clean Air Act of 1977
- Clean Water Act of 1972
- Endangered Species Act of 1973
- Migratory Bird Treaty Act of 1918
- National Environmental Policy Act of 1969
- National Historic Preservation Act of 1966
- National Parks Omnibus Management Act of 1998
- National Park Service Organic Act of 1916
- National Trails System Act of 1968
- National Wild and Scenic Rivers Act of 1968
- Redwood Act, Amending the NPS Organic Act of 1978

Code of Federal Regulations

- Title 36, Chapter 1, Part 1, General Provisions
- Title 36, Chapter 1, Part 2, Resource Protection, Public Use and Recreation
- Title 36, Chapter 1, Part 4, Vehicles and Traffic Safety
- Title 36, Chapter 1, Part 5, Commercial and Private Operations
- Title 36, Chapter 1, Part 7, Section 71, Delaware Water Gap National Recreation Area

Executive Orders

- Executive Order 11514, "Protection and Enhancement of Environmental Quality"
- Executive Order 11593, "Protection and Enhancement of the Cultural Environment"
- Executive Order 11988, "Floodplain Management"
- Executive Order 11990, "Protection of Wetlands"
- Executive Order 12003, "Energy Policy and Conservation"
- Executive Order 12088, "Federal Compliance with Pollution Control Standards"
- Executive Order 12372, "Intergovernmental Review of Federal Programs"
- Executive Order 12898, "General Actions to Address Environmental Justice in Minority Populations and Low-Income Population"
- Executive Order 12962, "Recreational Fisheries"
- Executive Order 13007, "Indian Sacred Sites"
- Executive Order 13112, "Invasive Species"
- Executive Order 13186, "Responsibilities of Federal Agencies to Protect Migratory Birds"
- Executive Order 13352, "Facilitation of Cooperative Conservation"
- Executive Order 13423, "Strengthening Federal Environmental, Energy, and Transportation Management"
- Executive Order 13514, "Federal Leadership in Environmental, Energy, and Economic Performance"

NPS Director's Orders (Partial List)

- Order 12: *Conservation Planning, Environmental Impact Analysis, and Decision-making* and *Handbook*
- Order 18: *Wildland Fire Management*
- Order 28: *Cultural Resource Managemen*t
- Order 47: *Soundscape Preservation and Noise Management*
- Order 77: *Natural Resource Protection*
- Order 77-1: *Wetland Protection*
- Order 77-2: *Floodplain Management*

Appendix D: Inventory of Special Mandates and Administrative Commitments

Special Mandates and Administrative Commitments

Name	Agreement Type	Start Date	Expiration Date	Stakeholders	Purpose	Notes
Middle Delaware National Scenic and Recreational River	Public Law 90-542 Special mandate	1978	None	Same as park	Wild and Scenic Rivers Act authority and protections apply in addition to the DEWA enabling legislation.	The designation applies bank to bank of the river from the northern boundary of DEWA to the southern boundary.
Broad Authority to Acquire Land and Make Adjustments to the Boundary	Public Law 89-158 as amended by Public Law 95-625 Special authority	1965, amended 1978	None	–	Allow the National Park Service to acquire and exchange land or change the boundary to include up to 70,000 acres.	Per section 3b of enabling legislation.
Allow Intensive Fish and Wildlife Management	Public Law 89-158 as amended by Public Law 95-625 Special authority	1965, amended 1978	None	Hunters	Allows the National Park Service to manage for wildlife to support different species, including maintaining open space.	Per section 6 of enabling legislation.
Allow Hunting	Public Law 89-158 as amended by Public Law 95-625 Special authority	1965, amended 1978	None	Hunters	DEWA shall allow hunting on NPS property.	Per section 6 of enabling legislation.
Appalachian National Scenic Trail (APPA)	Public Law 90-543 as amended through Public Law 103-145 Special mandate	1968, amended 1993	None	Appalachian National Scenic Trail (APPA) and trail partners	The National Trails System Act established APPA and directed the Secretary of the Interior, in cooperation with the Secretary of Agriculture, state and local governments, and private citizens, to protect and administer APPA.	The Trail traverses approximately 30 miles of the DEWA (including segment within Worthington State Forest).

Name	Agreement Type	Start Date	Expiration Date	Stakeholders	Purpose	Notes
Protection of Scenic Features	Parks' Enabling Legislation – Special mandate	None	None	–		The enabling legislations specifically calls out protection of scenic features that contribute to public enjoyment.
Columbia Gas Line	Public Law 109-156 Delaware Water Gap National Recreation Area Improvement Act Right-of-way	Dec. 2005	None	Columbia Gas Transmission Corporation	Authorizes the Secretary of the Interior to grant an easement to the Columbia Gas Transmission Corporation to enlarge the diameter of a specified natural gas pipeline from 14 inches to not more than 20 inches, consistent with the recreational values and protection of the resources of the Delaware Water Gap National Recreation Area in Pennsylvania. Authorizes the Superintendent of the recreation area to issue a permit to the corporation for the use of the recreation area in accordance with specified procedural requirements for the temporary areas required for the construction of the enlarged pipeline.	Prohibits the Secretary from granting additional increases in the diameter of, or easements for, the pipeline within the boundary of the recreation area after the date of enactment of this act. Authorizes the Attorney General, at the Secretary's request, to bring against the corporation a civil action for damages and response costs if the corporation violates easement or permit provisions, fails to submit or timely implement an approved restoration and mitigation plan, or the violation or failure destroys, results in the loss of, or injures park system resources.

