

Chesapeake & Ohio Canal National Historical Park
Administrative History Update (1991-2021)
Washington, D.C., Maryland, and West Virginia

Prepared for:
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EXECUTIVE SUMMARY

This administrative history documents the management of the Chesapeake and Ohio Canal National Historical Park (C&O Canal NHP) from 1991 to 2021 and places the park’s history within the nationwide contexts of National Park Service park management, public use, and natural and cultural resource management practices. This administrative history follows a 1991 administrative history for the park, written by Barry Mackintosh, that documents the establishment and management of the park up until 1991.

This administrative history is intended to assist present and future park managers in decision-making by describing the management decisions and practices of the past and explaining their impacts on the park. Information presented in this history will provide an understanding of common park issues and how they have been addressed over time. Although this history does not describe every event in the park’s history from 1991 to 2021, it focuses on the key developments and issues that have shaped park management.

Several themes have informed the management of the C&O Canal NHP over the last 30 years: the long, linear shape of the park, the relationship with adjacent towns and municipalities, and the large number of cultural and natural resources within the park. The following major findings of this report fit within these six themes.

- C&O Canal NHP managers have had to address a constant conflict between the park’s mission to preserve and interpret the historical significance of its resources with the recreational aspects of the park enjoyed by visitors, a conflict exacerbated by frequent flooding.
- The size of the park and the great number of historic and natural resources make oversight and protection of those resources a constant challenge.
- A focus on large, recreational development projects in the 2000s and 2010s led to a neglect of operations and deferred maintenance, causing a shift in management priorities in the 2020s to focus on preservation and maintenance of resources.
- The sequestration of National Park Service funding beginning in 2013 resulted in a major reduction in staff and budget—numbers that have since remained at low, plateaued levels—and a lack of capacity to address the maintenance backlog.
- The environmental changes associated with climate change have adversely affected the natural and cultural resources of the C&O Canal NHP, contributing to a large maintenance backlog. Examples of environmental changes include extreme flooding and the spreading of invasive species. Adverse effects of these changes include physical damage to historic structures and the loss of native vegetation and animals.
- Interpretation and Education programming operates around four strategic focus areas: (1) interpretive boat programming at Georgetown, Great Falls, and Williamsport; (2) curriculum-based K-12 education programming at Great Falls, Williamsport, and Cumberland; (3) new or improved facilities, including visitor centers, exhibits, and waysides; and (4) digital media interpretation.

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1.0 INTRODUCTION

The Chesapeake & Ohio (C&O) Canal began in the 1820s as a means to access new fortunes in the West at a time when prosperity in the United States depended on its waterways. Stretching 184.5 miles along the Potomac River from Rock Creek at Georgetown in Washington, D.C., to Cumberland, Maryland, the canal was a major transportation corridor, providing a conduit for coal, lumber, and agricultural products to reach eastern markets, accelerating development in the west. Today, the remnants of the C&O Canal route, the lives of its builders and operators, and a legacy of outdoor recreation and educational opportunities endure in the Chesapeake & Ohio Canal National Historical Park (C&O Canal NHP) (Figure 1.1). Approximately 5 million people visit the park each year, making it one of the 25 most visited units in the national park system.¹

1.1 PURPOSE OF THE DOCUMENT

The C&O Canal NHP issued its first administrative history in 1991, written by Barry Mackintosh of the National Park Service (NPS) History Division. The 1991 history provided in-depth accounts of the initial development and operation of the canal, the beginning of NPS management of the park, and the ensuing years of planning, expanding, and developing the unique national park.

The purpose of this administrative history update is to capture the park's more recent history, discuss the overall vision of the park's leadership, expand on natural and cultural resource management programs and initiatives, review educational, interpretive, and volunteer programs and initiatives, address the impact of major floods in 1996 and 2004, incorporate new studies, highlight major developments, and review the last 30 years of park administration.

1.2 ORGANIZATION OF THE DOCUMENT

This administrative history update provides an overview of C&O Canal NHP from 1991, when the previous administrative history ended, to 2021. Chapter 1.0 provides a brief history of the canal prior to the park's establishment and of the park from its establishment to 1991, providing context for subsequent issues the park has faced. Chapter 2.0 explains the overall park history from 1991 to 2021, including the evolution of the park leadership vision, administrative structure, resource management practices, interpretation and educational programming, visitor and resource protection, and facility management. Chapter 3.0 discusses the partnerships and agreements in place to manage and interpret the canal. Chapter 4.0 presents the key developments of the park from 1991 to 2021. Chapter 5.0 is the conclusion. The appendices consist of a list of acronyms used in the document, a chronology of events that have been important to the management of C&O Canal NHP throughout its history, a list of principal park officials since 1991, summaries of the Project Management Information System (PMIS) and Planning, Environment, and Public Comment (PEPC) database, and legislation pertaining to the park's administrative history.

Both current and former park staff have been invaluable to the production of this update to the Administrative History. We particularly wish to thank Tina Cappetta, Blyth McManus, John Adams, Jeri DeYoung, Justin Ebersole, Emily Kambic, Ben Helwig, Emily Hewitt, Anthony Bates, Andrew Landsman, Ed Wenschhof, Kevin Brandt, Rick McDonald, Jane Neff, George Lewis, James Gilford, Jim McCleaf, John Ziegler, Nancy Walther, Patti Kline, and Rita Knox.

¹ National Park Service [NPS], Visitation Numbers (Washington, DC: U.S. Department of the Interior, National Park Service, last updated February 16, 2022, <https://www.nps.gov/aboutus/visitation-numbers.htm>).



FIGURE 1.1: Map of C&O Canal NHP

1.3 BRIEF HISTORY OF THE CANAL

In the early nineteenth century, the construction of canals was promoted by eastern businesses to aid commercial interests by carrying goods from inland areas to seaboard markets. The Erie Canal, built between 1817 and 1825, is one such example that influenced the construction of many more, including the C&O Canal. In the eighteenth century, George Washington envisioned a canal route between the Chesapeake region and Ohio. He helped organize the Patowmack Company in 1785 to construct a system of skirting canals around impassable falls including (House Falls, Shenandoah Falls, Seneca Falls, Great Falls, and Little Falls) and clear other obstacles in the Potomac River upstream of tidal waters. These attempts to improve river navigation proved to be inadequate.¹ As a result, in 1825, the Patowmack Company reorganized to form the Chesapeake & Ohio Canal Company, and Congress chartered the company to build a canal alongside the Potomac River that would join the Chesapeake Bay and the Potomac River valley to the Ohio River valley. Construction of the canal began three years later, following the ground-breaking ceremony presided over by President John Quincy Adams at Little Falls, Maryland on July 4, 1828.²

The project started with great fanfare, but quickly fell behind schedule and ran over budget. At first, construction progress was fair. The canal reached Seneca, Maryland, by 1830 and near Sandy Hook, Maryland, by 1833. Minor delays were caused by unforeseen rock formations that hampered excavation, problems with the supply and cost of building materials, labor shortages and disputes, cholera epidemics, and a costly lawsuit with the Baltimore & Ohio (B&O) Railroad over the use of the narrow right-of-way at Point of Rocks, Maryland.³

The canal company constructed and opened 134 miles of canal from Georgetown (in present-day D.C.) to around Hancock, Maryland, by 1839; however, financial problems prevented the canal from reaching Cumberland until 1850. When construction ceased, the canal had reached 184.5 miles in length, significantly shorter than originally intended, and contained seven dams, 11 stone aqueducts, hundreds of culverts, other water control devices (such as waste weirs), river locks, bridges, and lockhouses, and 74 lift locks to accommodate the 605-foot difference in elevation between Georgetown and Cumberland.⁴

The Civil War presented additional challenges to the operation of the canal. During the early years of the war, the canal was not prosperous. It failed to secure much of the increased military trade because it was not a through route to the region west of the Appalachian Mountains, which limited its portion of heavy east-west traffic. Because it ran along the border between Union and Confederate states, its trade was significantly reduced as its structures were alternately occupied and destroyed by the opposing armies. The government and private shippers were unable to use the canal on a large scale because of the resulting irregularity of its services as a carrier. A large demand for coal was the only direct advantage that the canal derived from the war; however, the C&O Canal Company had to wait for over two years before it could carry coal with uninterrupted navigation. Profits sharply rose in 1863 as Maryland's specialized "super-

¹ The Patowmack Company faced financial challenges leading to labor shortages and eventually bankruptcy. NPS, "1825: The C&O Canal Company is Chartered" (Washington, DC: National Park Service, last updated November 9, 2021, accessed June 2022, <https://www.nps.gov/choh/learn/education/1825-the-c-o-canal-company-is-chartered.htm>).

² Barry Mackintosh, *C&O Canal: The Making of a Park* (Washington, DC: NPS, 1991), 1.

³ Land and Community Associates (LCA), *Cultural Landscape Report: Chesapeake & Ohio Canal National Historical Park Williamsport, Maryland, Milepost 98.96-99.85* (Washington, DC: NPS, 1994), 2-6, 2-8; Mackintosh, 1.

⁴ Mackintosh, 1.

coal” product became desirable and accessible to Union forces by way of the canal. Canal profits continued to rise for a decade after the war with a regularity unknown to the canal up to that point.⁵

Despite competition from the railroad and recurring flood damage, trade on the canal proceeded for many decades.⁶ In 1875, its most prosperous year, the canal transported nearly a million tons of coal, agricultural products, lumber, stone, fish, salt, and iron ore. Yet, owing to the high cost of construction and a shift in the coal industry from use of the canal to the railroad, the canal operated at a loss during all but a few years.⁷

Relentless flooding continued to cause damage to the canal infrastructure during its operation, also causing financial hardship for the company. A major flood swept down the Potomac Valley in November 1877, one of the most destructive in the 250-year recorded history of the region. It severely damaged the canal and brought an end to trade for that season. Funded by available company resources, \$70,000 in loans from local banks, \$10,000 in loans from local coal companies, a personal loan from the president of the C&O Canal, and at least \$125,000 in repair bonds authorized by the company board of directors⁸, repairs began immediately and were reported to be completed by the company on June 7, 1880.⁹ Repairs included the re-excavation of much of the canal, reconstruction of the towpath in several locations, reconstruction of towpath bridges, and replacement of washed away lock gates.¹⁰ Although all portions of the canal damaged by the flood were “repaired and strengthened,” the company spent a total of \$238,500 and acquired a debt of \$196,463.¹¹

In April and May 1886, three floods within a six-week period left the canal in a serious state of disrepair and a poor financial situation, bordering on bankruptcy.¹² The flood damage forced the canal company to sell the remaining repair bonds from 1878. By August 1887, \$498,000 of the original \$500,000 repair bonds had been sold, the majority of which were acquired by the B&O Railroad. The B&O railroad had a particular interest because the bonds carried a preferred mortgage on the canal’s physical property, meaning that in the event of bankruptcy or sale of the property, the majority owner of the bonds would receive control of the physical property of the canal as well as the revenues.¹³ With the bond funds, repairs were quickly made and the canal returned to limited operation by early June 1886.¹⁴

Another record-breaking flood in the history of the Potomac River struck the canal from Cumberland to the Rock Creek Basin in May 1889. Facing a lack of sufficient funds to make repairs, the C&O Canal Company attempted to sell \$300,000 of new repair bonds; however, their efforts failed, and the company turned to the state for aid.¹⁵ Ultimately, legal proceedings gave control of the canal to the B&O Railroad, which had acquired majority shares through repair bonds in 1844 and 1878. Conflicting histories describe this control. Research completed by Harlan Unrau in 1976 states that the Maryland Courts “granted the B&O Railroad receivership of the C&O Canal on March 3, 1890,” resulting in the absorption and outright ownership of the canal by the railroad.¹⁶ Alternatively, recent research by historian Karen Gray provides

⁵ Harlan D. Unrau, *Historic Resource Study: Chesapeake & Ohio Canal* (Hagerstown, MD: U.S. Department of the Interior, NPS, Chesapeake & Ohio Canal National Historical Park [C&O Canal NHP], August 2007), 707.

⁶ Mackintosh, 2.

⁷ Mackintosh, 2.

⁸ A total of \$500,000 in repair bonds had been authorized by the Virginia State legislature (Unrau, 307).

⁹ Unrau, 308.

¹⁰ Unrau, 304, 306-307.

¹¹ Unrau, 308.

¹² Unrau, 308.

¹³ Mackintosh, 2.

¹⁴ Unrau, 310.

¹⁵ NPS, Cultural Landscapes Inventory of the Williamsport Chesapeake and Ohio Canal National Historical Park (Washington, DC: U.S. Department of the Interior, NPS, 2012), 18; Karen Gray, “Accompanied by the Past,” *Along the Towpath* (March 2021), 10.

¹⁶ Unrau, 315-316.

concrete evidence of the fact that the B&O never owned the canal. Instead, Gray notes that the relationship may not have been that of a receivership, but instead a trusteeship that gave the railroad a “dominant influence” over the canal company rather than full ownership.¹⁷ Under the influence of the B&O Railroad, restoration commenced in fall 1890 and the operation of the canal was restored by September 1891 for a total of \$430,764, all borrowed from outside sources.¹⁸

For the next three decades, the canal operated with low traffic volumes and without any major flood events; yet in 1924, floods again wrecked the canal. Physical damage to the canal was not as extensive as expected by the trustees, and select repairs were made to the canal at little cost. Because of its profitability from supplying water to nearby mills, only the lower 5 miles of the canal from the river inlet near Lock 5 to Georgetown were restored. The B&O Railroad left the remaining 180 miles unrepaired as the company felt an absence of sufficient business did not warrant its restoration. To avoid foreclosure, the railroad successfully convinced the courts that they had not abandoned the canal, which would have resulted in a forfeiture of rights by non-operation. The courts agreed that the navigation of the canal was temporarily suspended because of a lack of “remunerative business” and shipping operations ceased.¹⁹ The B&O Railroad had no interest in returning an obsolete canal to operation and it remained unused for over a decade until the U.S. government purchased the waterway.

1.4 BRIEF HISTORY OF THE PARK TO 1991

This section is largely based on the history written by Barry Mackintosh for the 1991 administrative history of the park, *C&O Canal: The Making of a Park*. Table 1.1 at the end of this section provides a timeline of park events from 1825 to 2021.

The seed of a national park along the Potomac River sprang from the 1901 McMillan Commission report: *The Improvement of the Park System of the District of Columbia*. The authors suggested that:

The surroundings of the Great Falls on both sides of the river should, in our opinion, be converted into a national park, to be connected with the city by a continuous drive. The beauty of the scenery along the route of this proposed noble river-side improvement is so rare and, in the minds of the Commission, of so great value not only to all Washingtonians, but to all visitors, American and foreign, that it should be safeguarded in any way.²⁰

The Commission introduced an idea that would come to fruition in the C&O Canal NHP and the George Washington Memorial Parkway, but a conflict arose between those who prioritized building the “river drive” and those who thought that interfered with safeguarding the “beauty of the scenery.”²¹ Another conflict soon developed between advocates of a national park and plans to build dams along the river, including one near Chain Bridge that would have inundated Great Falls.²² This was but one iteration of long-term conflicts between preserving the Potomac as parkland and Washington’s growing needs for roads, bridges, water, and industry.

¹⁷ NPS, *Cultural Landscape Inventory: Georgetown Area Chesapeake and Ohio Canal National Historical Park* (Washington, DC: NPS, August 2018), 4.

¹⁸ Unrau, 316.

¹⁹ NPS, *Cultural Landscapes Inventory, Williamsport Chesapeake and Ohio Canal National Historical Park*, 18; Unrau, 316; Mackintosh, 2.

²⁰ United States Congress, Senate, Committee On The District Of Columbia, and District Of Columbia, Park Commission, *The improvement of the park system of the District of Columbia. I.—Report of the Senate Committee on the District of Columbia. II.—Report of the Park Commission*, Charles Moore, ed. (Washington, DC: Government Printing Office, 1902, <https://lccn.loc.gov/02026044>), 96.

²¹ Mackintosh, 5.

²² Mackintosh, 50.

Representative Louis Cramton of Michigan introduced legislation in 1928 to implement the McMillan Commission's plan for a Potomac Drive. The bill authorized funds to construct a George Washington Memorial Parkway on both sides of the river up to Great Falls, including the protection and preservation of the natural scenery of the Potomac Gorge and the Great Falls of the Potomac and the acquisition of that portion of the C&O Canal.²³ The bill specifically stated that acquisition of this land would not interfere with future infrastructure, including "such works as Congress may in the future authorize for the improvement and the extension of navigation."²⁴ When the bill was brought back in 1929, it was introduced in the Senate by Arthur Capper, ultimately becoming the Capper-Cramton Act of 1929, and authorized the purchase of the C&O Canal as far as Point of Rocks.²⁵

Despite this legislation, no money was available for purchase of the canal in 1929. After Franklin Roosevelt became President in 1933, his administration pushed for public works to provide jobs during the Great Depression and the National Industrial Recovery Act of 1934 (NIRA) authorized a wide variety of construction projects involving transportation and parks. The Recovery Act gave the President power to acquire any property for any project that would quickly increase employment. With that end in mind, the idea that the government would purchase the canal as far as Point of Rocks was extended to the entire canal. Under the Recovery Act, the purchase could be made with public works money rather than a traditional Congressional appropriation.²⁶ Work to make this plan a reality began in 1935. The NPS became more involved in the planning during that time as it would develop and administer the canal after acquisition.²⁷ NPS historian Ronald F. Lee suggested the idea to designate the canal as a National Historic Site under the newly enacted Historic Sites Act of 1935 as a means of establishing an agreement with the B&O Railroad for the development of the canal for recreational purposes. Little consideration was given to the idea as the B&O Railroad's financial situation was quickly deteriorating.²⁸

As the B&O Railroad had no title to the lands or works of the C&O Canal Company, the U.S Justice Department opted to file suit against the railroad company and the C&O Canal Company and its trustees, aimed at recovering the federally owned riverbed at the mouth of Rock Creek. The U.S. government claimed the canal company was no longer operating the canal and the land should be returned to the United States.²⁹ In March 1936, just four months after the suit was filed, a major flood struck the area and washed out the towpath in many places, taking the income-producing segment of the canal in Georgetown out of commission and washing away numerous summer camps and boathouses on riverfront lands leased to others by the canal company. The B&O quickly repaired the Georgetown segment to maintain its water power revenues and its claim to be operational; however, by the end of 1937, the railroad's financial situation had greatly deteriorated and the trustees wished to sell the canal. After overcoming many legal obstacles on both sides, the sale went through in August 1938 at a price of \$2 million paid by a reduction in the debts the B&O owed to the Reconstruction Finance Corporation.³⁰ The canal property was immediately handed over to the NPS to manage. Widespread restoration was a critical need given the previous decades of neglect.

The records of the canal company were also acquired and deposited in the National Archives in 1939. Public access was not made available at the time. The Interior Department's solicitor wrote:

²³ Mackintosh, 7.

²⁴ H.R. 26 71st Congress; S. Rept. 458, 71st Congress, Apr. 17, 1930; Congressional Record 72: 1085, 2724, 8849, cited in Mackintosh, 8.

²⁵ Mackintosh, 8.

²⁶ Mackintosh, 9.

²⁷ Mackintosh, 11.

²⁸ Mackintosh, 15.

²⁹ Mackintosh, 13.

³⁰ Mackintosh, 17.

While the records may contain material of historic value, nevertheless it is believed that the interests of the United States are of primary importance. The reason for requiring the restriction was to prevent interlopers from claiming title to land acquired by the United States from the canal company. In order to avoid such controversies, therefore, it is considered necessary and in the best interests of the United States to continue the restriction. Access to these records was limited into the 1960s.³¹

The government purchased the C&O Canal under the authorization of the NIRA designed to provide relief for families particularly impacted by the Depression. The NPS hired Civilian Conservation Corps (CCC) workers to convert the canal into a recreational park. All CCC enrollees that worked at the C&O Canal were African American men.³² Enrollees had previous experience restoring a battlefield at the Wilderness, part of Fredericksburg-Spotsylvania National Military Park, and completing conservation and recreational work at Wolf Gap, Virginia. The first CCC camp at the canal was founded in September 1938, before the sale of the property was final. A second camp was founded shortly after in October of the same year.³³ While stationed near Carderock, 350 CCC workers began the restoration of the canal area between Lock 14 and Widewater. By January 1942, when the second camp closed, the two camps cumulatively logged 158,700 “man days” (meaning the amount of work done by one person in an eight-hour period) of work along the first 21 miles of the canal.³⁴

By February 1940, 23 locks between Georgetown and Seneca had been restored. Materials were often salvaged from locks farther up the canal or reconstructed with new material. Workers repointed stonework, built new wood lock gates, and rehabilitated structures damaged by flooding. Several lockhouses received plumbing, heating, and electrical system upgrades, which allowed occupation by staff and their families or visitors. Canal managers reached their goal of re-watering the first 21 miles of the canal on August 17, 1940, and opened the canal to the public as a recreational waterway.³⁵ At that time, early discussions of designating the canal as a national historic site reemerged; however, President Roosevelt declared a moratorium on designations during World War II and dismissed the topic.³⁶ This type of historic designation had never been previously considered for a property in the National Capital Region (NCR).

Planning for interpretive exhibits and programming at the canal began in 1939, headed by historian Sutton Jett, who envisioned a system of historical markers detailing the history of the canal. These first markers remained along the towpath until 1950, when vandalism led to an end to the program. The Welfare and Recreational Association, a quasi-governmental business that operated cafeterias, concession stands, and vending services on Federal grounds, began offering mule-drawn barge trips on the *Canal Clipper* in July 1941 between Georgetown and Lock 5.³⁷ As one of the first living history programs under the auspices of the NPS, it was quite popular and attracted favorable publicity for the canal.³⁸ Activity and restoration work on the canal continued until the onset of World War II, when CCC camps closed and military troops occupied the barracks. The C&O Canal had little influence within the NPS as it was not officially a park

³¹ Letter, Cammerer to Willard, February 6, 1939 (Washington, DC: National Capital Parks, National Park Service, Record Group 79, C&O Canal file 650.03 [C&O file 650.03, RG 79]); Willard to Cammerer, February 10, 1939 (C&O file 650.03, RG 79); Assistant Research Technicians’ Monthly Report, October 1939, cited in Mackintosh, 24.

³² Josh Howard, “Our Only Alma Mater”: The Civilian Conservation Corps and the C&O Canal, Special History Study, Final Draft (Washington, DC: NPS, <http://npshistory.com/publications/choh/our-only-alma-mater.pdf>, December 16, 2017), 1.

³³ Howard, 54.

³⁴ Howard, 1.

³⁵ Mackintosh, 37-39.

³⁶ Mackintosh, 40.

³⁷ Myron Struck “GSI, U.S. Break Ties Food,” *The Washington Post*, December 14, 1984.

³⁸ Mackintosh, 41.

unit or even designated within the NCR park system. Funding was therefore cut and little work could be done.³⁹

A major flood struck the Potomac Valley in October 1942, which destroyed much of the canal restoration work that had been completed. Prior to the war, an NPS naturalist recommended that the entire length of the canal be restored, citing the unparalleled potential for outdoor educational opportunities; however, the major effort and funding amounts needed to repair the damage to only the first 22 miles of the canal below Seneca was enough to dissuade any extension of the restored waterway.⁴⁰ As it was during wartime, repairs could only be made to the feeder dam to restore water to the Georgetown mills needed for military operations. Repairs to any public recreational areas had to wait until after the war. Given the canal's status within the NPS, Federal funding had to come through a special appropriations process and eventually through legislation that formalized future appropriations specifically for the canal.⁴¹

Although the prospect of restoring the entire length of the canal dimmed in the wake of the flood, the NPS still planned for the management of the remaining 162.5 miles. Challenges in its management included narrow park-owned rights-of-way, encroachment by private landowners and squatters, and a lack of legal authority to acquire extended land along the canal to create a proper recreational property.⁴² Until the 1960s, Federal parks could only acquire land by donation, making the State of Maryland an important partner for the canal moving forward. A proposal emerged from the U.S. Army Corps of Engineers (USACE) to administer a flood control project that would involve the construction of a series of dams and 14 reservoirs flooding areas between Great Falls and Harpers Ferry, Little Falls and Great Falls, Harpers Ferry and Shepherdstown, Shepherdstown and Williamsport, Williamsport and Hancock, and Little Orleans and Paw Paw. Significant features included the Monocacy and Antietam Aqueducts, and 78 miles of the towpath would also be flooded as part of the project. The plan received significant opposition by both the public and the NPS, which believed the proposal would “poorly serve public recreation.”⁴³ As a result, further Federal endorsement of the plan halted and interest turned to the concept of developing the canal land as a scenic parkway.

The NPS maintained the authority to construct a parkway under the NIRA, as the canal had been purchased for the “construction of a parkway as well as the rehabilitation of the existing canal as an historic site.”⁴⁴ Park planners acknowledged that the referenced parkway corresponded to the plan for the George Washington Memorial Parkway as far as Great Falls and not farther up the canal; however, at the initial purchase of the canal and in the few years following, NPS landscape architects opposed the idea and did not further its development, focusing instead on a general plan to restore the canal for recreational and wildlife conservation purposes.⁴⁵ Following the flooding of 1942 and increasing pressures from USACE projects, sentiments shifted and park planners agreed that a plan was needed for the recreational development of the canal as a whole. Although the parkway was now the preferred alternative of park landscape architects, the flood control project proposal gained a footing in 1946 when the NPS Associate Director Arthur Demaray endorsed the project as it could improve recreation in Cumberland, Maryland. The estimated cost at the time to fully restore the canal was \$10 million with \$300,000 estimated for each following year for maintenance, funding unlikely to be provided by Congress. The NPS therefore urged the

³⁹ Mackintosh, 46.

⁴⁰ Mackintosh, 44, 49.

⁴¹ Mackintosh, 48.

⁴² Mackintosh, 49.

⁴³ Mackintosh, 51.

⁴⁴ “Memorandum, McClellan to Harry Edelstein, January 10, 1946, file 1460/C&O, WNRC, cited in Mackintosh, 54.

⁴⁵ Mackintosh, 53.

consideration of the flood control project as long as an option for a parkway to Cumberland was also considered.⁴⁶

The riverside drive or canal parkway had support in western Maryland, an economically depressed area with few good roads. J. Glenn Beall, western Maryland's Congressman, introduced legislation for a feasibility study of the amended flood control proposal, which included an option for a parkway. Beall's bill passed through Congress without debate and authorized \$40,000 for a "joint reconnaissance study" by the NPS and Bureau of Public Roads (BPR) "to determine the advisability and practicability of constructing a parkway along the route of the Chesapeake and Ohio Canal."⁴⁷ The NPS-BPR report, delivered to Congress in August 1950, supported a parkway if the State of Maryland would donate additional land for the right-of-way. Benefits included a suitable approach to the capital, recreational development, preservation of structures and historic sites along the canal, and contributions to civil defense. The road would be 24 feet wide with 8-foot shoulders. There would be two roadways, straddling the canal where possible, for 22 of the 32 miles between Great Falls and Point of Rocks and for the last 3 miles at Cumberland. It was suggested that the canal's aqueducts be repaired and turned into bridges to carry the road. While the parkway report was still in draft form, Representative Beall introduced another bill to obtain legal authority to accept the needed lands from Maryland. Also authorized were land exchanges, mainly to permit a proposed swap of some canal land in Cumberland for some B&O Railroad land along the canal. On September 22, 1950, the bill, unopposed in Congress and supported by the Department of the Interior, became law.⁴⁸

At that point defenders of the canal began to protest plans for the parkway. Despite NPS insistence that the parkway plan would not violate policies on conservation and would protect the natural and historical features of the park, many believed the land would be better served if kept in a natural state.⁴⁹ Eventually, proposed plans for the parkway were reduced to extend only from Cumberland to Hancock as a "walking parkway"; however, many believed the NPS had a hidden plan to later extend it the full length of the canal, and opposition increased.⁵⁰ In a famous attempt to convince advocates of the parkway that the natural landscape of the canal would be destroyed by a new road, Supreme Court Justice William O. Douglas, an avid outdoorsman, led over two dozen people on a seven-day hike downstream along the canal, starting at Lock 72, 10 miles down from the deteriorated canal terminus, and ending in Washington, D.C., in 1954.⁵¹ In the months after the hike, public sentiment against the concept of a canal parkway grew vocal, and in January 1955, NPS Director Conrad Wirth appointed a committee to restudy the development of the canal from Great Falls to Cumberland.⁵² To the dissatisfaction of Senator Beall, the committee ultimately recommended that the park be designated a national recreation area if a parkway was not to be built. In opposition, Beall proceeded to officially endorse the designation of the C&O Canal as a National Historical Park along with an associated but separate parkway west of Hancock.⁵³

Although parkway plans along the canal between Great Falls and Cumberland were now repressed, work on the Maryland section of the George Washington Memorial Parkway, which had been authorized in 1930, finally began in the late 1950s. Despite opposition based on potential impacts to the canal and its structures, the parkway was completed from the District line to a junction with MacArthur Boulevard by 1965. The judgment of the parkway's opponents was confirmed when Lockhouse 5 was demolished for the

⁴⁶ Memorandum, Demarat to Chapman, March 6, 1946, file 1460/C&O, WNRC, cited in Mackintosh, 55.

⁴⁷ *Congressional Record* 94: 4636, 6763; Public Law 80-618, U.S. Statutes at Large 62:351.

⁴⁸ United States Congress, House, *Chesapeake & Ohio Canal Report*, H. Doc. 678, 81st Congress, August 16, 1950, cited in Mackintosh,.

⁴⁹ Mackintosh,.

⁵⁰ Irston R. Barnes, "Historic C & O Canal Threatened by Road," p. 135, cited in Mackintosh, 66.

⁵¹ Reproduced in Jack Durham, "The C&O Canal Hike," *The Living Wilderness* 19, no. 48 (Spring 1954):2, cited in Mackintosh, 68-69.

⁵² Mackintosh, 74.

⁵³ Mackintosh, 75.

parkway, despite NPS assurances that the lockhouses would remain.⁵⁴ This section was renamed the Clara Barton Parkway in 1989 to prevent confusion with the George Washington Memorial Parkway section in Virginia.

Beall, now a senator, and Representative DeWitt S. Hyde of Maryland introduced identical bills drafted by the NPS legislative office in 1957. These bills called for the Chesapeake & Ohio Canal National Historical Park to encompass up to 4,800 acres of existing NPS land from the planned George Washington Memorial Parkway terminus above Great Falls to a point determined by the Secretary of the Interior in or near Cumberland. Additional land acquired by the Secretary would bring the park to as much as 15,000 acres. The Secretary would be allowed to exchange land in Cumberland for desired land elsewhere.⁵⁵ Despite amendments to the bills, they remained unpassed until 1961, mostly because of a debate about development of dams in the Potomac River. Two days before he left office, on January 18, 1961, President Dwight D. Eisenhower used the executive authority granted by the 1906 Antiquities Act to proclaim the C&O Canal lands between Seneca and Cumberland a national monument. This proclamation, recommended to Eisenhower by Secretary of the Interior Fred A. Seaton, gave this area of the canal status as a national park system unit, but it had little practical effect: it brought no funding and did not authorize expansion or development.⁵⁶

Meanwhile, the USACE issued a summary of its long-awaited Potomac Basin restudy in May 1962, proposing 16 dams on the Potomac and its tributaries. One of these dams, the Riverbend Dam, would flood about 6 miles of the canal.⁵⁷ As U.S. senators continued to push legislation regarding land acquisition, reservoir storage, and park boundaries, the NPS made some progress at the park, installing several primitive campgrounds along the canal in the 1950s, launching the hiker-biker campground system in the early 1960s, developing the Antietam Creek campground, and installing the Four Locks boat ramp and access.⁵⁸ In addition, a master plan for the national monument was approved in 1964. It proposed extensive recreational developments and the re-watering of many stretches of the canal.⁵⁹

Secretary of the Interior Stewart Udall endorsed and sent to President Lyndon B. Johnson the Potomac Interim Report to the President in 1966, written by the Federal Interdepartmental Task Force on the Potomac, formed to work with an advisory committee representing the Potomac Basin states. The report recommended a Potomac Valley Historical Park that would encompass the C&O Canal National Monument and other land in Maryland, Virginia, and West Virginia.⁶⁰ Two years later, a revised plan was issued, which called for a Potomac National River of 67,000 acres from Washington to Cumberland, incorporating the canal. This plan brought forward much of the proposed development from the 1964 master plan. The proposal was so controversial, however, that the idea of a national park became preferable. The river development lobby had since disappeared, leading to a virtual lack of opposition to the creation of the park.⁶¹

On January 8, 1971, President Richard Nixon signed into law a bill establishing the Chesapeake & Ohio Canal National Historical Park.⁶² The park included the national monument and the canal property from Seneca down to Rock Creek, consisting of about 5,250 acres. A land acquisition program quickly progressed as park boundaries were properly established. The enabling legislation that created the park also

⁵⁴ Mackintosh, 80.

⁵⁵ Mackintosh, 81.

⁵⁶ Mackintosh, 90.

⁵⁷ Mackintosh, 93.

⁵⁸ Mackintosh, 155.

⁵⁹ Mackintosh, 120.

⁶⁰ Federal Interdepartmental Task Force on the Potomac, *Potomac Interim Report to the President* (Washington: Department of the Interior, 1966), cited in Mackintosh, 94.

⁶¹ Mackintosh, 95.

⁶² *Congressional Record* 116: 43245; Public Law 91-664, U.S. Statutes at Large 84: 1978-80.

established a 19-member Chesapeake & Ohio Canal National Historical Park Federal Advisory Commission (FAC), with Secretary-appointed members serving five-year terms.⁶³ The FAC advises the Secretary of the Interior on policy relating to the C&O Canal NHP. Congress continually authorized the commission every five or six years until 2011, when it expired. Congress reauthorized the Commission in 2013.

Park Purpose as written in the 1971 enabling legislation (Public law 91-664, 91st Congress, H.R. 19342, January 8, 1971):

Sec. 3. (a) In order to preserve and interpret the historic and scenic features of the Chesapeake and Ohio Canal, and to develop the potential of the canal for public recreation, including such restoration as may be needed, there is hereby established the Chesapeake and Ohio Canal National Historical park, in the States of Maryland and West Virginia and in the District of Columbia.

Following the 1971 legislation, no immediate organizational change took place. In 1967, the administration of the C&O Canal National Monument had been combined with the nearby Antietam National Battlefield Site, a practice of the NPS to geographically group the management of related park units. The lower portion of the canal, not within the national monument boundaries, remained under the administration of the George Washington Memorial Parkway. Although the entire canal was now a single unit of the National Park System, the former national monument portion remained under the management of the Antietam-C&O Canal Group, and the lower portion continued to be administered by the superintendent of the George Washington Memorial Parkway. According to Mackintosh, this was the only time in NPS history that a contiguous park system unit was divided between two superintendents.⁶⁴ This management organization lasted only until 1974, when William R. Failor, the superintendent of the Antietam-C&O Canal Group, was named the first superintendent of the entire C&O Canal NHP.⁶⁵

Hurricane Agnes struck in 1972, causing the Potomac Valley's greatest flooding since 1936. The flooding eroded 66 miles of the towpath and berm wall, damaged many of the aqueducts and locks, swept away many bridges, uprooted thousands of trees, washed numerous private cottages onto park property, and heavily silted, damaged, and destroyed access roads, picnic areas, and parking lots.⁶⁶ The Secretary of the Interior at the time, Rogers C. B. Morton, assessed the damage and approved \$400,000 for canal repairs and restoration. Still, more funding was required, so Morton also approved the inclusion of the C&O Canal NHP on the American Revolution Bicentennial area list, despite its lack of a connection to the Revolution.⁶⁷ As a result, the C&O Canal NHP received \$4,250,000 from the Bicentennial program for the completion of 27 projects across the park.⁶⁸ The NPS established a C&O Canal Restoration Team in September 1973 to plan and oversee some of the repair work, including at the Catoctin, Monocacy, and Seneca aqueducts, and a bridge over the towpath.⁶⁹ A summary list of the 27 projects is provided below.

⁶³ Mackintosh, 100.

⁶⁴ Mackintosh, 140.

⁶⁵ Chesapeake and Ohio Canal National Historical Park Assessment of Damage as of June 30, 1972, C&O Canal Flood of 1972 file, Office of Land Use Coordination, National Capital Region, NPS, cited in Mackintosh, 141.

⁶⁶ Mackintosh, 159-161.

⁶⁷ Letter, Russell E. Dickerson to Sen. Henry M. Jackson, April 27, 1973, C&O Canal NHP file, History Division; transcript, C&O Canal Commission meeting, November 4, 1972, p. 21, cited in Mackintosh, 161; Merrill J. Mattes, *Landmarks of Liberty: A Report on the American Revolution Bicentennial Development Program of the National Park Service* (Washington: National Park Service, 1989), 4.

⁶⁸ Mattes, 16-29.

⁶⁹ Mackintosh, 162.