Name	Agreement Type	Start Date	Expiration Date	Stakeholders	Purpose	Notes
U.S. Route 209 Partial Commercial Vehicle Prohibition and Fee	Delaware Water Gap National Recreation Area Improvement Act Public Law 109-156	Sept. 2005	Sept. 2015	Local government, commercial traffic	Amends the Omnibus Parks and Public Lands Management Act of 1996 to modify the effective date of the prohibition against the use of U.S. Route 209 within Delaware Water Gap National Recreation Area by certain commercial vehicles. Changes such date from noon on September 30, 2005, to the earlier of the date on which a feasible alternative is available, or noon of September 30, 2015. Increases from $25 to $40 the maximum commercial use fee which the Secretary is required to collect from commercial vehicles until the effective date of the prohibition.	Must be reauthorized by Congress. Park is in support of discontinuing the fee and banning all commercial traffic.
Minisink National Historic Landmark	Designation	1993	None	Tribes	National historic landmark status provides extra protections to this important cultural region.	Minisink remains one of the most extensive, best preserved, and most intensively studied archeological locales in the Northeast.

Name	Agreement Type	Start Date	Expiration Date	Stakeholders	Purpose	Notes
National Recreational Trail	Designation	2007	None	River users, canoe liveries	The portion of the Delaware River Water Trail that flows through the Middle Delaware National Scenic and Recreational River was designated as a "National Recreation Trail." The water trail was created by the Delaware River Greenway partnership as the Delaware River Interstate Water Trail. DRGP.org.	
Delaware River Basin Compact	Special mandate	1961	2061	Basin states – New York, New Jersey, Pennsylvania, and Delaware, and the federal government	Purpose is to develop and effectuate plans, policies, and project relating to the water resources of the basin. It shall adopt and promote uniform and coordinated policies for water conservation, control, use, and management in the basin. Source of info: http://www.state.nj.us/drbc/library/documents/compact.pdf	The compact formed the Delaware River Basin Commission. Compact can be renewed after 100 years.
Special Protection Water Regulations	Special mandate	1992	None	Basin states – New York, New Jersey, Pennsylvania, and Delaware, and the federal government	Enacted to protect existing high water quality in areas of the Delaware River Basin deemed to have exceptionally high scenic, recreational, ecological, and/or water supply values. Source of info: http://www.state.nj.us/drbc/programs/quality/spw.html	Adopted by the Delaware River Basin Commission.

Name	Agreement Type	Start Date	Expiration Date	Stakeholders	Purpose	Notes
Grey Towers Memorandum of Understanding	Administrative commitment	1963	Sept. 2017	U.S. Forest Service	To provide a framework for the coordination between the NPS and USFS in promoting public use and enjoyment of Grey Towers and DEWA. There is an additional five-year cooperative agreement (expires 2017) for shared snow and ice removal.	Cooperative agreement.
Pennsylvania Fish and Boat Commission	General agreement	May 2008	April 2013	Pennsylvania Fish and Boat Commission	To provide a framework for the coordination between the NPS and PA FBC	Partner agreement is currently being updated.
Appalachian Mountain Club	General agreement	Jan. 2002	Dec. 2011	Appalachian Mountain Club	To provide environmental and outdoor education, interpretation, and services to park visitors and to better maintain park trails.	Currently being updated to be a five-year partner agreement.
Pocono Environmental Education Center	General agreement	March 2003	March 2033	Pocono Environmental Education Center	To advance environmental education, sustainable living, and appreciation for nature through hands-on experience in a national park.	Partner agreement.
Pocono Family YMCA	General agreement	May 2009	April 2014	Pocono Family YMCA	To provide outdoor and environmental education to youth to further their understanding of nature, natural resource principles, and the importance of environmental protection.	Partner agreement.

Name	Agreement Type	Start Date	Expiration Date	Stakeholders	Purpose	Notes
Eastern National	Partnership	Dec. 2004	Nov. 2014	Eastern National	Eastern National is a cooperating association that operates bookstores in the visitor centers at Dingmans Falls and Kittatinny Point. Eastern National provides high-quality educational products and services to America's national parks and public trusts.	This is a national agreement at the Washington Office level.
Peters Valley School of Craft	General agreement	Sept. 2013	Aug. 2018	Peters Valley School of Craft	To promote and encourage education and excellence in craft.	Partner agreement.
Brandwein Institute	General agreement	May 2013	June 2018	Brandwein Institute	To perpetuate the work of Paul F. Brandwein, the institute is dedicated to the education of all learners in recognition of their interdependence with nature and responsibility for sustaining a healthful and healing environment.	Partner agreement.
Bushkill Outreach	General agreement	Dec. 2007	Dec. 2012	Bushkill Outreach	To protect a historic park structure (the Bushkill Reformed Church and the Parsonage House) and its associated outbuildings.	Partner agreement is currently being updated.
Friends of Delaware Water Gap National Recreation Area	General agreement	April 2014	April 2019	Friends of Delaware Water Gap National Recreation Area	For the purpose of memorializing and authorizing the friends' support for projects and programs related to and in support of the historical, scientific, educational, interpretive, recreational, and resource management activities of the park.	Partner agreement.