PROJECT

Wall Stabilization, Lock 3
Towpath Restoration, Foundry Branch to Lock 5
Towpath Reconstruction, Lock 5 to Lock 10
Little Falls Creek Culvert, Berm Bank Stabilization
Repairs to Locks 15 and 16
Restoration of Stop Lock, Level 16
Muddy Branch Culvert Repair
Little Monocacy Creek Culvert Repair
Monocacy River Aqueduct Repair and Stabilization
Catoctin Creek Aqueduct Stabilization
Little Catoctin Creek Culvert Repair
Towpath Continuity, Level 34

PROJECT

Stabilization of Guard Locks 4, 5, and 6
Stabilization of Lock 48
Mule Barn Restoration, Four Locks
Parkhead Level Culvert and Waste Weir Repair
Tonoloway Creek Aqueduct Stabilization
Stabilization of Lock 54
Woodmont Culvert Repair
Sideling Hill Creek Aqueduct Stabilization
Fifteenmile Creek Aqueduct Stabilization
Town Creek Aqueduct Dewatering
Evitts Creek Aqueduct Stabilization

In April 1974 the NPS acquired Ferry Hill in Sharpsburg, Maryland, a plantation with a historic house and associated outbuildings. A few months later, the Antietam-C&O Canal Group disbanded and the park as a whole received its first superintendent. No longer associated with Antietam, Ferry Hill appeared to be a good location for a new park headquarters; however, the previous owner retained a right of occupancy until 1979 and therefore the park could not move in until 1980.⁷⁰ As park planning progressed, the National Capital Parks Director approved the Chesapeake & Ohio Canal National Historical Park General Plan in January 1976, which defined the park's management objectives and divided the park into 32 sections, each assigned to one of five zones: Zone A (the National Interpretive Zone), Zone B (Cultural Interpretive Zone), Zone C (Short-Term Recreation Zone), Zone D (Short-Term Remote Zone), and Zone E (Long-Term Remote Zone). This General Plan has remained a principal guide for park management.

By the end of 1977, the NPS had spent the \$20.4 million authorized for land acquisition in the 1971 bill and acquired most of the lands and interests that it had planned to acquire under the act. A total of 12,640 acres were held in fee, and scenic easements were held on another 1,164 acres, for a total of 13,804 acres. The National Parks and Recreation Act of 1978 revised the park's boundary, adding about 600 acres and authorizing another \$8 million for land acquisition.⁷¹

By the end of 1990, the park included 19,237 acres. Out of this, 14,069 acres were under NPS ownership or control: 12,713 acres in fee and 1,356 acres of scenic easements. Additional land (2,528 acres) was held by the State of Maryland and other public jurisdictions, much of it in Green Ridge State Forest and Fort Frederick and Seneca Creek State Parks. The remaining land, 2,640 acres, was privately owned.⁷²

⁷⁰ Mattes, 16-29.

⁷¹ Chesapeake and Ohio Canal National Historical Park Annual Report, 1977; Interview with Richard L. Stanton, February 27, 1990, cited in Mackintosh, 113-114.

⁷² National Park Service Listing of Acreages as of 12/31/90, NPS Land Resources Division, cited in Mackintosh, 118.

TABLE 1.1: TIMELINE OF MAJOR EVENTS AT C&O CANAL NHP, 1825-2021

DATE	EVENT	SUPERINTENDENT
1825	The Chesapeake & Ohio Canal Company chartered by Congress to build a canal along the Potomac River from Washington, D.C., to Cumberland, Maryland.	-
1828	Ground-breaking at Little Falls, Maryland. C&O Canal construction began just outside the D.C. boundary.	-
1831	C&O Canal open for trade from Georgetown, D.C., to Seneca, Maryland.	-
1834	C&O Canal opened to a point 26 miles above Harpers Ferry.	-
1839	C&O Canal opened to Hancock (total of 134 miles).	-
1846	Flood struck the canal in July.	-
1850	Canal completed from Cumberland to Georgetown and formally opened on October 10. Severely damaged in a flood and re-watered after repairs.	-
c. 1852-1853	A series of floods struck the canal, destroying the company's financial viability.	-
1864	Scattered rains in April in the Potomac Valley caused flood damage along canal.	-
1877	Another flood struck, significantly affecting navigation and trade along canal.	-
1886	During April and May, three floods occurred within six weeks.	-
1889	Following the 1889 flood, the C&O Canal Company went bankrupt. Canal reopened in September 1891 under the B&O Railroad as receivers.	-
1891	Canal fully restored with funding from the B&O Railroad Company, under Chesapeake and Ohio Transportation Company.	-
1924	In March canal struck by the first major flood in 35 years. Canal damage not extensive, and canal was repaired at little cost to the receivers. A more severe flood struck the canal in May, badly damaging it from Cumberland, Maryland, to the Tidewater. Chesapeake and Ohio Transportation Company ceased navigational operation of the canal. The C&O Canal Company still existed as a legal entity and, as such, operated the canal, if only on paper.	-
1936	In mid-March the heaviest flood in the recorded history of the Potomac Valley wreaked havoc on the deserted canal. Some repairs were made, but it was not returned to its pre-flood condition.	-
1938	U.S. government purchased C&O Canal for \$2 million.	-
1941	Lower, re-watered 22 miles of canal administratively designated as the Chesapeake and Ohio Canal Recreational Waterway.	-
1942	Another major flood struck the Potomac Valley in October. Less severe than the 1936 flood but destroyed much of the 1939-1940 canal restoration work.	-

DATE	EVENT	SUPERINTENDENT
1958	The NPS finished repairs along entire canal by 1957. In September 1958 visitors could use the repaired 184.5-mile towpath without detouring around flood damage.	Edwin M. Dale
1961	Presidential Proclamation 3391 declared the canal lands between Seneca and Cumberland a national monument, giving this portion of the canal status as a unit of the National Park System.	-
1971	Public Law 91-664 (January 8, 1971) combined the Chesapeake & Ohio Canal National Monument, and the canal property from Seneca down to Rock Creek, as the Chesapeake & Ohio Canal National Historical Park (C&O Canal NHP). The Chesapeake and Ohio Canal National Historical Park FAC created and authorized for first 10-year period.	W. Dean McClanaham
1972	Hurricane Agnes, causing the worst flooding since 1936, caused major damage to canal from Hancock to Georgetown in June.	-
1974	William Failor named first Superintendent of the C&O Canal NHP.	William R. Failor
1979	Canal approved for listing in National Register of Historic Places (NRHP).	-
1985	Flooding affected canal in November, the worst damage occurring in the upper portion.	Richard L Stanton
1991	C&O Canal NHP completed its first administrative history.	Thomas Hobbs
1992	Canal re-watered at Hancock.	-
1993	The Canal Place Preservation and Development Authority formed along with the Canal Place Historic Preservation District (re-designated as the Canal Place Heritage Area in 2001).	-
1994	Station Square redevelopment completed.	-
1996	Another season of major flooding caused significant damage to canal and historic structures.	Douglas Faris
2000	The Cumberland Visitor Center and Museum opened.	-
2002	Park Headquarters relocated from Ferry Hill to Hagerstown.	-
2005	The Monocacy Aqueduct restored and dedicated in May.	Kevin Brandt
2006	Re-watering of the Cumberland terminus of the canal completed.	-
2008	The Canal Quarters Pilot Program launched successful renting of restored lockhouses to visitors.	-
2010s	The Great Allegheny Passage opened entirely.	-
2011	The Catocin Aqueduct restored and reopened October 15 along with the Big Slackwater Towpath in the same year. Authorization for the C&O Canal FAC expired, January 8.	-
2013	C&O Canal FAC reauthorized for ten-year period. Sequestration	-

DATE	EVENT	SUPERINTENDENT
2018	C&O Canal NHP entered a Cooperative Management Agreement with Maryland Economic Development Corporation (MEDCO) for developing a financial package for construction of a new park headquarters in Williamsport.	-
2019	The Conococheague Aqueduct restored and officially reopened on August 8; C&O Canal NHP began the relocation process of its headquarters from Hagerstown to Williamsport.	Tina Cappetta
2020	The NPS approved the Georgetown Canal Plan.	-
2021	Park Headquarters relocated from Hagerstown to Williamsport (May 1).	-

1.5 SUMMARY OF PARK RESOURCES

Spanning the Coastal Plain, Piedmont, Blue Ridge, and Ridge and Valley physiographic provinces, the C&O Canal NHP contains expansive geologic and topographic diversity. This begets the extraordinary diversity of threatened and endangered plant species and communities in addition to unique geological features like caves and fossil-bearing formations. The canal's entire 184.5-mile length is built adjacent to the Potomac River, with approximately 261 perennial streams and hundreds of intermittent streams flowing through or under the park before emptying into the Potomac River. Not surprisingly, the mostly forested park provides habitat for numerous wildlife species, including threatened and endangered bats, robust amphibian populations, and diverse insect communities.

The C&O Canal consists of an intact historical canal system that extends 184.5 miles from Georgetown in Washington, D.C., to Cumberland, Maryland (see Figure 1.1). The canal closely follows the north bank of the Potomac River and contains over 500 historic canal-related structures, including lift locks, culvert, aqueducts, waste weirs, and lock houses. Numerous historic structures associated with the adjacent agricultural, industrial, and transportation uses are extant within park boundaries. More than 280 archeological sites, most representing prehistoric habitation along the river, have been identified in the park along with five cultural landscapes that contribute to the historical understanding of the canal and its associated resources. The C&O Canal NHP contains an outstanding depth and diversity of cultural resources spanning almost all eras of American history.

2.0 OVERALL PARK HISTORY, 1991-2021

2.1 EVOLUTION OF THE PARK LEADERSHIP'S VISION

2.1.1 Flood Recovery and a Shift to Public Engagement, 1991-2005

The foundational philosophy of preserving the C&O Canal as a significant part of national engineering, transportation, and conservation history has consistently guided park leadership in making management decisions.⁷³ Caring for the canal and the important cultural and natural resources that come with it has remained central to that philosophy among park superintendents. Yet, since the opening of the park, a constant conflict between the recreational/transportation aspects of the park and the preservation of resources because of the park's location on a river that floods has resulted in differing management strategies among superintendents.

Under Superintendent Thomas O. Hobbs (1989-1994), the park issued a Statement for Management in April 1991, adding eight new objectives to the three management objectives established in C&O Canal NHP's 1976 General Plan, which were to (1) preserve the atmosphere of past times and enduring natural beauty and safeguard historic remains and natural features, (2) impart to visitors an understanding and appreciation of a historic way of life blended into the natural setting of the Potomac Valley, and (3) develop the potential of the park's recreation resources for safe yet stimulating enjoyment by the visitors within limits compatible with the other two management objectives. The first new objective indicated the park's focus on the preservation of historic resources:

To preserve, protect, and maintain the historic resources and to prevent further deterioration and decay based on a level of stabilization, restoration, or reconstruction through a practical preservation program.

The other seven objectives addressed interpretation and recreational experiences at the park, safety on the Potomac River and in the park generally, cooperation with agencies and outside interests to promote compatible use and development of the park and to ensure public access to park amenities; promotion of the park's mission, purpose, and significance; and the efficient management of the park. The park developed these management goals on the heels of major damage from Hurricane Agnes in 1972, flooding in 1985, and subsequent cleanup, stabilization, and restoration efforts that had progressed through 1991 and focused attention on the preservation of historic resources. Other major challenges at the time included serving park visitors, completing a land protection program, and upgrading the staffing and funding to meet the challenges of park management in the 1990s.⁷⁴

To combat these challenges, the park sought to participate in numerous programs, such as the Park Restoration and Improvement Program (PRIP),⁷⁵ Student Conservation Association (SCA), Youth Conservation Corps, Emergency Jobs Bill Program, and the D.C. Youth Summer Employment Program. The park also expanded volunteer programs to work on maintenance activities, which was previously not

⁷³ These areas of significance are founded in the 1979 National Register of Historic Places Nomination for the C&O Canal (Romigh and Mackintosh 1979).

⁷⁴ NPS, *Statement for Management, C&O Canal National Historical Park* (Washington, DC: U.S. Department of the Interior, National Park Service), 21.

⁷⁵ NPS established the PRIP in 1981 to primarily fund the upgrading of existing park facilities, rather than new development (NPS, *Preserving Nature in the National Parks: A History, Chapter 7: A House Divided: The National Park Service and Environmental Leadership* (Washington, DC: U.S. Department of the Interior, National Park Service), https://www.nps.gov/parkhistory/online_books/sellars/chap7c.htm); (National Park Service, *Directors of the National Park Service*, <http://npshistory.com/publications/directors/index.htm>).

permitted.⁷⁶ A key development at the end of Hobbs's short tenure as superintendent was restoration efforts in Williamsport, including the re-watering of the Cushwa Basin.

Superintendent Doug Faris began his tenure in 1994 and within only two years was quickly confronted with two of the most damaging floods in the park's history (see Section 4.2.1). He mounted an impressive response through the C&O Canal Flood Recovery Program (see Section 4.2), which not only worked to restore the canal, but began a major campaign to restore the Monocacy Aqueduct (see Section 4.2.2). Whether a consequence of the flood damage to park historic resources or his original intent as a Superintendent, Faris's leadership and management vision following these events placed emphasis on the management of cultural resources with a heavy focus on development in the park. For example, he championed efforts to provide public access to all park resources by improving parking areas and maintaining the continuity of the towpath (one of the top recreational destinations of visitors) and took on major projects, including the opening of the Cumberland Visitor Center and Museum, the relocation of park headquarters from Ferry Hill to Hagerstown, and the stabilization and rehabilitation of the Great Falls Visitor Center. As a means to that end, he sought to enhance partnerships, volunteer programs, and fundraising efforts to support the larger development projects. He effectively increased the park's fundraising base by hiring a fundraising consultant in 2001 to establish relationships with community-based foundations located in nearby counties. The park also hired a volunteer coordinator in 2001 to facilitate the park's Volunteer-In-Parks (VIP) programming.⁷⁷ Despite the successes of these programs and larger projects, as a result of this focus on park development, park managers were often overwhelmed with completing support and compliance tasks, such as environmental assessments, funding requests, and cultural and historic resource studies for the abundance of development projects.⁷⁸

Other tenets of Faris's superintendency included challenges addressing land use and a rapidly expanding park. Faris routinely encouraged communication with adjacent landowners concerned about park visitors and damage to their homes, led an effort in establishing park safety protocols for staff and visitors, and increased staff inclusion initiatives and employee events to improve communication and park operations.

In the transition from Superintendent Faris to Kevin Brandt in 2003, the focus on resource management remained somewhat the same, but the impacts of a low budget to staffing ratio required strategic thinking about which resource management projects to undertake. Between 2001 and 2003, full-time staff at the park increased from 44 to 122 employees (a 170 percent increase) with only a 15 percent rise in the annual budget (Table 2.1). Brandt had been employed by the park as the Assistant Superintendent since March 1996 and having worked closely with Faris, he had great familiarity with park resources. He had experienced the menace of flooding and supported Faris in efforts to better understand the frequency of flood events and the possibilities for sustainable repair. By the time Brandt took leadership, however, flood recovery aid and other forms of funding for repair projects had been exhausted, and Brandt therefore inherited a park management system with more planned projects than it had the capacity to complete.

Once named superintendent, Brandt immediately toured the full length of the canal with a goal to meet each employee to gauge the mindset of park staff and determine their needs.⁷⁹ Although he did not meet

⁷⁶ NPS, *Statement for Management*, 21.

⁷⁷ NPS, *2001 Superintendent's Annual Report* (Washington, DC: U.S. Department of the Interior, National Park Service), 1-2.

⁷⁸ Now-superintendent Tina Cappetta, then the Chief of Resources Management, recalls the reality of working on preservation projects "full on, all the time," including archeology projects, Cultural Landscape Reports, structure preservation, and restoration (Tina Cappetta, "Former Park Employees Discussion Questions," interview by Sophie Kelly (Washington, DC: notes on file, WSP USA Inc., September 21, 2017).

⁷⁹ Cappetta, interview; Kevin Brandt, "Questions for Kevin Brandt," interview by Kate Umlauf, WSP (Washington, DC: notes on file, WSP USA Inc., October 12, 2021).

TABLE 2.1: TOTAL FULL-TIME EMPLOYEES AT C&O CANAL NHP, 2000-2020

FISCAL YEAR	FULL-TIME EMPLOYEES (FTE)	BUDGET (\$)	RECREATIONAL VISITS	NOTES
2000	23	6,540,000	3,115,654	-
2001	44	7,207,000	4,174,048	-
2002	122	7,605,000	3,202,378	-
2003	122	8,298,000	2,801,592	-
2004	116	8,890,000	2,918,399	15 FTE left the park this fiscal year (few were filled) ⁸⁰
2005	111	8,890,000	3,000,005	-
2006	107	8,979,000	3,039,178	Interpretive division lost 5 of 9 permanent FTE. Visitor and Resource Protection Division had 21 FTE. Launch of NPS Centennial Initiative.
2007	103	9,113,000	2,809,968	-
2008	111	9,866,000	3,111,468	-
2009	119	10,331,000	3,751,681	-
2010	126	10,597,000	4,111,238	-
2011	126	10,327,000	3,937,504	-
2012	112	10,152,000	4,712,377	-
2013	102	9,539,000	4,941,367	Sequestration enacted March 1, 2013, requiring all parks to reduce budgets for a total NPS nationwide budget reduction by 5 percent. ⁸¹
2014	89	9,339,000	5,066,219	-
2015	76	9,396,000	4,798,312	-
2016	74	9,534,000	4,813,078	NPS Centennial Celebration
2017	78	9,581,000	4,859,573	-
2018	73	9,707,000	4,438,818	-
2019	67	9,740,000	5,116,787	-
2020	64	9,571,000	4,888,436	-
2021	70	9,885,000	5,005,217	-

with all employees, Brandt quickly and critically recognized that park staff could no longer accomplish the long list of projects they wanted to and began the difficult task of creating group consensus on the types of projects the park would stop pursuing and the ones they would continue to pursue.⁸²

Brandt's leadership vision turned to engaging communities inside and outside the park and began setting priorities for projects based on community benefits and desires. Brandt also felt that by listening to the

⁸⁰ NPS, 2004 Annual Narrative Report.

⁸¹ Jonathan B. Jarvis, NPS, Federal Agency Sequestration – 4.16.13 (Washington, DC: US Department of the Interior, National Park Service, https://www.doi.gov/ocl/hearings/113/federalagencysequestration_041613).

⁸² Brandt, interview.

values expressed by stakeholders, connecting with towns along the canal, and managing their expectations on what the canal had to offer, they were more likely to become advocates for the park and could ultimately supply a more direct source of funding as opposed to the funds allocated through the NPS. With limited financial resources, Brandt sought to prioritize projects that reflected the values of local stakeholders as well as those that would best serve the park's purpose of preserving and interpreting the canal and providing opportunities for education and outdoor recreation. This vision ultimately led to a focus on larger development projects oriented around popular recreational activities in the park rather than preservation projects. Projects in the early 2000s included completing the Monocacy Aqueduct, re-watering the Cumberland terminus of the canal, and launching the Canal Quarters program. Other key developments during Brandt's superintendency that correspond to his vision include the Conococheague Aqueduct restoration, the relocation of park headquarters from Hagerstown to a new construction building in Williamsport, and the revitalization of towns along the canal, including currently proposed Georgetown. Alternatively, smaller park maintenance projects quickly accumulated in the maintenance backlog.

2.1.2 Development of a Strategic Plan and Climate Resilience, 2006-2021

For the first four years of Brandt's tenure (2003-2006), the park annual budget remained relatively flat, while staffing was reduced, contributing to the lack of capacity to complete projects. Some relief in funding came around 2006, particularly from the NPS Centennial Funding, which helped propel the park into a new phase of management that benefited from an increase in seasonal and full time staffing and funding for programming (see Table 2.1).⁸³ In 2006 President Bush launched the National Park Service Centennial Initiative ahead of the 2016 Centennial celebration of the NPS. The 10-year initiative introduced two new sources of funding for NPS units: the Centennial Challenge and operational enhancement funding.⁸⁴ At the C&O Canal NHP, the budget between 2006 and 2010 increased by 18 percent from \$8,979,000 to \$10,597,000 and staffing reached 126 full time employees. During this period of increased resources, the park began to allocate more resources to natural resource management, specifically invasive and endangered species. The park also shifted away from the use of park resources to accommodate bikers and maintaining trails to more involvement and engagement with the towns along the canal and using volunteers and outside organizations to help with the operation of recreational activities.⁸⁵ In commonality with Faris, Brandt worked extensively to maintain the towpath and keep it safe, open, and intact for the large number of visitors who came to hike and bike the trail. The restoration of the Monocacy Aqueduct and the Paw Paw Tunnel were major successes in providing for the continuity of the towpath both for visitor use and the historical integrity of the park. Prior to these projects, the towpath had areas of discontinuity where users had to leave the path and reconnect at a different location. Towns along the canal benefited from and continue to benefit from the tourism draw of the towpath as an international biking destination, making its continuity a long-time goal of park management.⁸⁶ Park management also envisioned creating new interpretive programming, including bringing back the experience of navigating the full canal from Georgetown to Seneca.⁸⁷

Up until that time, park management and planning guidance fell to the 1976 General Plan. According to former Superintendent Kevin Brandt, the park intended to update the plan in the early 2000s, but by the time funding from the NPS came through, the NCR director determined that the cost-to-time ratio of

⁸³ Jim McCleaf, "Federal Advisory Commission Discussion Questions," interview by Sophie Kelly (Washington, DC: notes on file, WSP USA Inc., September 8, 2017).

⁸⁴ U.S. Department of the Interior, Press Release: Nearly \$27 million for National Park Centennial Challenge projects and programs in 2009 (Washington, DC: U.S. Department of the Interior, January 13, 2009, last edited September 29, 2021, https://www.doi.gov/news/pressreleases/2009_01_13_release).

⁸⁵ George Lewis, "Discussion with George Lewis: 08/21/2017 (10:30am)," interview by Sophie Kelly (Washington, DC: notes on file, WSP USA Inc., August 21, 2017).

⁸⁶ Brandt, interview.

⁸⁷ Brandt, interview.

creating the plan was too high.⁸⁸ Former FAC member James Gilford expressed that all superintendents following the dismissal of a new General Plan were strongly concerned about the history of the park, its structures, and the surrounding community.⁸⁹ The action by the regional director to forego the development of a new General Plan likely stemmed from a nationwide NPS transition to a more comprehensive and structured framework for park management issued in 2006, the NPS Management Policies, outlining the necessary planning documents for effective park management. This included a new first step in the process: Foundation Documents.⁹⁰

The park held a workshop in 2012 to begin the process of developing a Foundation Document.⁹¹ Foundation Documents provide management and planning guidance based on the core mission of the park and consist of a purpose statement, identification of park significance, the fundamental and important park resources and values, interpretive themes, assessment of planning and data needs, special mandates and administrative commitments, and park setting in the regional context.⁹² These are meant to serve as the underlying guidance for all management and planning decisions in a park. The resulting C&O Canal NHP 2013 Foundation Document represented more than 30 additional years of park operations and updated perspectives on management practices since the 1976 plan. As stated in its name, the document laid the foundation for the development of a park Strategic Plan.

In developing the Foundation Document, park staff, NPS regional staff, and park partners specifically sought to provide long-term park management guidance focused on protecting important resources and values “integral to the purpose and identity of the park unit.”⁹³ The purpose statement of the 2013 Foundation Document highlights the prevailing park goals at the time and confirms the objective of the preparers to focus on park resources and the value the park places on education and recreation:

The purpose of the Chesapeake and Ohio Canal National Historical Park is to preserve and interpret the 19th century transportation canal from Washington, D.C. to Cumberland, Maryland, and its associated scenic, natural, and cultural resources; and to provide opportunities for education and appropriate outdoor recreation.⁹⁴

In addition, the Park Atlas, a planning support tool based on geographic information systems (GIS) was developed to accompany the document, to serve as a reference for facilities, hiking trails, camp sites, mileposts, access gates, and historic structures to aid in planning decisions. The web-based mapping system was intended to provide a service directed towards non-GIS users; however, the functions of Google Earth more effectively filled that role and the C&O Canal NHP did not participate in the web-based version of the Park Atlas. Alternatively, in 2020, park GIS staff incorporated the data into a new ArcGIS Pro system developed for efficiency and uniformity in project mapping.⁹⁵ The use of GIS and increasingly developed Global Positioning Systems (GPS) technologies and software has greatly facilitated park and resource administration and management at the C&O Canal NHP.

The 2013 Foundation Document set C&O Canal NHP on its current management trajectory. Planning needs identified in 2013, such as a Resource Stewardship Strategy (RSS), a Canal Quarters Environmental

⁸⁸ Brandt indicated that the time it took to complete the 1976 General Plan set a precedent for future plans; an amount of time deemed too long by the NCR director for the proposed plan in the early 2000s. (Brandt, interview).

⁸⁹ James Gilford, “Federal Advisory Commission Discussion Questions,” interview by Sophie Kelly (Washington, DC: notes on file, WSP USA Inc., September 20, 2017).

⁹⁰ NPS, *Management Policies 2006* (Washington, DC: U.S. Department of the Interior, National Park Service), 22.

⁹¹ The 2013 *Foundation Document* cites a 2012 workshop held for the development of the document. NPS, *Foundation Document* (Washington, DC: U.S. Department of the Interior, National Park Service, 2013), 2.

⁹² NPS, *Foundation Document*, 2.

⁹³ NPS, *Foundation Document*, 2.

⁹⁴ NPS, *Foundation Document*, 4.

⁹⁵ Kevin C. Stanfield and Andrew P. Landsman, email communications with Kate Umlauf, WSP, August 19, 2021.

Assessment (EA), a park Strategic Plan, and a deer management plan, were completed in the following years, effectively providing the park with well-rounded management goals and strategies.

During the development of the Foundation Document, the implementation of automatic, across-the-board budget cuts, known as sequestration, began within the NPS. On March 1, 2013, sequestration, as required by law, ordered the NPS to reduce its national budget by 5 percent, about \$153.4 million, dramatically affecting the annual budgets of all park units. At the C&O Canal NHP, the annual budget was reduced by \$613,000, roughly a 6 percent drop between 2012 and 2013. Full-time employees subsequently dropped from 102 in 2013 to 89 in 2014. As stifling as the sequestration was to employment at the C&O Canal NHP, the park managed to absorb a number of employees from an adjacent park. By maintaining a conservative split in the budget, 8 percent for staffing costs and 20 percent for other costs, funds were available to compensate the addition of employees.⁹⁶ As a result, C&O Canal gained high quality staff, many of whom remain at the park. Since sequestration, the park's annual budget has not significantly increased, visitation has risen by 6 percent, and FTEs have further reduced to only 70 (see Table 2.1).

Within this context of sequestration, the park developed the Chesapeake & Ohio Canal NHP Strategic Plan 2019-2023 under Superintendent Brandt. As implemented by current Superintendent Cappetta, the plan intends to guide and focus the efforts of the park and its partners over a five-year period. To create the Strategic Plan, Brandt relied heavily on the 1976 General Plan, which presented three interpretive focus areas, Georgetown, Great Falls, and Williamsport, and offered numerous ideas for park projects that could be implemented in the future. In its final form the Superintendent's Introduction of the Strategic Plan indicates a refreshed focus on creating and sustaining an enhanced visitor experience with access to a continuous towpath and functional canal in a historic setting.⁹⁷ Effective use of funding, working with partners, volunteers, and visitors, and preparedness for disaster response in the park are highlighted as the most important factors in achieving that principal goal. Challenges expressed in the plan reflect the decades-long trend in the park of operating a popular, growing park with a plateaued budget and diminished staff capacity (see Table 2.1).⁹⁸

In developing the Strategic Plan ahead of his retirement, among many goals for the park, Brandt envisioned a widespread effort to stabilize canal cultural resources as a form of sustainable damage prevention.⁹⁹ As written in the Strategic Plan, "Strategy 3: Create Future Opportunities," addressed this vision by recommending the development and implementation of a plan for the long-term stabilization of cultural resources throughout the park.¹⁰⁰ Although the park has not implemented this strategy, Superintendent Tina Cappetta plans to develop a climate resilience plan promoting a similar sustainable focus.¹⁰¹ The current and imminent threat of climate change to park cultural and natural resources and the sheer volume of structures needing restoration or repair justifies the treatment level of stabilization over restoration, as recent flooding has already caused significant damage to structures and future damage can be prevented for a larger number of resources in a shorter time span. Precedent for Brandt's stated strategy dates to the 1996 floods, when steps were taken to stabilize Lock 33 at Harpers Ferry by filling in the lock for protection and alternatively interpreting the structure as a ruin until it could be restored in the future.¹⁰² Similarly, the Monocacy, Conococheague, and Catoctin aqueducts were all viable restoration projects in the late 1990s and 2000s, as they had been stabilized decades before.

⁹⁶ Cappetta, interview.

⁹⁷ NPS, *Chesapeake and Ohio Canal National Historical Park Strategic Plan 2019-2023* (Washington, DC: U.S. Department of the Interior, National Park Service, December 2018), 1.

⁹⁸ NPS, Strategic Plan, 1.

⁹⁹ NPS, Strategic Plan, 2.

¹⁰⁰ NPS, Strategic Plan, 7.

¹⁰¹ Tina Cappetta, interview with Kate Umlauf, WSP, June 6, 2022.

¹⁰² Brandt, interview.

Following the transition from Brandt to Cappetta in 2019, with a looming \$259 million maintenance backlog at the end of FY 2022, the leadership vision for the park shifted from a focus on large, recreation-focused restoration projects and outside partnerships to a tri-fold approach focused on (1) the care of park employees, (2) the care of visitors, and (3) the care of resources. In a move away from the Strategic Plan, Cappetta intends to keep an interpretive presence at Cumberland, thereby sustaining park presence at four interpretive zones rather than three: Georgetown, Great Falls, Williamsport, and Cumberland. Other management priorities include upgrading flood protection for cultural and natural resources, providing more financial and operational support to the natural resource program, and investing in fee areas (e.g., campgrounds, restrooms, and wells).¹⁰³

2.2 LAND MANAGEMENT

The majority of C&O Canal NHP land acquisitions occurred prior to 1991, including the 5,250 acres of the original national monument, the establishment of a national historical park in 1971, and the 1980 expansion to include portions of the Western Maryland Railway lands, for a total of approximately 19,237 acres.¹⁰⁴

A 1982 policy published by the U.S. Department of the Interior in the Federal Register required Federal agencies to “utilize, to the maximum extent possible, the most cost-effective methods of protecting nationally important natural, cultural, and recreational resources,” and to develop Land Protection Plans in place of Land Acquisition Plans.¹⁰⁵ Following this policy, the C&O Canal NHP developed a Land Protection Plan (LPP) in 1983. Many years later, in 2001, the park began revisions to the plan. In June of that year, all rights of use and occupancy within the park had expired and the park began the process of restoring Federal lands to the park.¹⁰⁶ The park also initiated a long-term boundary survey program to resolve the boundary issues and was in the process of developing a Survey Standard Operating Procedure that was to be incorporated into the revised LPP upon its completion and acceptance. This procedure intended to provide guidance for boundary survey inventory, contracting for boundary surveys, the marking and maintenance of boundary survey monuments and signs, and other survey-related issues. The need for a comprehensive boundary program was critical, as the number of boundary-related land issues had increased because of land development adjacent to the park.

As part of the analysis for the revised plan, the C&O Canal NHP determined that only six percent of all lands within the park boundary remained unacquired in 2003; however, as of the plan’s writing, less than 10 percent of the park’s boundary had been properly surveyed. Many of the areas that had been surveyed were not monumented, or survey monuments had been disturbed or destroyed. The lack of boundary surveys was partly a result of a land acquisition practice of acquiring many properties by the last deed of record. At the time, unsurveyed boundaries were marked by estimating boundaries conservatively to the benefit of adjacent landowners. This practice encouraged landowners, in some cases, to use and occupy land up to the boundary markers, leading to encroachment. Congress approved the LPP on September 25, 2003, and a Legislative Support Package was initiated in 2004 to address park boundary modification of priority area identified in the LPP that were adjacent to the park, but outside the park legislative boundaries. Other federally owned tracts outside the boundary were also considered for incorporation while others were considered for disposal.

Further, the LPP recommended that park management consider and draft minor park-specific boundary legislation to accommodate survey, boundary, mapping, and encroachment issues when necessary. It was hoped that the plan would assist NPS managers in the identification, and revision as necessary, of land acquisition priorities for budget requests and the allocation of funds for the protection of land and park

¹⁰³ Cappetta, interview, 2022.

¹⁰⁴ William I. Spinrad Jr., *Land Protection Plan [Final Draft]* (Washington DC: U.S. Department of the Interior, National Park Service, 2003), 16.

¹⁰⁵ Spinrad, 13.

¹⁰⁶ NPS, 2001 Annual Report, 5.

resources. The plan was a dynamic document, to be updated and amended as land acquisition needs and concerns arose, priorities changed, and revisions became necessary.

Several surveys were completed following the approval of LPP, including at the Potomac Fish and Game Club and Rivers Edge Subdivision, a section of boundary from 30th Street to Potomac Street in Georgetown, and an expansion of a boundary survey in the vicinity of Hoffmaster Road in Washington County, Maryland. These surveys were identified based on where resource threats, damage, and/or encroachments may have occurred.¹⁰⁷

The need for a boundary survey persisted for many years and was evident in the 2013 Foundation Document, which identified boundary issues as one of five key parkwide issues.¹⁰⁸ A boundary survey continues to be an ongoing need; however, staffing limitations have hindered its completion. Since 2021, the park has sought to extend funding for temporary employees to carryout boundary surveys.¹⁰⁹

2.3 ADMINISTRATIVE STRUCTURE

The C&O Canal NHP is one of 14 administrative units (superintendencies) within the NPS Interior Region 1-National Capital Area. Each unit has a superintendent responsible for managing the properties within the park. The C&O Canal has had four superintendents since 1991 (Table 2.2). A summary list of all principal C&O Canal NHP officials since 1991 is provided in Appendix C.

TABLE 2.2: C&O CANAL NHP SUPERINTENDENTS, 1989 TO 2021

SUPERINTENDENTS	YEARS
Thomas O. Hobbs	1989-1994
Douglas D. Faris	1994-2003
Kevin Brandt	2003-2019
Tina M. Cappetta	2019-present

Operation of the park is administered under various park divisions, each with a division chief. Structural changes to these administrative divisions have shifted over the years, and they are somewhat unclear for the 1990s and early 2000s. Generally, divisions covered park resource management, interpretive and educational programming, administration of the park, maintenance, law enforcement, and safety. In the 1990s, under superintendent Faris, the Chief Ranger supervised Visitor and Resource Protection, Interpretation and Resources Management, with Resources Management and Interpretation both having their own branch chiefs.

In 2002 Superintendent Faris established a separate Resource Management division with a Chief to oversee both natural and cultural resources. This provided an opportunity to develop the programs as more significant aspects of the park and reduced the workload of the Chief Ranger. Similarly, the Interpretation division became a standalone management entity in 2003, previously a branch under the Chief Ranger. At this time, the park headquarters moved from inside the park at Ferry Hill to a leased office building at 1850 Dual Highway, Suite 100 in Hagerstown, Maryland 21740, which allowed larger capacity and brought “everyone together,” although some employees missed the connection they had to the park.¹¹⁰

In 2010 and 2011, the park had eight divisions: Administration (or Business Management), Interpretation, Maintenance, Preservation and Project Management, Protection, Safety and Health, Resources, and

¹⁰⁷ NPS, Annual Narrative Report, 2004.

¹⁰⁸ NPS, Foundation Document, 38-39.

¹⁰⁹ Tina Cappetta, Interview.

¹¹⁰ Cappetta, interview.

Partners and Volunteers. In 2012, the interpretation division incorporated partnerships and volunteers, reducing the number of divisions to seven.¹¹¹ The C&O Canal now has six divisions: Superintendent's Office; Business Management (formerly Administration); Facility Management; Resources Management; Interpretation, Education, and Volunteers (IEV); and Visitor and Resource Protection (VRP).

Three management districts were established in the park in 1971: the Palisades District (Georgetown to Seneca), Piedmont District (Seneca to Williamsport), and Allegheny District (Williamsport to Cumberland).¹¹² Between 1992 and 1993, the districts were reduced to the Palisades District (Mile Marker 0 to Mile Marker 42.19) and Western Maryland District (Mile Marker 42.19 to Mile Marker 184.5). Those districts were again reorganized prior to 1996 as follows: Palisades District (Mile Marker 0 to Mile Marker 22.8), Monocacy District (Mile Marker 22.8 to Mile Marker 64), Conococheague District (Mile Marker 64 to Mile Marker 106), Four Locks District (Mile Marker 106 to Mile Marker 141), and Paw Paw District (Mile Marker 141 to Mile Marker 184.5).¹¹³ The districts generally referred to the breakdown of maintenance shops located in the park and served as hubs in different areas of the park to store equipment and house office and work space. Staff, such as law enforcement rangers or interpretive rangers, were not as connected to the geography of their offices and were less affected during reorganizations than maintenance staff.¹¹⁴ Over time, as staff reduced, maintenance shops closed and the districts were consolidated back into the Western Maryland District and the Palisades District. Although strictly driven by the fiscal reality of the park, the reorganization or consolidation of districts caused some disappointment among individual staff because many had to change locations, affecting their commutes and overall daily activities. Yet, overall, the actions saved the park money as less equipment was needed to stock the maintenance shops and fewer utilities were necessary to keep buildings in operating condition. In addition, by concentrating staff in these locations, communications improved.¹¹⁵

Current superintendent management responsibilities are split between Superintendent Cappetta and the Deputy Superintendent John Noel with Cappetta supervising Resources Management, Visitor and Resource Protection, and Interpretation and Noel supervising Maintenance and Business Management. Both leadership roles supervise the Partnerships division. This structure of co-management differs from that of previous superintendents who oversaw the big picture operations of the park and delegated divisional operations to the Deputy Superintendent. As a result, the operations of the park, such as trail maintenance, campground operations, access to recreation, interpretive and education programming, historic structure maintenance, and natural resource management, are at the forefront of park management priorities.