Name	Agreement Type	Start Date	Expiration Date	Stakeholders	Purpose	Notes
Ramirez Solar House	General agreement	April 2012	March 2017	Ramirez Solar House	To educate architects and the public on "green building" technology.	Partner agreement.
Montague Association for the Restoration of Community History	General agreement	Sept. 2004	Sept. 2014	Montague Association for the Restoration of Community History	To provide interpretive services, conduct historical research, and preserve, utilize, and maintain the Foster-Armstrong House and Neldon Roberts Stonehouse.	Partner agreement.
Montague Grange	General agreement	Jan. 2007	Jan. 2012	Montague Grange	To apply the knowledge and expertise of the Grange, a national agricultural organization of long standing, toward the resolution of issues pertaining to the park's agricultural program, including, but not limited to, liaison with state and local agricultural organizations, assistance in recruitment of farmers for park agricultural permits, and provision of information on current farming practices; to protect a park-owned historic structure that is in the National Register of Historic Places.	Partner agreement is currently being updated.
Monroe County Transportation Authority	Cooperative agreement	Sept. 2010	Sept. 2015	Monroe County Transportation Authority	To enhance the mobility of the people who live or work in Monroe County, Pennsylvania, for the purposes of offering access to quality-of-life activities.	Cooperative Agreement.

Name	Agreement Type	Start Date	Expiration Date	Stakeholders	Purpose	Notes
Montague Township	General agreement	April 2007	March 2012	Montague Township	To assure that the historic DeRemer House, Neldon-Roberts House, and Mabel Roberts House are protected and their deterioration is arrested until such time as lessees can be found to rehabilitate the buildings.	Partner agreement is currently being updated.
Delaware Township	General agreement	Nov. 2010	Nov. 2015	Delaware Township, Wheatplains Community Garden Partnership	Wheatplains Community Garden Partnership.	Although the agreement is with the townships, the garden is not exclusive to township residents.
Susquehanna-Roseland Transmission Line	Right-of-way	Dec. 2012	2062	PPL Electric Utilities and Public Service Electric & Gas Companies	Environmental impact statement completed in 2012 resulting in issuance of Special Use and Right-of-Way permits to construct and upgrade to a double circuit 500 kilovolt line across 4.27 miles of DEWA, Middle Delaware National Scenic and Recreational River and Appalachian National Scenic Trail.	The ROW permit expands a one-quarter-mile segment of ROW in Pennsylvania to 150 foot width and a memorandum of agreement subsequent allows for the surrender of excess easement width not required for construction and maintenance of the double 500 kV line.
Tennessee Gas Line	Right-of-way	None	None	Natural gas utility company	3.5 miles of deeded easement for a natural gas transmission line that pre-dates the park.	Act of Congress would be required to expand the ROW.

Appendix E: Wild and Scenic River Values

Wild and Scenic Rivers Act

In 1968, Congress passed the Wild and Scenic Rivers Act. The act "declared to be the policy of the United States that certain selected rivers of the Nation, which with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations."

Under the Wild and Scenic Rivers Act, designated rivers are classified as wild, scenic, or recreational. The classifications primarily relate to the degree of development along the river. Regardless of the classification, each designated river in the national system is to be managed in a way that protects and enhances the values that prompted its designation. According to the act, the three classifications are defined as follows:

"Wild" River Areas

Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.

"Scenic" River Areas

Those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.

"Recreational" River Areas

Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some shoreline development, and that may have undergone some impoundment or diversion in the past.

Designation of the Middle Delaware National Scenic and Recreational River

In 1978, Congress used the Wild and Scenic Rivers Act to designate the Middle Delaware National Scenic and Recreational River and Upper Delaware Scenic and Recreational River as national park system units and components of the national wild and scenic river system. Subsequently, in 2000, Congress followed up on these prior designations and acted to designate multiple sections and tributaries of the Lower Delaware National Wild and Scenic River (including Tinicum Creek, Tohickon Creek, and Paunacussing Creek) as a partnership river. Then, in 2006, the fourth river in the Delaware River basin—the Musconetcong National Wild and Scenic River, a tributary to the Delaware—was designated by Congress under the Wild and Scenic Rivers Act as a partnership river and a component of the national wild and scenic river system.

Wild and Scenic River Values

Outstandingly remarkable values (ORVs) are defined by the Wild and Scenic Rivers Act as the characteristics that make a river worthy of special protection. In addition, free-flowing condition and water quality are also integral to the protection of wild and scenic rivers. Because free-flowing condition and water quality support the integrity of the ORVs and are key components for future management, they are included as part of this statement. Thus, the foundation for wild and scenic river management is a clearly defined set of ORVs, free-flowing condition, and water quality.