2.4 CULTURAL RESOURCE MANAGEMENT

The NPS is the curator of many of America's most important natural and cultural resources and is responsible for preserving them for present and future generations. According to the NPS Cultural Resources Guidelines,

Cultural resource management involves research to identify, evaluate, document, register, and establish other basic information about cultural resources; planning, to ensure that this information is well integrated into

¹¹¹ NPS, "Signed Org Charts" (Washington, DC: NPS, C&O Canal NHP, last updated February 7, 2012, Organization Chart on file, WSP USA Inc., Washington, DC)

¹¹² NPS, *General Plan – Chesapeake and Ohio Canal National Historical Park* (Washington, DC: U.S. Department of the Interior, National Park Service, 1976), 32.

¹¹³ NPS, *Chesapeake and Ohio Canal National Historical Park Volunteers' Handbook* (Hagerstown, MD: National Park Service, C&O Canal NHP, 2010), 59.

¹¹⁴ Brandt interview, 2021.

¹¹⁵ Brandt interview, 2021.

management processes for making decisions and setting priorities; and stewardship, under which planning decisions are carried out and resources are preserved, protected, and interpreted to the public.¹¹⁶

Cultural resource management has always been a major facet of the management strategies at C&O Canal NHP. The canal's cultural resources were fundamental to the park's creation in 1961 and its ongoing interpretation. At the time of its inception, park resources were much older than the 50-year age requirement for listing in the NRHP and required immediate documentation and preservation efforts. The 1991 Statement of Management, which focused on preservation of historic resources, appears to have successfully spurned park efforts to create comprehensive documentation of cultural resources and to conduct much needed, large-scale rehabilitation projects in line with park planning and interpretive objectives.

Cultural Resources staff over the years have served the park in museum collections, research, library management, and compliance and review of park undertakings.¹¹⁷ Over the last 30 years, the park has successfully completed a parkwide archeological study and has added 341 contributing resources, including buildings, sites, structures, and objects, to the 1979 Canal NRHP listing, as well as 40 contributing resources to the 1980 Western Maryland Railway (Cumberland Extension) NRHP listing.

The C&O Canal NHP still faces considerable challenges in protecting its significant archeological sites and maintaining all of the nineteenth-century canal buildings and structures and CCC-era buildings and structures, with over 1,300 identified historic resources. Since around 2010, a plateaued budget paired with rising operational costs have made it difficult to continue to meet the park's needs for preserving and maintaining its historic resources.¹¹⁸ The park also struggles to meet the needs of visitors. Annual visitation has increased by almost 20 percent to over 5 million in 2020, requiring a carefully composed budget.

2.4.1 Archeology

Archeological resources are present in essentially every unit of the national park system and are critical to understanding and interpreting the American past. These resources include precontact and historic period sites, materials found in museum collections, and the records associated with these sites and materials. The management of archeological resources on NPS lands is mandated by law and policy, including laws and regulations that specifically apply to the NPS as well as the NPS Management Policies, the Antiquities Act of 1906, Sections 106 and 110 of the National Historic Preservation Act (NHPA), the Archeological and Historic Preservation Act, the Archaeological Resources Protection Act, the Abandoned Shipwreck Act, the Native American Graves Protection and Repatriation Act, and their respective implementing regulations, standards, and guidelines.¹¹⁹

Humans inhabited the land of C&O Canal NHP for 13,000 thousand years before the development of the park.¹²⁰ Embedded in the landscape is a rich archeological record of Indigenous human occupation that includes Early and Late Archaic riverine base camps, Early and Middle Woodland camp sites, and Late Woodland villages, hamlets, and camps. Also evidenced in the landscape are eighteenth-century domestic

¹¹⁶ National Park Service, *NPS-28: Cultural Resource Management Guideline* (Washington, DC: U.S. Department of the Interior, National Park Service, 1998).

¹¹⁷ NPS, *Chesapeake and Ohio Canal National Historical Park, 2001 Annual Narrative Report* (Washington, DC: U.S. Department of the Interior, National Park Service, 2001).

¹¹⁸ NPS, Strategic Plan, 1.

¹¹⁹ NPS, *NPS-28: Cultural Resource Management Guideline* (Washington, DC: U.S. Department of the Interior, National Park Service, 1997).

¹²⁰ The Louis Berger Group. *Through the Great Valley and Into the Mountains Beyond: Archeological Identification and Evaluation Study of the Chesapeake and Ohio Canal National Historical Park, Sandy Hook to Hancock (Mile Markers 59 to 123)* (Washington, DC: prepared for the National Park Service, National Capital Region, by The Louis Berger Group, Inc., 2009).

sites of the first white squatters and settlers, eighteenth- and nineteenth-century farmsteads and industrial sites, sites associated with the construction and operation of the canal, and Civil War fortifications and camp sites. The archeological record that is preserved at C&O Canal NHP contains important information from the Archaic and Woodland periods of prehistory, and from the colonial history of the Potomac Valley.

Before the creation of the park in 1971, archeological investigations were conducted by amateur or avocational archeologists, likely before people realized that the Federal government owned the land.¹²¹ Professional archeology conducted prior to 1970 included Edward McMillan Larrabee's 1961 to 1962 armchair survey of archeological resources in the park conducted to better understand the new national monument.¹²² This survey set the basis for future NRHP listings, but because sites were not verified in person, some referenced collections are only hearsay.

Focused archeological investigations expanded in the park in the 1970s, including Lockhouses 1, 18, 27, 29, 33, 35, 44, and 75; the Moore Village site, excavated by a university in the late 1970s and early 1980s; and Fletcher's Boathouse Site. In the 1980s and 1990s, archeological work included investigations resulting from municipal utility projects, such as a sewer line and pipeline maintenance and repair as well as Native American Graves Protection and Repatriation Act (NAGPRA) Inventories of Native American human remains and associated funerary objects.¹²³ Following the enactment of the NAGPRA in 1990, and in compliance with the act, NPS units undertook inventories of Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony within the respective parks. By 1993 over 100 NPS units had completed NAGPRA inventories, including the C&O Canal NHP. As of 2003, NPS units had published Notices of Inventory Completion covering 3,609 sets of Native American human remains and 75,663 associated funerary objects.¹²⁴ The C&O Canal NHP submitted a summary of the park NAGPRA inventory in 1993.¹²⁵

Following the floods in 1996, archeological recovery work in the Seneca, conducted for damaged sites, included the Chick Farm Complex, which had been damaged by flood waters and looting. There was also a project associated with the re-watering of the canal in 1996 at Williamsport. Few systematic archeological surveys had been conducted in the park as of the early 2000s. Table 2.3 lists archeological reports for projects conducted between 1990 and 2002.

During an excavation by URS Corporation for the construction of a bridge over the canal in northwest Washington, D.C. in 1998, eight underground pits were discovered. The earthen pits, each measuring 5 feet deep and 7 feet wide, were dug into the rocky banks of the Potomac about 2,000 years ago. The ground-breaking discovery indicated a more complex level of development in that era than previously believed, as Native Americans or those living at the location were not known to have lived in villages or to have used

¹²¹ Susan Cianci Salvatore and Stephen Potter, National Register of Historic Places Inventory-Nomination Form: Chesapeake and Ohio Canal National Historical Park Historic District (Additional Documentation & Boundary Increase, 2015) (Washington, DC: U.S. Department of the Interior, National Park Service, 2015), Section 7, p. 27; Justin Ebersole, "Justin Ebersole Interview Notes 7/29/2021," interview by Meredith McCulley, WSP (Washington, DC: notes on file, WSP USA Inc., July 29, 2021).

¹²² Ebersole, interview; Edward McMillan Larrabee, *A Survey of Histories and Prehistoric Archeological Sites Along the Chesapeake & Ohio Canal National Monument, 1961-1962* (Washington, DC: National Park Service, 1962).

¹²³ E. Madeleine Scheerer, *Archeological Overview and Assessment C&O Canal National Historical Park: Annotated Listings of Archival Collections* (Washington, DC: National Park Service, 2002), 3.

¹²⁴ NPS Archaeology Program, *National Parks Repatriation* (Washington, DC: National Park Service, last updated April 20, 2022).

¹²⁵ NPS, *Native American Graves Protection and Repatriation Act: Summaries* (Washington, DC: National Park Service, 2002).

TABLE 2.3: ARCHEOLOGICAL REPORTS FOR C&O CANAL PROJECTS, 1990 TO 2002¹²⁶

YEAR	PROJECT	COMMENTS (Taken directly from 2002 Overview of C&O Canal Archival Collections)
1990	Phase I Investigation of the Proposed Waste Water Discharge Pipeline Corridor Through the C&O Canal NHP Washington County Maryland	Archeological field investigations revealed no prehistoric artifacts on surface. ¹²⁷
1991	Phase II Investigation at the Water Intake Pump House Site Brunswick, Maryland	Archival and archeological investigation of historic feature within pump house footprint. Determination of historic occupation for the second half of the twentieth century with no prehistoric features. ¹²⁸
1991	Archeological Investigation at the Lock 33 Complex	--
1996	Archeological Survey, Investigation and Evaluation of the Proposed Parking Lot Site Northwest of Lock 75	--
1996	Archeological Investigations Associated with the Re-watering of Two Sections of the C&O Canal NHP.	Investigations of one section of the prism at Hancock and the turning basin at Williamsport to determine depth of silt and fill overlying clay liner of the canal prism. ¹²⁹
1999	Phase I Archeological Investigations at the C&O Canal NHP	Results of archival and archeological investigation of 1-acre site in the C&O Canal NHP during July 1999 in compliance with Section 106. A portion of the property was being impacted by a Washington Suburban Sanitary Commission (WSSC) project for installation of a sewer line. ¹³⁰
2000	The End of the Line: Phase I and II Archeological Investigations at the Terminus of the C&O Canal, Crescent Lawn Archeological District	Investigations of nineteenth-century commercial enterprises at terminus of C&O Canal in Cumberland, including a boatyard, foundry, soap factory, lumberyard, worker housing, and millrace. Also located the remnants of three canal boats sunk during the flood of 1889. ¹³¹

¹²⁶ This list is not comprehensive of all archeological reports for the park between 1990 and 2002. This list reflects those reports recorded in IRMA and identified in the 2002 Archeological Overview of the C&O Canal NHP (see Barse and Wuebber).

¹²⁷ Scheerer, 103.

¹²⁸ Scheerer, 9.

¹²⁹ Scheerer, 94.

¹³⁰ Scheerer, 99.

¹³¹ Scheerer, 94.

		COMMENTS
YEAR	PROJECT	(Taken directly from 2002 Overview of C&O Canal Archival Collections)
2002	An Archaeological survey, inventory and evaluation study, and data recovery for the Fletcher's Boat-house site (51NW13) C&O Canal National Historical park Washington, DC.	Investigations included survey and identification fieldwork related to construction of a drainage system from the Abner Cloud House, parking lot improvements, and construction of a handicap access ramp leading from the Capital Crescent Trail down to the boathouse grounds east of the canal. Subsequently, data recovery excavations were conducted within the concrete landing footprint of the ramp to be constructed from the Capital Crescent Trail (adjacent to the towpath) down to the grounds of the Fletcher's Boathouse area.

storage silos at that point in history. Thousands of other artifacts, such as pottery and decoratively carved stone, some as old as 2,000 years, were also discovered.¹³²

The following year, archeologist Joseph F. Balicki and his team from John Milner Associates, hired by the State and the Canal Place Preservation and Development Authority (CPPDA) to dig inspection sites and record discoveries in preparation for sewer work and other development, unearthed the keels and bottoms of two boats near the canal's western terminus. They were discovered within 180 feet of what was thought to have been a boat building shop.¹³³ The remains of a large boatyard were also found. According to Sanborn maps from the late 1800s, the five-building complex was known as the Weld and Sheridan Boat Building and Repair Yard.¹³⁴ Superintendent Faris was interested in unearthing, preserving, and displaying at least one of the boat bottoms at Canal Place. The boats were reburied to preserve them while the feasibility of removing and preserving them was determined.¹³⁵ Superintendent Faris met with the CPPDA to review Balicki's report and decide on a course of action.¹³⁶ In 2002 crews working on Canal Place unearthed 15 additional canal boats. Some were removed to allow the city to do underground utility work near the former boat basin, which would be filled with water to enable boat rides.

It was expected that 25 to 30 more boats would be discovered. As preserving the boats would have been too costly, the boats were reburied once the work was completed.¹³⁷

In accordance with Section 110 of the NHPA, the NPS prepared an overview of the park's archeological collections in 2002.¹³⁸ A major goal of the 2002 overview, completed by URS Corporation, was to produce a management document outlining future archeological potential in the park. This report was prepared in anticipation of a nine-year, parkwide archeological study, suggested by Regional Archeologist Stephen Potter for all NCR parks.¹³⁹ The NPS contracted The Louis Berger Group, Inc. (Louis Berger) for the first

¹³² "Archaeologists puzzled by Indian grain storage pits," *The Star-Democrat*, November 24, 1998, 3.

¹³³ "Two C&O Canal boats unearthed," *The Capital*, April 21, 1999, 4.

¹³⁴ Candus Thomson, "Historians covet canal boats," *The Baltimore Sun*, June 14, 1999, 55.

¹³⁵ "Two C&O Canal boats unearthed," *The Capital*, April 21, 1999, 4.

¹³⁶ "Park Service scrambles to fund old boats," *The Star-Democrat*, June 15, 1999, 3.

¹³⁷ "Cumberland turning up buried boats," *The Baltimore Sun*, August 11, 2002, B13.

¹³⁸ William P. Barse and Ingrid Wuebber, *Archeological Overview and Assessment C&O Canal National Historical Park (Washington, D.C.: NPS, 2002)*.

¹³⁹ Ebersole, interview.

of three three-year programs for the identification and evaluation of archeological resources in C&O Canal NHP to implement the NPS's Systemwide Archeological Inventory Program (SAIP) for this park unit, which was developed by the NPS to address the requirements of the NHPA (specifically Sections 106 and 110), Executive Order 11593, and the Archeological Resources Protection Act. Louis Berger conducted the study between 2003 and 2011. Potter also suggested that the C&O Canal NHP employ a permanent archeologist, primarily to ensure projects in the park were completed in compliance with archeological laws and regulations. The first park archeologist was employed at the park in 2011.

The parkwide archeological project was divided into three segments of three years each that roughly correspond to the three physiographic provinces: the Piedmont or lower segment, from Rock Creek in Washington, D.C., to Sandy Hook, Maryland (Mile Markers 0-59); the Great Valley or middle segment, from Sandy Hook to Hancock (Mile Markers 59-123); and the Appalachian Ridge and Valley or upper segment, from Hancock to Cumberland (Mile Markers 123-184.5).¹⁴⁰ More than 80 new archeological sites were recorded over the nine years, including Native American camps and settlements dating back nearly 11,000 years, colonial farms, iron mines, mills, stores, Civil War fortifications, and sites associated with the operation of the canal, such as workshops and lockkeepers' houses. Over the course of that study, a handful of other archeological projects surfaced at the park (Table 2.4). Archeological investigations have also been conducted by outside organizations, such as the Smithsonian Institution and with universities under Cooperative Agreements.¹⁴¹

TABLE 2.4: ARCHEOLOGICAL REPORTS FOR C&O CANAL PROJECTS, 2006 TO 2022

YEAR	PROJECT	COMMENTS
2005	Cohongorooto: The Potomac Above the Falls: Archeological Identification and Evaluation Study of C&O Canal national historical Park Rock Creek to Sandy Hook (Mile Markers 0-59), Volumes I, II, and III.	Three volumes reporting the results of a three-year archeological survey of the easternmost 59 miles of the C&O Canal NHP from 2003-2005.
2006	Archeological Investigations at the Brent Property in Hancock Phase I and II investigations for WSSC Plant Work–Expansion of Water Intake above Swain’s Lockhouse Ferry Hill Plantation Phase I and II Investigations Maryland Historical Trust Magnetometer and Resistivity Survey in Old Town, Maryland	Result of an ARPA violation. Two archeological sites identified. Project also involved an EA for the WSSC work. Extension of previous 1970s excavation and done in anticipation of park headquarters moved to Ferry Hill. One site identified.
2009	Through the Great Valley and Into the Mountains Beyond: Archeological Identification and Evaluation Study of Chesapeake & Ohio Canal National Historical Park Sandy Hook to Hancock (Mile Markers 59 to 123), Volumes I, II, and III	Three volumes reporting the results of a three-year archeological survey of the central 64 miles of the C&O Canal NHP from 2005-2007.

¹⁴⁰ The Louis Berger Group, Inc., Archeological Identification and Evaluation Study of Chesapeake and Ohio Canal National Historical Park Rock Creek to Sandy Hook (Mile Markers 0-59), Volume 1 (Washington, DC: National Park Service, 2005); The Louis Berger Group, Inc., Archeological Identification and Evaluation Study of Chesapeake and Ohio Canal National Historical Park Sandy Hook to Hancock (Mile Markers 59 to 123), Volume 1 (Washington, DC: National Park Service, 2009); The Louis Berger Group, Inc., Archeological Identification and Evaluation Study of C&O Canal National Historical Park Hancock to Cumberland (Mile Markers 123 to 184), Volume 1 (Washington, DC: National Park Service, 2011).

¹⁴¹ Ebersole, interview.

YEAR	PROJECT	COMMENTS
2011	River and Mountain, War and Peace: Archeological Identification and Evaluation Study of Chesapeake & Ohio Canal National Historical Park Hancock to Cumberland (Mile Markers 123 to 184), Volumes I, II, and III.	Three volumes reporting the results of a three-year archeological survey of the upper 61 miles of the C&O Canal NHP from 2008-2010.
2020	Investigations regarding the Potomac River Tunnel project for DC Water	Work is ongoing at the time of this report.
2020-2022	Phase I and II Archeological Identification & Evaluation of African American CCC Camps in Carderock, Maryland	Determined a critical need in 2017 History of the Camps. Conducted in accordance with Section 110 of the NHPA, Executive Order 11593, and 1979 ARPA. Needed to design protection strategies at both camps and glean information on the role and function of the camps on the canal. ¹⁴²
	Park Tribal affiliation study with College of William and Mary	Identified dozens of Native American Tribes with associations to the park. Began determining how to manage prehistoric resources and sacred places in the park, including petroglyphs.
2020-2022	Ferry Hill	Waiting for final report
2020-2022	Oldtown	Waiting for final report

The 2015 NRHP boundary increase for the C&O Canal NHP Historic District reported only 20 prehistoric and 30 historic archeological sites in the park previously listed or eligible for listing in the NRHP as of 1979.¹⁴³ As of 2021, the C&O Canal NHP contains 357 archeological site NRHP listings: 289 archeological (3 not within park boundaries), and 68 local resource types.¹⁴⁴

Without focused funding for the park, archeology projects are limited to those that can be funded from national funding streams. Most recent archeology work has therefore involved monitoring and meeting regulatory compliance other than selective documentary projects in previously uninvestigated areas.¹⁴⁵

2.4.2 Historic Structures and Cultural Landscapes

A historic structure is “a constructed work...consciously created to serve some human activity” and includes buildings, monuments, dams, millraces and canals, nautical vessels, bridges, tunnels and roads, defensive works, and ruins of all structural types.¹⁴⁶ Cultural landscapes are “complex resources that...in

¹⁴² WSP USA Inc., Scope of Work for Archeological Identification, and Evaluation Study of (two) African American CCC Camps, Chesapeake and Ohio Canal National Historical Park (Washington, DC: National Park Service, June 2020).