The Interagency Wild and Scenic Rivers Coordinating Council issued criteria for identifying and defining outstandingly remarkable values. The criteria guidance states that:

An ORV must be river related or dependent. This means that a value must be located in the river or on its immediate shore lands (generally within 0.25 mile on either side of the river), contribute substantially to the functioning of the river ecosystem, and owe its location or existence to the presence of the river.

An ORV must be rare, unique, or exemplary at a comparative regional or national scale. Such a value would be one that is a conspicuous example from among a number of similar values that are themselves uncommon or extraordinary.

Middle Delaware National Scenic and Recreational River Outstandingly Remarkable Values

The outstandingly remarkable values that make the Middle Delaware National Scenic and Recreational River worthy of protection under the Wild and Scenic Rivers Act are described on the following pages.

Cultural. The cultural significance of the Middle Delaware river valley is typified by the continuous human presence throughout the Holocene, which is documented by a rich tapestry of river-focused living.

The Delaware Water Gap National Recreation Area has close to 500 documented American Indian archeological sites of which more than 100 are currently considered NRHP-eligible. Three-quarters of these archeological sites are found in the Middle Delaware River floodplain. This complex of American Indian sites is one of the best preserved in the northeastern United States, making it a high-value research area for archeologists and geo-archeologists.

The southern half of the Middle Delaware includes the Shawnee-Minisink site (ca. 12,900 BP), which remains one of the most spatially intact Clovis sites (Late Paleo-Indian and Early Archaic through Woodland occupations) in eastern North America. In the northern half the intact Minisink National Historic Landmark District, situated on an island and along the riverbank, was occupied by the Munsee people. The NHL district preserves this homeland area and the trails such as Minisink Path to the Atlantic, Minsi Path (or Delaware River Path), and Wyoming-Minisink Trail leading to and from the district.

Expansion into the Middle Delaware valley between 1650 and 1750 by Dutch and English settlers gave rise to construction along the river of the oldest commercial roadways in the northeast, a portion of which is preserved as the Old Mine Road Historic District.

Established about 1650 and converted to a wagon road in the 1730s, the 104-mile-long Old Mine Road connected Esopus (Kingston, New York) on the Hudson River with the Pahaquarry Coppermine along the Middle Delaware River. Lying along the road, the Ennis House and Westbrook-Bell House are the oldest standing structures in Sussex County, New Jersey. Both date to the early 1700s. Several additional houses along the route (Abraham Van Campen, Alonso DePue, Smith-Roe) are nearly as old and contribute to both the cultural and historic landscape of the river valley. Landscapes of the colonial past can be seen scattered throughout the Middle Delaware River Valley. During the French and Indian War, settlers constructed approximately 20 forts at strategic crossing points along the river, as well as Military Road, which operated as a military supply route originating in Elizabeth (Elizabeth Town), New Jersey, and terminating at the Van Campen Inn, within view of the Delaware River. Military Road has been preserved as a hiking trail. In 1763, the stout walls of Van Campen Inn served as a shelter for 150 settlers against the threat of Indian attack. Military Road and Van Campen Inn continued to be important sites in the region during the American Revolutionary War, serving as a supply route and a rest stop and quarters for travelers and officers, respectively.

European settlers initiated timber harvesting and rafting in the 1760s, which contributed to the development of Milford, Shawnee-on-Delaware, and Delaware Water Gap, Pennsylvania. Portions of all three are now protected as listed NHL districts. Ferry service occurred at various points along the Middle Delaware River to transport travelers and supplies. Dingmans Ferry operated from 1735 and was temporarily replaced by three different wooden bridges at the site from 1836 through 1860. These wooden bridges were short-lived, succumbing to floods or high wind events. The historic Dingmans Choice Bridge was built near the 1900 ferry location and is the last privately owned toll bridge extant in the region. The many streams and waterfalls that flow into the Middle Delaware provided ample hydroelectric power to supply saw mills, grist mills, woolen mills, ice plants, and electrical power generators. Remains of some of these mills can be seen today along many of the creeks, including the Metz Ice Plant on Sawkill Creek and the woolen mill ruins on Dingmans Creek within the historic George W. Childs Park site.

From the mid-19th through the early 20th centuries, the Middle Delaware region was known as a river-based resort destination. Dozens of hotels served thousands of summer visitors. The Kittatinny Hotel was constructed in 1832 and was the first of the resort hotels at Delaware Water Gap, along what is now Pennsylvania State Route 611. By the end of the Civil War, the hotel could accommodate more than 250 vacationers. The Kittatinny Hotel was destroyed by fire in 1931; however, today's visitors can explore the site ruins and enjoy the views from Resort Point Overlook in the Gap. The privately owned and operated Shawnee Inn and Golf Resort on the shores of the Middle Delaware remains an example of the popular river resorts still in operation. These early hotels led to the year-round weekend resorts in the Pocono Mountains. Camps and summer cabins were also prevalent along the river valley throughout the 20th century. Many of these camps are now public NPS-operated recreation sites such as Poxono Access, and Smithfield Beach.