¹⁴³Susan C. Salvatore and Stephen Potter, National Register of Historic Places Inventory-Nomination Form: Chesapeake and Ohio Canal National Historical Park Historic District (Additional Documentation & Boundary Increase, 2015) (Washington, DC: National Register of Historic Places, National Park Service, U.S. Department of the Interior, 2015), Section 7, p. 27.

¹⁴⁴ Ebersole, interview.

¹⁴⁵ Ebersole, interview.

¹⁴⁶ NPS, NPS-28: Cultural Resource Management Guideline, Chapter 8.

the broadest sense...are a reflection of human adaptation and use of natural resources” and can be expressed in the way land is organized and divided, patterns of settlement, land use, systems of circulation, and the types of structures that are built.¹⁴⁷ According to both Federal law and NPS Management Policies, all historic structures and cultural landscapes in which the NPS has a legal interest are to be managed as cultural resources regardless of type, level of significance, or current function, and every resource is to receive full consideration for its historical value whenever a decision is made that might affect its integrity. Section 110 of the NHPA requires the NPS to identify and nominate to the NRHP all resources under its jurisdiction that appear eligible. Historical areas of the national park system are automatically listed in the NRHP upon their establishment by law or executive order, but those structures, landscapes, and other features within them that contribute to their historical significance must still be documented for NRHP purposes.¹⁴⁸ Section 2.4.2 discusses the major methods of documenting historic structures and cultural landscapes used in the park.

In addition to compliance with the NHPA, park historic and cultural resources are also documented for purposes of park planning. Preliminary documentation of a resource subject to a planning action, such as a rehabilitation or restoration for programming use or visitor safety, must be completed prior to any design stages for the project. When working on historic or cultural resources, the design must remain faithful to the best information available about the resources, and that information can only be obtained through thorough research and evaluation. Former Superintendent Brandt recalled the challenges associated with getting preliminary documentation studies funded by the NPS, a process that can sometimes take three to eight years.¹⁴⁹ In addition, the entire restoration project cannot be approved for funding until the documentation has been completed.

At the C&O Canal NHP, the process of determining which projects to undertake and therefore which resources to document evolved over time. In the early 1990s, the condition of a resource or the popularity of a resource typically influenced which projects were prioritized. As management strategies changed in the park around 2010, projects that fit the three interpretive areas of the park as established in 1976 were prioritized. According to Brandt, however, more compellingly written project statements submitted to the PMIS for review could be awarded funding over priority projects written with a less compelling story. It is unclear how often this happened, yet the award of funding inconsistent with park priority goals presented difficulties in developing and consistently following a unified management strategy for the park. One solution to the challenges of competing for and receiving NPS funding, employed by Brandt during his time as Superintendent, has been to lean on park partners to advocate for projects and contribute donation funds for their completion, such as the funding efforts for the Catoctin Aqueduct restoration.¹⁵⁰ Today, the NPS applies a rubric at a national level for evaluating park proposals for funding. Park priority is one component of the rubric scoring, but not the only one. Park personnel receive updates to this rubric and criteria prior to making a final proposal each year. In comparison to the possibly more subjective decision-making of the 2010s, today’s system for project funding decision-making is much more standardized.

2.4.2.1 National Register Nominations

The C&O Canal was listed in the NRHP in 1979.¹⁵¹ The nomination recognized the potential for identifying additional historic and archeological resources. The NPS continued to document and evaluate newly identified cultural resources in the park after the listing. These findings were compiled into an additional

¹⁴⁷ NPS, NPS-28: Cultural Resource Management Guideline, Chapter 7.

¹⁴⁸ NPS, NPS-28: *Cultural Resource Management Guideline*.

¹⁴⁹ Brandt, interview.

¹⁵⁰ Brandt, interview.

¹⁵¹ Philip S. Romigh and Barry Mackintosh, National Register of Historic Places Nomination Form: Chesapeake and Ohio Canal (Washington, DC: U.S. Department of the Interior, National Capital Region, National Park Service, 1979).

documentation form in 2015, and the registration form was brought to then current NRHP standards.¹⁵² The boundaries of the linear historic district include 20,526 acres of land and structures associated with the canal proper on the District of Columbia/Maryland side of the Potomac River, and contain 796 contributing resources, including buildings, sites, structures, and objects, 455 of which had been previously listed in the NRHP. The 2015 nomination extended the period of significance to include prehistoric and historic resources beginning in 9000 BCE through the original 1828-1924 period of significance. Further, the nomination newly incorporated the dates 1938-1942 (CCC activity) and 1965 (NPS Mission 66 Program) to the significance of the canal.

The NPS acquired a 34.9-mile abandoned section of the Western Maryland Railway known as the Cumberland Extension in 1980. The land was incorporated as an addition to the C&O Canal because 24 miles of the railway extension travels along the canal. At the point of transfer to the NPS, an NRHP nomination was approved by the Secretary of the Interior for listing the railway in the NRHP. The 1981 nomination categorized the resource as a structure, identifying the culverts, bridges, and tunnels along the railway. The nomination was extensively updated in 2014 to “include new contributing resources that are not contained within the railbed.” The updated nomination also reclassifies the resource as a district. The boundaries of the linear historic district include 34 miles of railway right-of-way varying from 75 to 150 feet wide and containing 72 contributing resources, including buildings, sites, structures, and objects (Figure 2.1). The 2014 nomination altered the period of significance of 1903-1906 to 1904-1964, which reflects the period of construction (1904-1906), major improvements (1913), and the most profitable era (1906-1960s). The extended period of significance incorporates commerce as a new area of significance, along with transportation as originally listed.¹⁵³

2.4.2.2 Historic American Buildings Survey/Historic American Engineering Survey

Heritage Documentation Programs (HDP), part of the NPS, administers the Historic American Buildings Survey (HABS), the Federal government’s oldest preservation program, and its companion programs: Historic American Engineering Record (HAER) and Historic American Landscapes Survey (HALS). Documentation produced through these programs constitutes the nation’s largest archive of historic architectural, engineering, and landscape documentation and provides a permanent record of the nation’s most important historic sites and large-scale objects.¹⁵⁴

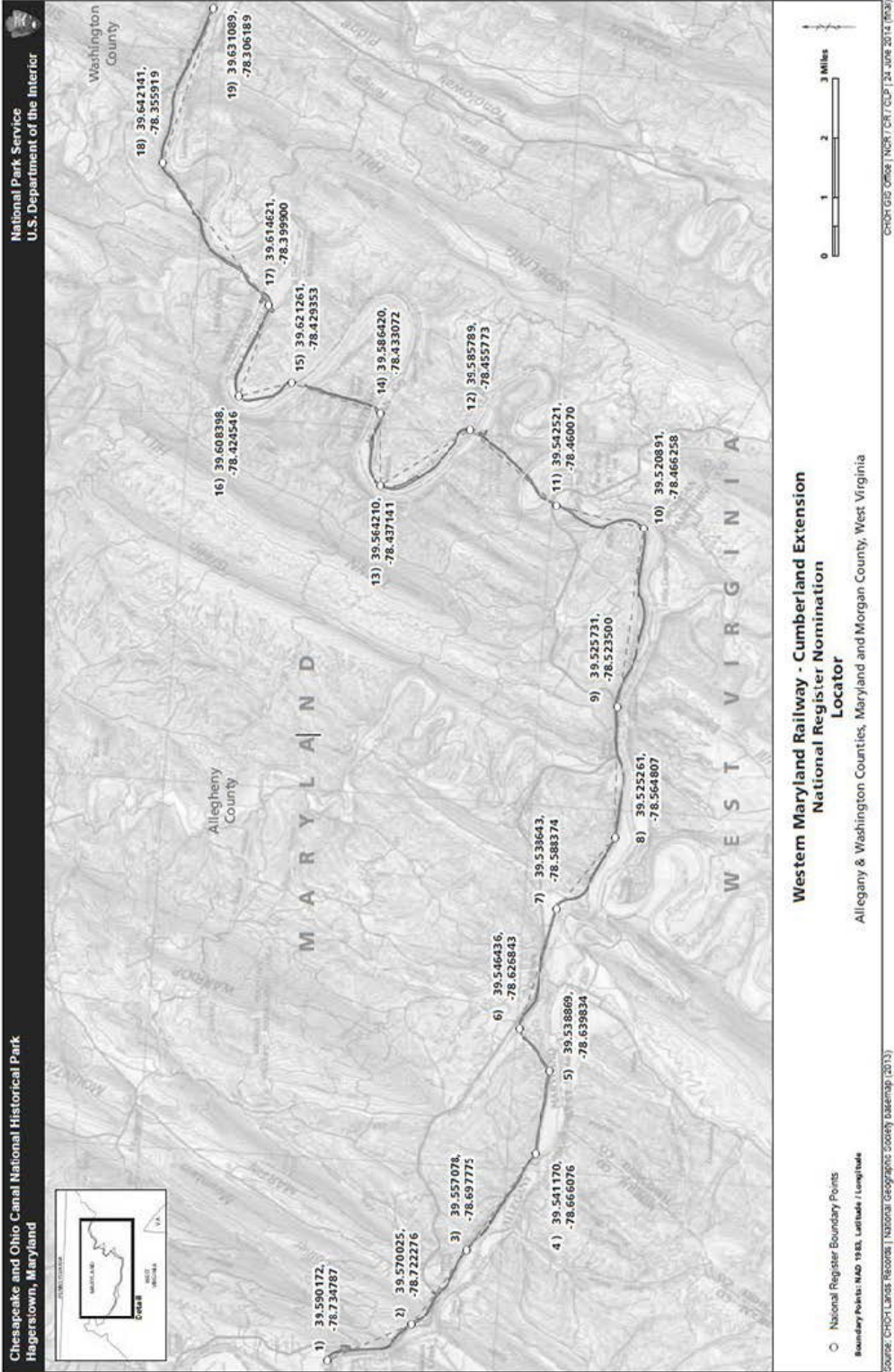
HABS has documented numerous structures along the C&O Canal, including locks, lockhouses and other buildings, aqueducts, dry docks, bridges, culverts, waste weirs, and dam complexes. The majority of these surveys occurred prior to 1991. Early HABS documentation includes, among others, the Great Falls Tavern, Lockhouses 5 through 24, Seneca Aqueduct, and Monocacy Aqueduct.

HABS documentation has often been completed for purposes of park planning since 1991. HABS documentation was completed for the Washington Canoe Club (WCC) in 2010 under sponsorship of the NPS Interior Region 1–National Capital Area. At the time of the survey, the NPS had recently stabilized and partially reopened the clubhouse after three years of closure. HABS documentation of the building contributed to the knowledge base needed to facilitate future rehabilitation. The prominent Shingle-style building is currently leased by Friends of the Washington Canoe Club on a 60-year term, and rehabilitation

¹⁵² Salvatore and Potter.

¹⁵³ David Vago and Susan Cianci Salvatore, with revisions by Dean Herrin, Kathryn G. Smith, and Erik Johnson, *National Register of Historic Places: Western Maryland Railway, Cumberland Extension Right-of-Way, Mile 126 to Mile 159.8 (Additional Documentation, 2014)* (Washington, DC: U.S. Department of the Interior, National Capital Region, National Park Service, 1981), Section 7.

¹⁵⁴ “Heritage Documentation Programs, HABS/HAER/HALS: About Us” (Washington, DC: U.S. Department of the Interior, National Park Service, accessed August 21, 2013, <http://www.nps.gov/history/hdp/about.htm>).



2.1 Map of Western Maryland Railway Cumberland Extension Historic District (CHOH GIS Office, 2014)

efforts are in the planning stages.¹⁵⁵ HAER documentation also exists for numerous structures along the C&O Canal, including bridges, locks, culverts, the towpath, and aqueducts.

HAER documentation was completed for the Big Slackwater area in 2005-2006 ahead of a restoration project between Milepost 85.62 and Milepost 88.10 in the Williamsport area.¹⁵⁶ The Big Slackwater is one of only two places on the canal where canal boats traveled on the Potomac River instead of on an artificial waterway. The project specifically focused on the lower, or downstream, portion of the former towpath that runs along the Maryland side of the Potomac River beside Big Slackwater. As a result of numerous overtopping events in the late 1990s, this section of the towpath had become extremely deteriorated and was in need of repair to restore the continuity of the towpath, a priority of park management at the time. With the help of the American Recovery and Reinvestment Act (ARRA), the stimulus package passed in 2009 in response to the Great Recession, and the Maryland Department of Transportation Enhancement Program, the towpath was repaired and opened to the public in September 2012.¹⁵⁷ HAER documentation contributed to the success of repairing the 2.5-mile section and reconnecting the 184.5-mile continuous towpath along the entire canal. Rehabilitation of the Slackwater towpath historic stone wall from Milepost 88.10 to Milepost 89.0 (Lock 42) has begun, and HAER documentation has been completed for this remaining section.¹⁵⁸

The Potomac Edison Company, Chesapeake & Ohio Canal (Railroad) Lift Bridge (HAER No. MD-23) received HAER documentation in 2007-2008. The lift bridge, built in 1923 in Williamsport, is a steel vertical-lift bridge composed of a single riveted plate-girder span set on concrete abutments, and is a rare surviving example of its type. Not only is this bridge the only structure built across the canal, it is distinct in its economical and unique design, which allows unimpeded passage of canal boats pulled by animals on the towpath.¹⁵⁹ After its abandonment in ca. 1970, the park documented its history and condition in a Historic Structures Report (HSR) (1977) and HAER photography (1970). The park rewatered the Conococheague Aqueduct in 2016, resulting in the removal of the causeway. This meant visitors lost access to the towpath at the Cushwa Basin. By lifting the lift bridge to its current position and repairing the abutments, the park restored that access. The park did not intend for the bridge to be used as a pedestrian walkway when it was lifted, although pedestrian crossing occurred during the restoration of the Conococheague Aqueduct.¹⁶⁰

The Western Maryland Railway Cumberland Extension (HAER No. MD-175) received HAER documentation in 2010.¹⁶¹ This extensive documentation of engineering significance contributed greatly to the 2014 NRHP listing of the resource. Prior to the comprehensive HAER documentation of the railway,

¹⁵⁵ Virginia B. Price, HABS No. DC-876, Washington Canoe Club (Washington, DC: U.S. Department of the Interior, National Park Service, 2013).

¹⁵⁶ M.H. Bowers and Stuart P. Dixon, The Louis Berger Group, Inc., HAER No. MD-183-C, Chesapeake and Ohio Canal, Big Slackwater Towpath, Spillway (Washington, DC: U.S. Department of the Interior, National Park Service, 2006).

¹⁵⁷ NPS, "Big Slackwater Opening Soon" (Hagerstown, MD: C&O CANAL NHP, updated April 10, 2015).

¹⁵⁸ Justin Ebersole, Comments received by WSP, March 2021, in C&O CANAL NHP Admin Draft Comment Matrix.

¹⁵⁹ J. Lawrence Lee, HAER No. MD-23, Potomac Edison Company, Chesapeake and Ohio Canal Bridge (Washington, DC: U.S. Department of the Interior, National Park Service, 2007-2008).

¹⁶⁰ NPS, "Conococheague Aqueduct" (Hagerstown, MD: C&O CANAL NHP, last updated May 13, 2020).

¹⁶¹ David A. Vago, with J. Lawrence Lee, Christopher H. Marston, and Justine Christianson, HAER No. MD-175, Western Maryland Railway, Cumberland Extension (Washington, DC: U.S. Department of the Interior, National Park Service, 2010).

HAER documented the railway Spring Gap Underpass in 1995 as a mitigation of adverse effect for the proposed and eventual removal of the structure.¹⁶²

At the time this report was written, C&O Canal NHP had contracted HAER documentation of the Log Wall near Milepost 11.

2.4.2.3 Cultural Landscape Inventory and Reports

The Cultural Landscapes Inventory (CLI), a comprehensive inventory of all cultural landscapes in the National Park System, is one of the most ambitious initiatives of the NPS Park Cultural Landscapes Program. The CLI is an evaluated inventory of all landscapes of historical significance that are listed in or eligible for listing in the NRHP, or are otherwise managed as cultural resources and in which the NPS has or plans to acquire any legal interest. The CLI identifies and documents each landscape's location, size, physical development, condition, landscape characteristics, character-defining features, and other valuable information useful to park management. The CLI, like the NPS List of Classified Structures (LCS), assists the NPS in its efforts to fulfill the identification and management requirements associated with Section 110(a) of the NHPA, National Park Service Management Policies (2006), and Director's Order #28: Cultural Resource Management. Cultural Landscape Reports (CLRs) are based on the respective CLIs and offer treatment recommendations for proposed improvements or changes to the significant landscape. Land and Community Associates (LCA) completed a CLR in 1994 for Williamsport, Maryland.¹⁶³ The NPS compiled a CLI for Williamsport in 2012 and updated it six years later.¹⁶⁴ The Williamsport cultural landscape (project area) is positioned about halfway along the 184.5-mile stretch of the C&O Canal, between Dams 4 and 5, about 8 miles southwest of Hagerstown. Its strategic location made the area a major center of activity during the construction and operation of the C&O Canal.¹⁶⁵ An updated CLR was completed in 2020, adding the location of the new park headquarters to the Williamsport cultural landscape documentation.

A CLI was completed in 1999 for Great Falls Tavern, and it was revised five years later. The Interior Region 1–National Capital Area's Cultural Landscapes Program produced a CLR for the tavern in 2009.¹⁶⁶ The Great Falls Tavern component landscape covers about 270 acres.¹⁶⁷ It is located on the east bank of the Potomac River approximately 15 miles northwest of Washington, D.C., in Montgomery County. Located in the Maryland Piedmont, the landscape of Great Falls Tavern includes floodplain and steep river bluffs. Riparian vegetation lines the river in the area of the floodplain, and the rocky bluffs support a primarily oak-hickory second-growth forest. In addition, the higher elevations on the east side of the site contain quartz veins known to have contained gold, which led to the development of mining in the late nineteenth and early twentieth centuries. The C&O Canal and towpath traverse the Great Falls Tavern landscape. Entrance to the site is via a nineteenth-century road related to the Washington Aqueduct.¹⁶⁸

A CLI was completed for Pennyfield Lock (Lock 22) in 2005 and revised in 2010. The lock, as a component landscape of C&O Canal NHP, includes the canal, towpath, and adjoining land, originally part of the C&O

¹⁶² Rita Suffness, HAER No. MD-115, Western Maryland Railway Bridge (Spring Gap Underpass) (Philadelphia: National Park Service, Philadelphia Support Office, 1995).