Following a devastating flood in 1955, the U.S. Army Corps of Engineers proposed the Tocks Island Dam project for the Middle Delaware River beginning in 1960. The Tocks Island Dam would have created a reservoir about 40 miles long and a mile wide. The locally based environmental effort that evolved to halt dam planning and construction is an early example of the effectiveness of the emerging environmental movement. This local movement, along with geological limitations and project budget concerns, eventually caused dam construction to be postponed and eventually the project was de-authorized by Congress. In its stead, the Delaware Water National Recreation Area preserves the river valley and its rich cultural history. Congressional designation of the Middle Delaware National Scenic and Recreational River in 1978 helped to support this river's free-flowing condition. The Tocks Island Dam project was officially decommissioned in 1992.

Ecological. The Middle Delaware National Scenic and Recreational River is a vital component of and contributes substantially to the exceptional ecological integrity of the Delaware River system among the large rivers of the mid-Atlantic and northeastern United States. Like the Upper Delaware River, this section of the Delaware flows through the Appalachian Plateau and Ridge and Valley geological provinces, but has a lower gradient and more expansive floodplain. A combination of exceptionally high water quality, fully functioning floodplains, excellent aquatic and riparian habitats, and the absence of dams on the mainstem gives rise to a diverse array of species and a productive, complex food web with strong ecological integrity.

The exceptional productivity and ecological integrity of the Middle Delaware River extends from aquatic plants, invertebrates, and fish, to aquatic and riparian mammals and birds. At least 25 native species of aquatic vascular plants inhabit this section of the river and commonly occur in large beds. Threadfoot riverweed, which is intolerant of pollution, occurs in large patches in swift moving water stretches. The diverse aquatic insect assemblage includes a high proportion of pollution-intolerant stoneflies, mayflies, and caddisflies. This section of the Delaware River also supports a high density and eight native species of mussels, including the state-endangered brook floater and state-threatened yellow lampmussel. At least 36 native species of fish also inhabit the Middle Delaware River, from the humble eastern mudminnow to the mighty striped bass. As an integral part of the entire Delaware River system, this section of the river provides a migration corridor, critical habitat, and a stronghold for native migratory (diadromous) fish species like American shad and American eel, which have been in decline in other parts of their range. In addition, the high-quality water of the mainstem river provides additional beneficial habitat and a movement corridor for fish species that primarily inhabit tributaries such as native brook trout, naturalized brown and rainbow trout, and other species.

The river corridor supports a variety of healthy and extraordinary plant communities and wildlife. Calcareous bedrock outcrops along the river edge support two globally imperiled plant communities. Patches of globally vulnerable Riverside Prairie Grasslands occur on islands and river shores. Floodplain terraces support globally rare plant communities such as the Bitternut Hickory Lowland Forest and Sugar Maple Floodplain Forest. Forests of sycamore and silver maple predominate along the river's edge, while mixed native hardwood, eastern hemlock, and white pine forests extend along the uplands of the river corridor.

The integrity, diversity, and productivity of aquatic and riparian communities culminates in thriving populations of water-dependent mammals like river otter, beaver, and mink; and birds like common mergansers, green and blue herons, belted kingfishers, rough-winged swallows, cerulean warblers, and ospreys.

The Middle Delaware also provides high-quality wintering, foraging, and nesting habitat for bald eagles and serves as a migratory bird stopover along the Atlantic flyway. Also, peregrine falcons have re-occupied historic nesting habitat on the river-formed cliffs of the Delaware Water Gap.

Geological. The Middle Delaware National Scenic and Recreational River follows the boundary between two physiographic regions—the Appalachian Plateau and the Ridge and Valley. The river then dramatically cuts across the Appalachian Ridge at Delaware Water Gap, a signature geologic feature along the Delaware River system. The elevation of the valley varies from 300 to 400 feet above sea level and the adjacent highlands rise an additional 600 to 1,000 feet.

In the northern two-thirds of the Middle Delaware, the river flows along the eastern edge of the Pocono Plateau, sharply defined on the west by nearly vertical cliffs composed of Mahantango shale. Waterfalls are a frequent feature as tributary streams drop onto the broad floodplain below. Raymondskill Falls is the tallest waterfall in Pennsylvania at 180 feet. Other scenic waterfalls include Hackers Falls, Adams Falls, Dingmans Falls, Indian Ladders Falls, and Tumbling Waters.

The southern one-third of the Middle Delaware River has a more complex geology. At Bushkill, Pennsylvania, the river swings away from the Poconos and flows through older, more steeply dipping Devonian Buttermilk Falls limestone. Here the Delaware cuts across a hogback and creates a graceful S-shaped loop known as the Walpack Bend.

A large rock formation along this section of river is known as Indian Rock, an outcrop diving into the river, where the water is up to 50 feet deep. The area also has doubly plunging folds that form complex outcrop patterns along the shoreline, such as the Five Loaves that look like multiple loaves of bread.

Many fossil localities within the park are represented within these strata. Downstream from Walpack Bend, the river cuts through a zone of weakness in the Shawangunk Formation of Kittatinny Mountain to form the dramatic Delaware Water Gap. Here, the valley is 1,000 feet wide at river level, flaring to 4,000 feet wide at mountain summits. The Delaware Water Gap was designated an Outstanding Scenic and Geologic Feature by the Pennsylvania Geological Survey.

The Middle Delaware River contains a diversity of channel types, alternating between braids to riffle/pools to deep runs and glides and backwater channels surrounding islands. Alluvial fans occur at the mouths of tributaries with the most prominent examples being at Bushkill Creek and Brodhead Creek. A number of islands in the river, ranging in size from 1 acre to several hundred acres, are composed of alluvial sand and gravel deposits. Named islands include Mashipacong, Minisink, Namanock, Depew, Poxono, Tocks, Depue, Shawnee, Schellenberger, and Arrow. The habitat complexity surrounding these islands supports a wide diversity of mussels, fish, and other aquatic organisms. All along the Middle Delaware River geologically formed microhabitats are found, including calcareous outcrops that support rare plant communities and exposed glacial striations

Recreational. Close proximity to major metropolitan areas encourages first-time adventurers and life-long nature enthusiasts to enjoy the Middle Delaware and the remote natural experiences along the largely undeveloped river shoreline. The Middle Delaware is teeming with a wide variety of outstanding natural and cultural features, which make sightseeing a principal recreational pursuit. Views are framed by Kittitinny Ridge and the sheer cliffs of Pocono Plateau. While the forested mountainsides are interspersed with open grasslands and agricultural fields along the floodplain. From Mashipacong Island, south through Walpack Bend, the river visitor is immersed in striking scenery and nearly quiet solitude. Dramatic cliffs of the Delaware Water Gap can be experienced from multiple vantage points by automobile, foot, bicycle, and boat. Exemplary wildlife viewing and birding are found everywhere throughout the river corridor. Recreationists may be joined by black bears ambling along the riverbank and bald eagles soaring overhead in search of prey.

The Middle Delaware River is surrounded almost completely by the Delaware Water Gap National Recreation Area, providing access to the corridor for a wide variety of quality year-round recreational opportunities.

Developed boat launches and/or swim beaches along both sides of the river, such as Milford Beach, Dingmans Ferry Access Launch, Bushkill Access Launch, Turtle Beach, and Smithfield Beach, provide amenities such as bathrooms, paved boat launches, canoe launches, and lifeguarded swim beaches along the Middle Delaware River corridor. Less developed canoe access points include Eshback, Namanock, and Poxono. Several other primitive carry-in locations are interspersed between developed launches, providing access approximately every 3 to 5 miles. Foot access can occur anywhere along the river within the recreation area. Ease of access and relatively calm waters of the Middle Delaware River provides boating opportunities for all levels—trips range from a few hours to multiple days. Approximately 65 primitive river campsites along the entire stretch of the Middle Delaware segment are free to the public on a first-come, first-served basis, providing a unique camping experience along the river. Group sites and developed campgrounds, such as Dingmans Campground, Valley View Group Campground, and River Bend Group Campground provide opportunities for large groups and families to recreate along the river with some amenities such as potable water and restrooms. Easy access is enhanced by commercial canoe outfitters providing a variety of boating trips, including transportation between access points and in some cases guided overnight canoe trips. Alternative transportation buses, operated by the Monroe County Transportation Authority in partnership with the National Park Service, travel to stops along River Road and U.S. 209 on the Pennsylvania side of the river corridor on summer season weekends, making one-way biking, hiking, and boating trips feasible and trouble-free for recreationists.

Other recreational activities such as small and big game hunting, fishing, bird-watching, wildlife viewing, swimming, photography, scenic touring, hiking, biking, and cross-country skiing are popular along the river corridor. Excellent hiking and cross-country skiing experiences on the ridgetops and river valley occur along the Appalachian National Scenic Trail, the McDade Recreation Trail, Cliff Park trails, and the Red Dot Trail. Short hikes along developed boardwalks and primitive trails lead through hemlock-covered ravines to the many waterfalls such as Dingmans Falls, Raymondskill Falls, and Tumbling Waters. Scenic driving is available along the river on Old Mine Road/615, River Road, and U.S. Route 209, with seasonal variations drawing visitors year-round. Old Mine Road affords road cyclists an opportunity to ride the length of the Middle Delaware National Scenic and Recreational River and is recommended by New Jersey Department of Transportation as a cycle touring route as well as being a segment of Adventure Cycling Association's Atlantic Coast Route from Maine to Florida. State Highway 611 and Interstate 80 provide unique views as visitors travel through the majestic Delaware Water Gap formation.

Scenic. The Middle Delaware River is framed by the mountains of the Kittinny Ridge (New Jersey) and the cliffs of Pocono Plateau (Pennsylvania). From Mashipacong Island south to Walpack Bend, the river visitor is immersed in the striking river valley scenery. The visitor sees a diversity of primarily natural landscapes interspersed with cultural resources ranging from steep forested slopes to the broader floodplain valley, with dramatic bends in the river, culminating at the iconic Delaware Water Gap. The wooded shoreline is punctuated by distinct rock formations such as the Five Loaves in Walpack Bend and Godfrey Ridge through which the river bends. Other notable rock features line the banks of the Middle Delaware and include Shad Rocks, Hibachi Rocks, and the Limestone outcrops near Dingmans Choice Bridge.