¹⁶³ LCA, Cultural Landscape Report: Chesapeake & Ohio Canal National Historical Park Williamsport, Maryland, Milepost 98.96-99.85 (Washington, DC: NPS, 1994)

¹⁶⁴ NPS, *Cultural Landscapes Inventory of the Williamsport Chesapeake and Ohio Canal National Historical Park* (Washington, DC: U.S. Department of the Interior, NPS, 2012).

¹⁶⁵ NPS, Cultural Landscapes Inventory, Williamsport.

¹⁶⁶ NPS, *Great Falls Tavern Cultural Landscape Report* (Washington, DC: U.S. Department of the Interior, National Park Service, National Capital Region, Cultural Landscapes Program, September 2009).

¹⁶⁷ NPS, *Cultural Landscapes Inventory, Great Falls Tavern, Chesapeake and Ohio Canal National Historical Park* (Washington, DC: U.S. Department of the Interior, National Park Service, 1999, revised 2004), 2.

¹⁶⁸ NPS, *Cultural Landscapes Inventory, Great Falls Tavern*.

Canal. It also includes land acquired by the NPS to preserve properties associated with the canal and to provide a buffer for the resources of the park. The site includes the Lockhouse and Lock and the remains of what was once a small African American canal-side community known as Tobytown on the inland side of the canal.¹⁶⁹

Following the relocation of park headquarters from Ferry Hill Plantation to Hagerstown, the park produced a CLR for Ferry Hill in anticipation of increased use and interpretation of the site.¹⁷⁰ The 2004 report documents the features that represent the landscape's historic significance and integrity. The report recommends rehabilitation as the most appropriate treatment approach for the Ferry Hill Plantation.

A CLI was done for Four Locks in 2008. Four Locks is a component landscape of the C&O Canal. The inventory unit is about 950 acres and is located southwest of Clear Spring, Maryland. C&O Canal NHP owns 520 acres within the Four Locks area. While C&O Canal NHP owns land on Prather's Neck, approximately 422 of the 950 acres are owned by either the State of Maryland or private individuals.¹⁷¹

A CLI was produced for Seneca Lock in 2010. The Seneca Lock component landscape consists of about 30 acres at the mouth of Seneca Creek in Montgomery County. Like the rest of the canal, Seneca Lock reflects the ascent of canal-based transportation and its ultimate decline in nineteenth-century America.¹⁷²

The Georgetown Area Cultural Landscape is in northwest Washington, D.C., bounded by M Street to the north and the Potomac River to the south, and consists of the canal prism, lift locks, towpath, crossover bridges, and other contributing and non-contributing features associated with the C&O Canal. The landscape boundary extends from Mile Marker 0.0 in Georgetown west to the WCC and is a component landscape of C&O Canal NHP. The 2018 CLI contains an extensive 86-page physical history with numerous historic photographs.

Other CLR/CLIs in process as of the date of this report include the Fletchers Cove area, Paw Paw Tunnel area, and the confluence of the Shenandoah and Potomac Rivers.

2.4.3 Rehabilitation Projects

Over the years the park has taken great care and pride in the general maintenance and upkeep of the canal structures that constitute a large part of C&O Canal NHP's historical significance. Since the majority of these historic structures and buildings are listed in the NRHP, the park must comply with Section 106 of the NHPA, which mandates that Federal agencies take into account the effects of their actions on properties listed or eligible for listing in the NRHP. The park maintains and rehabilitates its structures following the Secretary of the Interior's Standards for Rehabilitation (SOI Standards) to avoid adverse effects from these efforts. HSRs, CLRs, and other preliminary studies on the history or construction of these properties are critical to achieving an appropriate rehabilitation that preserves or restores the historic integrity of the resources.

In addition to the preliminary documentation of historic resources used to inform park projects, the assessment of effects and potential adverse impacts to both cultural and natural resources as a result of these projects is a primary concern for resource management. As restoration and rehabilitation projects move through the planning stages, EAs are prepared in accordance with the environmental policies and

¹⁶⁹ Judith Earley, *Pennyfield Lock, Chesapeake and Ohio Canal National Historical Park, Cultural Landscapes Inventory* (Washington, DC: U.S. Department of the Interior, National Park Service, 2005, revised 2010).

¹⁷⁰ Quinn Evans Architects, *National Park Service Cultural Landscape Report, Ferry Hill, Chesapeake & Ohio Canal National Historical Park* (Washington, DC: U.S. Department of the Interior, National Park Service, June 2004).

¹⁷¹ NPS, National Park Service Cultural Landscapes Inventory, Four Locks, Chesapeake and Ohio Canal National Historical Park (Washington, DC: U.S. Department of the Interior, National Park Service, 2008).

¹⁷² NPS, National Park Service Cultural Landscapes Inventory Seneca Lock, Chesapeake and Ohio Canal National Historical Park (Washington, DC: U.S. Department of the Interior, National Park Service, 2010).

procedures of the NPS, including NPS Environmental Compliance Field Guide – Director’s Order 12. EAs provide a thorough characterization of the potential direct and indirect impacts of proposed projects on resources and identifies mitigation strategies to avoid or minimize the impacts.

Between 1968 and 1978, C&O Canal NHP routinely produced HSRs primarily for purposes of gathering comprehensive historical data on groupings of canal resource types (such as the canal prism, lockhouses, culverts, and single-span aqueducts along the entire canal); many previous HSRs concentrated on individual resources within these categories. Because these reports encompassed all of the respective resource types along the canal, treatment recommendations focused on general specifications while also identifying significant variations. The reports provide physical histories of the resources, highlighting engineering and construction as well as any occasions of repair, to best inform the park in completing historically accurate restorations. Several HSRs for individual resources were also produced between 1968 and 1978, also primarily focusing on historical data rather than treatment recommendations, which later documents tended to provide in more detail. HSRs from the last three decades likely contain more detailed treatment recommendations because they were typically completed in advance of known or planned rehabilitation projects, specifically intended to guide those projects.



FIGURE 2.2: Four Locks School, Partially Restored (Reed and Reed, 1991)

The C&O Canal NHP completed an HSR for Four Locks School in 1991. At the time, given the building’s easily accessible and prominent location along the canal, the restoration and rehabilitation of the school presented an excellent opportunity for use as an interpretive center. The HSR aimed to provide concise recommendations for its accurate restoration, based on historical documentary data, and rehabilitation into an interpretive site in the park. Between 1990 and 1996, Four Locks School (Figure 2.2) was partially restored to its historic appearance following the HSR recommendations and opened for occasional use as an interpretive site. Recommendations included historically accurate furnishings dating to the nineteenth-

and twentieth-century period of significance, use of historic paint colors, and restoration of the school yard.¹⁷³

Owing to the 2001 relocation of park headquarters from the Ferry Hill Plantation to Hagerstown, C&O Canal NHP contracted an HSR in planning the restoration and rehabilitation of the Ferry Hill Plantation House for use as a public interpretive space/visitor center. The building served as park headquarters for 20 years and a change in use necessitated a thorough HSR for appropriate treatment recommendations. The completed HSR reflects the treatment and use plan accepted by the park, which included the following: “on the exterior a restoration to the Civil War era period, with a demolition of the later east and northeast additions, and later west porch. On the interior a preservation and rehabilitation treatment of remaining spaces will [to] best satisfy anticipated uses.” Uses included exterior wayside exhibits, interior public visitation by appointment, park education programs, and staff meeting and office space.¹⁷⁴

Often guided by HSRs, but not solely dependent on the documents, the park has completed several larger rehabilitation projects, including the restoration of aqueducts, the preservation of numerous lockhouses for use as private lodging, and the restoration and reopening of the Big Slackwater area. On occasion, these larger projects were funded because of safety concerns rather than broader park management goals. Some of these projects are described in detail below. Table 2.5 lists known major rehabilitation, restoration, and other maintenance and repair projects.

TABLE 2.5: KNOWN MAJOR REHABILITATION, RESTORATION, AND MAINTENANCE AND REPAIR PROJECTS AT THE C&O CANAL NHP, 1991-2021

PROJECT NAME	DATE
Underwater Inspection and Repair of Dams 4 and 5	1992-1994
Dredging and Re-Watering of Canal at Brunswick, Hancock, and Williamsport	1992
Refurbishment and Stabilization of Great Falls Tavern Visitor Center	2000
Preservation of Historic Georgetown Waterfront Masonry Walls	2002
Stabilization of Retaining Wall at Widewater	2003
Stabilization and Preservation of the Monocacy Aqueduct	2005
Stabilization of the Paw Paw Tunnel and Boardwalk	2005
Rehabilitation of the Georgetown Visitor Center	2006
Preservation and Maintenance of Lock 20	2006
Stabilization of Lift Lock 28	2006
Repairs and rehabilitation of Great Falls Visitor Center and Facilities	2006
Repairs to Canal Prism and Canal Berm at Chain Bridge	2008
Repair of Ferry Hill Trail	2008
Preservation of Lockhouses 49, 37, 28, 22, and 6	2009
Preservation and Maintenance of the Moore House and Weber House	2009
Preservation of Lockhouse 10	2010
Flood and Winter Storm Damage Repairs to Campgrounds, Picnic Areas, Roadways, and Parking Lots	2010

¹⁷³ Douglas C. Reed and Paula Stoner Reed, Preservation Associates, Inc., *Four Locks School Historic Structures Report* (Hagerstown, MD: U.S. Department of Interior, National Park Service, C&O Canal National Park), 22.

¹⁷⁴ GWWO, Inc./Architects, *Ferry Hill Plantation House Historic Structure Report* (Washington, DC: U.S. Department of the Interior, National Park Service, September 2005), 3-4.

PROJECT NAME	DATE
Restoration of the Catoctin Aqueduct	2010-2011
Restoration of the Big Slackwater Towpath	2011
Reconstruction of Locks 3 and 4 at Georgetown	2016-2017
Restoration of the Conococheague Aqueduct	2017-2019
Restoration of Swain's Lockhouse (no. 21)	2019
Canal Repairs (Montgomery County)	2020

An intense underwater inspection of Dams 4 and 5 took place in 1992, which revealed large holes in the masonry.¹⁷⁵ The following year, U.S. Navy Seabees from Underwater Construction Team One worked with the NPS and the Maryland Department of Natural Resources to fix holes weakening Dam 5. Water had been eroding the dam over the years and created caverns at the base of the structure. The approximately 10 voids in Dam 5 were cleaned out and filled with concrete.¹⁷⁶ Both dams were supposed to have been completed in summer 1993, but work at Dam 5 was more difficult than anticipated and work on Dam 4 was not completed until 1994.¹⁷⁷ Since the Seabees were doing the work as part of maneuver training and the NPS and the State provided materials and assistance, both dams were repaired for about \$350,000.¹⁷⁸

The NPS engaged in a \$2.3 million project involving the dredging and re-watering of dry sections of the canal at Brunswick, Hancock, and Williamsport.¹⁷⁹ The purpose of the project, conducted in the early 1990s, was to improve the appearance of the canal and encourage tourists to visit. The project was concurrent with downtown revitalization efforts and development of a recreational trail on an abandoned rail line in Hancock known as the Western Maryland Rail Trail. In 1992, 6,000 tons of silt were removed from the Hancock section so it could be flooded with fresh water. That September, the NPS hosted a re-watering ceremony at the site as part of the town's annual Canal-Apple Festival. Hancock residents were willing to support future efforts to re-water more of the canal in Hancock. Work was also underway at Williamsport, where the Cushwa Basin and Lock 44 were being refurbished (Figure 2.3).¹⁸⁰ A total of \$380,000 had been allocated for the Brunswick rewatering project, but progress on that section depended on how quickly the NPS could resolve the issue of oil contamination of soil at the rewatering site.¹⁸¹ Monitoring and remediation of oil contamination occurred at the Brunswick site over decades.¹⁸²

The Friends of the Great Falls Tavern helped to complete a refurbishment and stabilization of the Great Falls Tavern visitor center in 2000. The project was partially funded under the Recreational Fee Demonstration Program and successfully remedied immediate threats to the resource.¹⁸³ Six years later, the park undertook further repair and rehabilitation of the visitor center to meet ADA requirements, update mechanical and electrical systems, preserve the structure's exterior damaged by moisture, flood-proof the

¹⁷⁵ Greg Tasker, "Seabees Plug Away on the Potomac," *The Baltimore Sun*, October 4, 1993, 15, 17.

¹⁷⁶ Deb Riechmann, "Divers make underwater repairs on Potomac dams," *The Daily Times*, September 22, 1993, 28.

¹⁷⁷ Tasker, 17.

¹⁷⁸ Riechmann, 28.

¹⁷⁹ "Pollution unlikely to halt canal rewatering project," *The Baltimore Sun*, August 21, 1994, 92; "Canal project expected to boost tourism," *The Star-Democrat*, September 21, 1992, 3.

¹⁸⁰ "Canal project expected to boost tourism," 3.

¹⁸¹ "Pollution unlikely to halt canal rewatering project," 92; "Canal project expected to boost tourism," 3.

¹⁸² Biannual groundwater monitoring at the Brunswick rewatering site and wells began in 1998 (PMIS ID 44210), and in 2002, findings of contamination under the Clean Water Act resulted in the continued monitoring and pumping of Brunswick site wells (PMIS ID 88636). In 2014 a project was undertaken to determine the extent of contamination and pursue mitigation of the site contaminated by the CSX Railyard in Brunswick (PMIS ID 212909).

¹⁸³ NPS, *Chesapeake and Ohio Canal National Historical Park, 2001 Annual Narrative Report* (Washington, DC: U.S. Department of the Interior, National Park Service), 8.



FIGURE 2.3: Cushwa Basin in Williamsport, 2020 (John Gensor, 2020)

first floor, and restore the surrounding landscape.¹⁸⁴ The Great Falls Tavern Area hosts some of the highest numbers of visitors in the park annually: rehabilitation of the visitor center provided a new opportunity for educational and interpretive programming and essentially saved a valuable historic structure from degradation and loss. This rehabilitation was surprisingly completed without the guidance of an HSR. C&O Canal NHP did not contract an HSR for the building until 2014 which was completed by Beyer Blinder and Belle in 2020 for future preservation purposes.¹⁸⁵

The Recreational Fee Demonstration Program mentioned above was authorized by Congress in 1996 and amended in 2004 (Public Law 104-134), and in under 10 years, funded NPS projects costing more than \$700 million.¹⁸⁶ The program provides funding for Federal land management agencies, such as the NPS, to charge visitors fees for select experiences or use of park units. Those fees can then be used to fund high-priority maintenance, infrastructure, resource management, and visitor service needs.

Under Superintendent Brant, the park completed the preservation of five lockhouses (Nos. 49, 37, 28, 22, and 6) in February 2009 as the first step in implementing a three-year pilot program (Canal Quarters Pilot Program) to allow visitors to stay overnight or short-term in a historic lockhouse (see Section 2.6.5).¹⁸⁷ Lockhouse 10 was added to the program in 2010 and minor preservation work was completed as necessary. Soon after, with the help of a Heritage Montgomery Grant, Lockhouse 25 was approved for preservation and inclusion in the Canal Quarters Pilot Program. Each structure was restored to reflect different eras of life on the canal; for example, Lockhouse 22 represents the earliest years in the 1800s during the construction of the canal, and Lockhouse 49 represents canal life in the 1920s. Other lockhouses reflect periods such as the Civil War and influences on the canal, including the B&O Railroad.

¹⁸⁴ NPS, *Budget Justifications and Performance Information Report Fiscal Year 2006* (Washington, DC: U.S. Department of the Interior, National Park Service), 20.

¹⁸⁵ Blyth McManus, email to WSP USA Inc., “C&O CANAL NHP,” September 20, 2020; Ebersole, comments received by WSP, March 2021, in C&O CANAL NHP Admin Draft Comment Matrix.

¹⁸⁶ Abigail Miller, “Fee Demonstration Funds & Natural Resource Protection” (*Ranger, The Journal of the Association of National Park Rangers* XVIV, no. 4 (Fall 2003):2-4; United States Senate Energy and Natural Resources Committee, “Senate Report 108-233: Recreational Fee Authority Act of 2004” (Washington, DC: 108th Congress).

¹⁸⁷ “Preservation-Lockhouses 49, 37, 28, 22, and 6” (Washington, DC: PEPC Planning ,Environmental & Public Comment, National Park Service).

Today, the C&O Canal Trust, a park philanthropic partner, administers the Canal Quarters Interpretive Program (generally known as the Canal Quarters Program), which offers overnight interpretive experiences at seven lockhouses, including the newly rehabilitated Swain's Lockhouse (No. 21). Beginning in 2018, the NPS Historic Preservation Training Center (HPTC) completed designs for a major rehabilitation intended to return Swain's Lockhouse to its 1916 appearance, and a private contractor undertook the repairs. The project, completed in the summer of 2019 at a cost of approximately \$500,000, involved removal of all non-historic fabric, the addition of new structural framing and ADA accessibility measures, and restoration of the exterior according to the specifications recorded in 1930 HABS drawings (Figure 2.4). The rehabilitation was funded through a private-public partnership with \$100,000 raised by the C&O Canal Trust and leveraged private donations and public funding.¹⁸⁸ A third phase of restoration, to complete some exterior and interior finishes, is planned for the next three years.



FIGURE 2.4: View of the Southwest Elevation of Swain's Lockhouse After Rehabilitation, 2019 (C&O Canal Trust, 2019)

Following the success of the Canal Quarters Pilot Program, the park completed basic cleaning and preservation work at the Moore House and Weber House to rehabilitate the buildings as housing for park staff.¹⁸⁹ Although the buildings had previously housed seasonal staff as well as park visitors, they had been vacant for several years prior to rehabilitation and required minor repairs, upgrades, and hazardous material abatement to return to a livable condition.

¹⁸⁸ C&O Canal Trust, "Iconic 'Swains' Lockhouse Opens to Public as Canal Quarters Overnight Accommodations" (Hagerstown, MD, 2021).

¹⁸⁹ NPS, Basic Information Form, PEPC Project ID: 29028, Historic Moore House Rehabilitation (Washington, DC: U.S. Department of the Interior, National Park Service, November 2009); NPS, Basic Information Form, PEPC Project ID: 25488, Historic Prather (Weber) House Rehabilitation (Washington, DC: U.S. Department of the Interior, National Park Service, April 2009).