Trails traversing the surrounding cliffs and ridgelines provide panoramic vistas of the river. Ridgetop trails include Appalachian National Scenic Trail along Kittatinny Ridge and Cliff Park trails along Milford Cliffs. Mountaintop views from Mount Minsi and Mount Tammany at the climax of the geological wonder, the Delaware Water Gap, provide vivid pictures of the opposite mountain and the river far below. Scenic roadways and trails paralleling both sides of the river wind through the diverse floodplain that includes woodlands, tributary crossings, hemlock ravines, grassland, and agricultural fields. The adjoining landscape includes steep hemlock- and rhododendron-lined ravines. The many tributaries often include views of unique and dramatic waterfalls. Glimpses of the long human history of the river valley, including Dingmans Choice Bridge, Coppermine and Shawnee Inns, and the historic Old Mine Road, provide visual contrast to the natural backdrop. The Middle Delaware segment is the least developed of the Delaware River Valley, and is within the Delaware Water Gap National Recreation Area. Dark night skies are prevalent.

The nuances of the changing seasons such as spring wildflowers, summer greenery, fall foliage, and winter fog and ice provide a striking backdrop for river corridor visitors.

The river channel variations of riffles, eddies, pools, rapids, and distinct changes in channel direction transform the scenery around every bend of the river.

Large islands such as Minisink, Mashipacong, and Shawnee Islands in addition to numerous smaller islands with diverse vegetation, cobblestone shorelines, bedrock formations, and channel riffles add to the visual diversity.

Free-flowing Condition

Between the southern terminus of the upper Delaware scenic and recreational river and the northern boundary of the Middle Delaware, an additional tributary reservoir modifies the flow regime of the Middle Delaware, into and through the Delaware Water Gap Recreation Area (table 3).

Table 3. Reservoir that Modifies the Flow of the Middle Delaware River

Reservoir Name	State	Tributary	River Mile at Tributary Mouth	Date of First Operation	Drainage Area (sq. mi.)	Capacity (billion of gallons)	Main Purpose
Neversink	NY	Neversink River	253.6	1954	92	34.9	Diversion to NYC

A number of USGS stream gauges also exist on the Middle Delaware and its tributaries. Table 4 provides a list of existing USGS gauges in and tributary to the Middle Delaware River (table 4).

Table 4. Existing USGS Gauges on the Middle Delaware River and its Tributaries

USGS Gauge Station No.	Gauge Name	River Mile	Elevation (ft.)	Watershed Area (sq mi)	Period of Record	Years of Record
01437500	Neversink River at Godeffroy, NY	NA	459.66	307	1937-	75
01434000	Delaware River at Port Jervis, NY	254.8	415.35	3,070	1904-	98
01438500	Delaware River at Montague, NJ	246.4	369.93	3,480	1939-	73
01440000	Flat Brook near Flatbrookville, NJ	NA	347.73	64	1923-	89
01439500	Bush Kill at Shoemakers, PA	NA	421.13	117	1908-	104
01440200	Delaware River near Delaware Water Gap, PA*	214.7	293.64	3,850	2001-	11
01442500	Brodhead Creek at Minisink Hills, PA	NA	301.84	259	1950-	62

A number of waterway modifications exist within the Middle Delaware River as listed below.

Waterway Modifications within the Middle Delaware River:

- Milford Beach Access Area, PA; river mile 246.4
- Route 206 Bridge connecting Milford, PA and Montague, NJ; river mile 246.2
- Dingmans Bridge, a private bridge at Dingmans Ferry, PA; river mile 238.6
- Dingmans Access Area, a paved access and boat ramp, PA; river mile 238.6
- Bushkill Access Area, a paved access and boat ramp, PA; river mile 227.6
- Roseland Transmission Line crosses river at mile 222.6
- Smaller communication and powerlines cross the river at river miles 249.8, 217, and 213
- Poxono Access, NJ; river mile 219
- Turtle Beach, NJ; river mile 218.9
- Smithfield Access Area, paved access and boat ramps, PA; river mile 218.1
- Worthington State Park, NJ, paved access area; river mile 214.8
- Shawnee Inn and paved ramp, golf course on River Island, PA; river mile 214.7
- Shawnee Inn Golf Course, small bridge spans channel along PA shore; river mile 214.4
- Private docks along PA shore; river mile 213.2
- Interstate 80 Bridge; river mile 212.2
- Kittatinny Point NPS visitor center with boat ramp; river mile 211.5
- Railroad embankment along PA shore; river mile 212.6-209.5
- Tennessee gas transmission line, mile 248.3

Passing downstream from the Delaware Water Gap National Recreation Area at river mile 209.5, the river enters an eligible but undesignated segment of river in the vicinity of Portland, PA. The next wild and scenic designated river segment starts just below the PPL Martins Creek generating station at river mile 193.8. The Lower Delaware River's flow regime is modified by reservoirs in tributary watersheds (table 5). Numerous water diversions are within the Lower Delaware: Merrill Creek pumped storage intake; City of Easton water supply; Point Pleasant Diversion (public supply and power generation); Portland, Martins Creek and Gilbert Power Generating Stations; and the New Jersey Water Supply Authority Water Diversion. There are also numerous municipal and industrial wastewater dischargers to the Lower Delaware and its tributaries. Those that discharge directly to the Lower Delaware include Portland Borough; Portland Generating Station; Martins Creek Generating Station; City of Easton, PA; City of Phillipsburg, NJ; Town of Frenchtown, NJ; and City of Lambertville, NJ. There are also a few small industrial dischargers and some abandoned industrial facilities.

Water Quality

Water quality in the nontidal portion of the Delaware River is perhaps the purest of all the large rivers in the mid-Atlantic and northeastern United States.

At most times water quality exceeds federal and state criteria levels. The Delaware River serves as a regional reference condition river for water quality and biological assessments. The uses that are most dependent on the extraordinarily clean water are water-based recreation, water supply that requires little treatment, and excellent habitat for thriving aquatic life.

Because of such exceptional water quality, keeping the Delaware River uncontaminated is the primary policy of regulatory agencies. This policy is known as anti-degradation, and is consistent with the Wild and Scenic River Act anti-degradation policy. The entire 197-mile nontidal portion of the Delaware River between Hancock, New York, and Trenton, New Jersey, is classified by the Delaware River Basin Commission as "Special Protection Waters." This represents the longest contiguous reach of anti-degradation waters in the United States. The Upper Delaware Scenic and Recreational River and the Delaware Water Gap National Recreation Area are accorded the highest level of anti-degradation protection by the Delaware River Basin Commission as outstanding basin waters. The Lower Delaware River is classified by the Delaware River Basin Commission as significant resource waters. Both classifications are equivalent to Environmental Protection Agency (EPA) tier III anti-degradation protection of water quality and allow "no measurable change in existing water quality except toward natural conditions."

Outstanding basin waters include the additional provision disallowing mixing zones for approved dischargers whereas mixing zones are allowed in significant resource waters. Many tributaries in Pennsylvania, New York, and New Jersey are also afforded a similar level of water quality protection through state regulations, but only those tributaries within the boundaries of Delaware Water Gap National Recreation Area are included as outstanding basin waters by the DRBC Special Protection Waters regulations. Primary regulatory protection of other tributaries within the basin is maintained by the states, although the Delaware River Basin Commission does have some regulatory authority on point source dischargers to tributaries in order to protect the shared interstate waters of the mainstem. The DRBC Special Protection Waters regulations are unique in that they are monitored to determine if "measurable change" is occurring. This monitoring program is conducted through an informal partnership between the National Park Service and the Delaware River Basin Commission called the Scenic Rivers Monitoring Program. Both the Special Protection Waters regulations and the Scenic Rivers Monitoring Program are crucial to maintaining the level of water quality in the designated waters of the mainstem Delaware River.

The anti-degradation policy is very important, not only for river recreation and aquatic life, but also for the water supply for approximately 16 million people in New York, Pennsylvania, New Jersey, and Delaware. The Delaware River watershed is relatively small, comprising only 0.4% of continental U.S. land area; its clean water is a drinking water source for 0.5% of the U.S. population.

In comparing water quality of the Delaware River and tributary wild and scenic segments, both the Upper and Middle Delaware river segments are the cleanest and healthiest. The Lower Delaware is much more urbanized and historically industrialized and farmed, so water quality is not as good, although it still supports the most stringent of uses. The Musconetcong River quality is good, supporting reproducing trout populations, but not as good as the Lower Delaware River.

Tohickon Creek is one of the highest water quality streams in Pennsylvania and is classified as a cold water fishery by the state's Department of Environmental Protection. A DRBC study of water quality in the Lower Delaware in 2004 found that, of the 18 Lower Delaware River segments and tributaries analyzed, Tohickon Creek was ranked fourth in overall water quality. Tinicum Creek is designated an exceptional value stream and Paunacussing Creek is designated as a high-quality cold water fishery.

Northeast Region Foundation Document Recommendation
Delaware Water Gap National Recreation Area and Middle Delaware National Scenic and Recreational River

SEPTEMBER 2014

This Foundation Document has been prepared as a collaborative effort between park and regional staff and is recommended for approval by the Northeast Regional Director.

9/4/14

RECOMMENDED
John J. Donahue, Superintendent, Delaware Water Gap National Recreation Area and Middle Delaware National Scenic and Recreational River **Date**

10/1/2014

APPROVED
Michael Caldwell, Regional Director, Northeast Region **Date**

As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historic places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

NPS/DEWA/620/124154

October 2014

• Foundation Document •
Delaware Water Gap National Recreation Area and Middle Delaware National Scenic and Recreational River

NATIONAL PARK SERVICE • U.S. DEPARTMENT OF THE INTERIOR