With the help of ARRA funds, the park restored the Catoctin Aqueduct in 2010-2011. The project involved reconstruction of collapsed arches using reinforced concrete faced with both historic and new stones to recreate the original appearance, pier repair and reconstruction, berm and towpath parapet reconstruction, compatible railing installation, and a new retaining wall. Two of its three arches were lying in Catoctin Creek.¹⁹⁰ Prior to the restoration, a temporary footbridge allowed users of the towpath to cross Catoctin Creek. The NPS contracted with J.W. Castle, P.E., and Associates in 2006 to perform an underwater stone inspection at the aqueduct.¹⁹¹ Senator Benjamin Cardin announced a \$2.7 million ARRA appropriation to begin the restoration of the aqueduct in early 2010. Additional funding would come from donations from residents and outside organizations.¹⁹² A community group led by George Lewis, the Catoctin Aqueduct Restoration Fund, raised \$2.5 million to rebuild the aqueduct.¹⁹³ On April 24, 2010, Governor Martin O'Malley and Senators Barbara Mikulski and Ben Cardin attended the ground-breaking ceremony.¹⁹⁴ Rehabilitation of the aqueduct began in summer 2010. The original stones were retrieved from the creek and used in the restoration. Work also included the stabilization of the wing walls to protect the aqueduct from flooding, the cause of its destruction in 1973. On October 15, 2011, State and Federal lawmakers held a ceremony near Point of Rocks to celebrate the reopening of the aqueduct.¹⁹⁵



FIGURE 2.5: View of Restored Big Slackwater Towpath, 2012 (NPS)

Completed concurrently with the Catoctin Aqueduct, the restored Big Slackwater area reopened in 2011 (Figure 2.5).¹⁹⁶ In 2009, \$12.1 million in economic stimulus funds was designated to repair the towpath. The NPS then had about 18 months to secure commitments for spending the stimulus money. The agency expected to advertise for bids by the following summer.¹⁹⁷ Park leaders and elected officials gathered in August 2010 to celebrate the start of the repair project, which was expected to take about 18 months and cost about \$17.2 million. The Cianbro

¹⁹⁰ C&O Canal Trust, "Superintendent Kevin Brandt Reflects on Career, Retirement" (Hagerstown, MD: August 9, 2019).

¹⁹¹ "Inspecting the bridge," *The Star-Democrat*, August 31, 2006, 6.

¹⁹² "Feds approve \$2.7 million for C&O Canal project," *The Star-Democrat*, January 5, 2010, 5; "Historic Catoctin Aqueduct restored," *The Baltimore Sun*, October 17, 2011, A2.

¹⁹³ C&O Canal Trust, "Superintendent Kevin Brandt Reflects on Career, Retirement."

¹⁹⁴ "C&O Canal's Catoctin Aqueduct restoration begins," *The Star-Democrat*, April 25, 2010, 5.

¹⁹⁵ *The Baltimore Sun*, "Historic Catoctin Aqueduct restored."

¹⁹⁶ C&O Canal Trust, "Superintendent Kevin Brandt Reflects on Career, Retirement."

¹⁹⁷ "Stimulus funds to repair C&O towpath gap," *The Star-Democrat*, April 28, 2009, 2.

Corp. of Pittsfield, Maine, was chosen as the contractor, and Gruber Latimer Restoration of Williamsport was hired to do the masonry work. As the project neared completion, the final cost was estimated at just over \$19 million. Most of the funding, \$12.8 million, came from the ARRA. The State of Maryland provided \$4.4 million through its Transportation Enhancement Program, and the C&O Canal Trust and the C&O Canal Association also contributed funds. Additional Federal money covered the remaining \$2 million. Eight wide elevated walkways anchored by 121 columns bolted into the rock stretched along the 1.5-mile section. A narrow lane built up into a wide, level path reclaimed the towpath trail leading up to the bridges on either side.¹⁹⁸



FIGURE 2.6: View of the Conococheague Aqueduct Breach, ca. 1920 (NPS)

Restoration of the Conococheague Aqueduct, another large project along the canal, commenced in August 2017 and had its grand opening in August 2019.¹⁹⁹ The aqueduct was in poor condition because it had been abandoned since 1924. Owing to its highly accessible location along the canal, the park identified the Conococheague Aqueduct as a candidate for restoration, anticipating the establishment of a nationally unique boat tour experience. The project involved restoring the aqueduct to its 1920s appearance, which featured a wood berm-side wall installed in 1920 to replace the previously collapsed masonry feature (Figure 2.6). The project design used historic and modern materials and construction methods to create a sustainable, functional structure with historically accurate features (Figure 2.7).²⁰⁰

The C&O Canal NHP recently completed the reconstruction of Lock 3 and the preservation of Lock 4 in Georgetown. The locks showed signs of shifting and instability, and Lock 3 required disassembly and complete reconstruction. The NPS-funded initiative, which began in 2016, involved mapping and cataloging all stones, careful disassembly, pouring a new foundation, and reconstructing the stone walls using as many original stones as possible. Lock 4 received maintenance, including repointing and some new masonry. C&O Canal

¹⁹⁸ Andrew Schotz, "Big Slackwater section could reopen next month," *The Star-Democrat*, August 26, 2012, 7.

¹⁹⁹ Ben Helwig, "Ben Helwig, Chief, Business Management—Interview 7/7/2021," interview by Meredith McCulley, WSP (Washington, DC: notes on file, WSP USA Inc., July 7, 2021).

²⁰⁰ Stephanie Spencer, "From Ruin to Restoration: The Conococheague Aqueduct," *Along the Towpath* (C&O Canal Association) LI no. 2 (June 2019):2.

NHP and Georgetown Heritage held a ribbon-cutting ceremony to open the rebuilt locks on September 12, 2019. Moving forward, the Georgetown Canal Plan, approved for design development in March 2020, seeks to reimagine the 1-mile section of C&O Canal NHP that runs through Georgetown, which includes Locks 3 and 4.

2.4.4 Protection of Cultural Resources

The park produced a Structural Fire Plan in 1999 to assure better protection of the cultural resources at C&O Canal NHP from fire damage. At the time, the park contained 73 structures under NPS authority. About half (37) of the structures were vacant, with the remaining buildings used for park operations (17), residences (8), visitor use (4), concession operations (4), and on lease (3). Of these structures, 57 were historic. A detailed fire needs assessment was gathered and filed separately for each building. In addition to the headquarters, the park was separated into five districts: Palisades, Monocacy, Williamsport, Hancock, and Oldtown. The plan discussed the responsibilities of employees, the fire prevention program and pre-fire programs, the fire needs assessment, primary response fire companies, fire emergency action plans for various buildings, and inspections and abatement. C&O Canal NHP drafted a revised Fire Plan in 2013 and again in 2020 to meet requirements outlined in the Directors Order and Reference Manual 58.



FIGURE 2.7: View of the Restored Conococheague Aqueduct (No. 5), 2019 (Tim Ware, NPS)

2.4.5 Cultural Resource Challenges

Cultural resource challenges at the C&O Canal NHP include perpetual climate disasters such as flooding and fire, an inadequate budget, a rising rate of visitation, and low levels of full-time staffing. Each of these challenges contributes to the overwhelming reality of a \$259 million maintenance backlog at the park.²⁰¹ Damage to park resources caused by flooding and fire adds projects to the maintenance backlog that continues to grow given a lack of staffing and inflexible budget. These challenges have existed since the

²⁰¹ NPS, Chesapeake and Ohio Canal National Historical Park Infrastructure Fact Sheet FY22Q1, (Washington, DC: U.D. Department of the Interior, National Park Service, accessed September 2022, https://www.nps.gov/subjects/infrastructure/upload/CHOH-Park-Fact-Sheet_FY22Q1_508.pdf).

inception of the park; however management decisions and strategies in the 2000s and 2010s to focus on larger recreational development projects seem to have led to a neglect of park operations and deferred maintenance.

The C&O Canal NHP RSS, published in 2017, offered the park its first comprehensive resource management planning tool since the mid-1990s. The strategy offers a process for summarizing and evaluating priority park resources, determining what stewardship goals and activities are needed to achieve desired resource conditions, and determining if documentation and conditions for priority resources are being recorded and met.²⁰² In addition, the RSS identified short- and long-term funding needs for future resource management projects. Key cultural resource management stressors in the park included flooding, regional development and encroachment adjacent to park boundaries, and climate change.²⁰³

In 2020 the park oversaw the completion of comprehensive condition assessments of all historic structures to better project the monetary needs for addressing the entire park maintenance backlog. The park plans to request funding under the Great American Outdoors Act.²⁰⁴ Further studies are also planned for the upcoming years, including ethnographic evaluations, additional CLIs, climate change planning documents, and collection management documents.

The management of cultural resources largely relies on a high level of documentation and historical understanding of the resources being preserved and protected. Early in the park's history, numerous cultural and historic resource reports were completed providing critical information to staff for future preservation and restoration efforts. Baseline documents include NRHP nominations, CLIs, archeological studies, and HABS/HAER documentation. More recently, the high cost and amount of time needed to produce these documents has reduced some of these efforts.

Increased resource studies, management of resources, and compliance with applicable laws, regulations and policies require not only funding but staff. Current budget cuts have made it difficult to provide visitors access to the park's cultural resources without sufficient staff to provide for resource protection. In addition, the park lacks a full-time Cultural Resource Program Manager to comply with regulations, preserve and maintain historic structures and districts, conduct archeological assessments, curate museum objects, monitor resource conditions, conduct research, and prepare park management documents.²⁰⁵ Facing current and future budget and staffing cuts, these challenges to cultural resources are ongoing.

2.4.6 Museum Collections

Museum collections (objects, specimens, and archival and manuscript collections) are important park resources, valuable for the information they provide to help staff, researchers, and visitors understand the events, activities, and people commemorated by parks.²⁰⁶ In addition to the thousands of historic structures maintained along the canal, C&O Canal NHP currently maintains a museum collection of cultural and natural objects. The collection includes oral histories and approximately 148,420 cataloged historic objects, including biological specimens, archeological objects, records (such as maps, reports, and photographs), historic furnishings, paintings, drawings, and illustrations of the canal.²⁰⁷ The collection is primarily held

²⁰² NPS, Resource Stewardship Strategy Summary: Chesapeake and Ohio Canal National Historical Park, District of Columbia, Maryland, West Virginia (Washington, DC: U.S. Department of the Interior, National Park Service, 2017).

²⁰³ NPS, Resource Stewardship Strategy Summary, 62-63.

²⁰⁴ Cappetta, interview, 2022.

²⁰⁵ Ebersole, comments received by WSP, March 2021, in C&O CANAL NHP Admin Draft Comment Matrix.

²⁰⁶ NPS, NPS-28: Cultural Resource Management Guideline.

²⁰⁷ As reported in the DOI Collections Management Report for FY2021, park collections include 141,870 archeological objects, 5,850 historical objects, and 700 natural history object. "Chesapeake & Ohio Canal National Historical

offsite at the NPS Interior Region 1 - National Capital Area Museum Resource Center in Landover, Maryland.²⁰⁸ As mandated by the park's enabling legislation and the 1976 General Plan, and as expressed by park historians in the 2015 Scope of Collection Statement, the museum collection should exist to "document and support the park's interpretive and resource management programs."²⁰⁹

C&O Canal NHP's museum collection originated as two separate collections: one associated with the first 22 miles of the canal and managed by the National Capital Parks and one associated with the remaining 162 miles from the upper end managed as a national monument. Materials were collected and cataloged by these two entities under the acronyms CHOHA and CHOHB until the late 1990s, when the two sections were merged under the name CHOH for all subsequent accessions. In 1976 objects collected during an excavation at the Abner Cloud House were cataloged incorrectly under a fourth acronym, ABCL.²¹⁰

The majority of C&O Canal NHP's museum collection consists of archeological artifacts and objects from Early Archaic (9600 BC) period to the twentieth century and historic objects associated with the construction and operation of the canal. Cultural collections contain human-made artifacts from the park, such as original lock parts, mule tack, personal effects, tools, and other objects directly related to canal construction and life during the operational era of the canal. The park engages in an ongoing effort to acquire ethnographic materials and historic objects currently not represented in the museum collection. An archive of historical photographs is available for viewing and research at the park headquarters. Photographs, plans, documents, blueprints, maps, and other documentary evidence of the canal construction process and early uses of the park assist in the rehabilitation and restoration of these historic buildings.²¹¹

The natural history collection primarily consists of plant and fungi voucher specimens, insects, geological specimens, and paleontological specimens from along the 184.5 miles of diverse ecological and geological environments in C&O Canal NHP. Future collection and interpretation of natural history materials are anticipated in the event of future research conducted at the park.

Among the small exhibits placed at the various visitor centers throughout the park, the Cumberland Visitor Center exhibits include a life-size section of a canal boat, a Paw Paw Tunnel model, and displays on the canal's construction, cargo, mules, locks, and crew. Designed specifically for the visitor center when it moved to its present location in 2000, these exhibits are a mix of true museum objects and objects purchased by the Harpers Ferry Center's (HFC's) Interpretive Design Center for display. In 2006 the C&O Canal NHP contracted with EDX, an exhibits design firm from Seattle, Washington, to design spaces for the newly refurbished Georgetown Visitor Center.²¹² The park hosted a traveling museum exhibit on the historic canal systems at Cushwa Basin in 2008.²¹³ With assistance from park staff and funding from Congress, the Colonial Dames of America initiated a restoration of the Abner Cloud House by the NPS and established a park information center with a library, small exhibit area, and space for meetings and receptions.²¹⁴ The Colonial Dames of America opened a collection in 2017 displayed at the house; however, it does not contain any park-related museum objects or interpretive displays. The Brunswick Heritage (Railroad) Museum,

Park Collection" (Landover, MD: Museum Resource Center, National Park Service, last updated April 20, 2020, [https://www.nps.gov/orgs/1802/C&O Canal NHP.htm](https://www.nps.gov/orgs/1802/C&O%20Canal%20NHP.htm)).

²⁰⁸ NPS, *Chesapeake & Ohio Canal National Historical Park, Scope of Collection Statement* (Washington, DC: U.S. Department of the Interior, National Park Service, August 2015).

²⁰⁹ NPS, *Scope of Collection Statement*, 5.

²¹⁰ NPS, *Scope of Collection Statement*, 6.

²¹¹ NPS, *Scope of Collection Statement*, 9.

²¹² C&O Canal NHP Federal Advisory Commission, "Briefing Statements," (Washington, DC: C&O Canal NHP, 2006), 11.

²¹³ "Canal Museum Exhibit, Cushwa Basin, Trolley Barn," PEPC Planning, Environment & Public Comment (Washington, DC: National Park Service).

²¹⁴ Colonial Dames of America, *The Abner Cloud House* (Washington, DC: Colonial Dames of America—Headquarters of Chapter III;).

which houses the NPS Brunswick Visitor Center featuring an interpretive exhibit and one museum object, is operated by the Brunswick Potomac Foundation. The park entered into a five-year Cooperative Agreement with the Foundation in 2016 to facilitate this working relationship. Although the agreement has since ended, the visitor center remains in operation at the museum (see Section 3.2).

2.4.7 Future Cultural Resource Management Needs

As the park moves forward under the Strategic Plan, new cultural resource management needs are emerging. Among the current projects include the archeological identification and evaluation of the two African American CCC camps established at Carderock in 1938 and a Historic Resource Study (HRS) of African American communities along the canal in Georgetown and the Palisades area. Both of these studies are intended to broaden the understanding of the significant role that African American communities have played in the development of the park and the contributions they made to the canal's operation and development. This information can be used to fully incorporate the history and significance of African American communities to the canal and potentially identify resources that contribute to the park's significance and can be incorporated into NRHP listings. New interpretive themes based on this research can be used to enhance visitor experience and aid in future planning efforts and protection of park resources.

Future cultural resource planning goals include developing and implementing a comprehensive plan to maintain towpath continuity and ensure visitor safety along the path, preparing and implementing a strategic facility plan for the use of facilities at Georgetown, Great Falls, and Williamsport, developing and implementing a plan for the long-term stabilization of cultural resources across the park, and developing and implementing a climate resilience plan.²¹⁵

2.5 NATURAL RESOURCE MANAGEMENT

2.5.1 Changing Management Practices

Natural resource management practices at C&O Canal NHP during the 1990s were roughly guided by the 1991 Statement of Management, which presented a goal to “preserve and protect the atmosphere of past times and enduring natural beauty and safeguard historic remains and natural features.”²¹⁶ This took the form of large-scale surveys to conduct one-off inventories of natural resources in the park, including GIS mapping; however, it lacked robust, recurring resource monitoring practices needed to assess change over time. Because of the length of the park, logistical difficulties in accessing various park areas on a regular basis, and lack of staff support, the park could not build any sort of regular resource monitoring into annual work plans. A heightened focus on natural resource management began to emerge around 1999 in response to the Natural Resource Challenge, an NPS-wide initiative to “improve park management through greater reliance on scientific knowledge.”²¹⁷ In 2008, when funding and staff temporarily increased during the NPS Centennial, scientific monitoring efforts increased, yet, as staff again dropped post-2010, fewer management actions could be conducted “on the ground” and outside partnerships with universities and State agencies, such as the Maryland Department of Natural Resources (DNR), were leveraged for monitoring and field support. The park began working with conservation organizations to hire botanist interns and fellows to establish rare plant monitoring as a priority. Although regular monitoring was not possible, after 2010, natural resource management priority has been on rare, threatened, and endangered (RTE) plants, and the park has engaged in some professional monitoring efforts, establishing more formal

²¹⁵ NPS, Strategic Plan, 7.

²¹⁶ NPS, *Statement for Management, C&O Canal National Historical Park* (Washington, DC: U.S. Department of the Interior, National Park Service, April 1991).

²¹⁷ The Natural Resource Challenge of 1999 was an action plan developed by the NPS to guide a system-wide emphasis on the preservation of park natural resources (NPS, *Natural Resource Challenge*, Washington, DC, 1999).

and robust surveying methods and making targeted species a priority. Management practices are beginning to move beyond continual monitoring and are shifting toward the active management of these resources (i.e., physical habitat modification, plantings, fencing). Key natural resource management undertakings since 1991 include the protection/gating of caves and railroad tunnels to protect rare bat species and hibernacula; wetland restoration efforts; work with RTE plants and their protection and monitoring; and a natural resource management focus on the Potomac Gorge and its unique and rare plant communities.²¹⁸

The Inventory and Monitoring Program (I&M) was formed in response to the Natural Resource Challenge of 1999. The I&M Program primarily seeks to collect, organize, and make available natural resource data to determine resource nature and status, provide condition assessments and points of comparison, and integrate the information into park planning.²¹⁹ The C&O Canal NHP is one of 11 parks served by the NCA I&M Network (NCRN I&M). Upon its creation, the NCA I&M program worked with the regional parks to establish monitoring targets “Vital Signs.” At the C&O Canal NHP, the I&M program began annual monitoring of forest vegetation, wetland amphibians in the Potomac Gorge, and forest breeding birds. In 2001 the C&O Canal NHP resource management program implemented a parkwide biological inventory in coordination with I&M as well as a four-year survey and restoration of the endangered plant *Harperella nodosum*.²²⁰ Numerous baseline inventories were conducted at the park from 2006 to 2011, including paleontological resources, freshwater fishes, reptiles, amphibians, and bats.²²¹ In addition to conducting baseline inventories, I&M monitors vital signs that are indicators of ecosystem health, like physical, chemical, and biological elements and processes of park ecosystems; known or hypothesized effects of stressors; and/or elements that have important human values. The long-term monitoring of these vital signs is meant to serve as an “early warning system” to detect declines in ecosystem integrity and species viability before irreversible loss has occurred.²²²

Not long after the I&M program was formed, The Nature Conservancy (TNC) joined the NPS in a joint planning process that integrated the I&M program with TNC’s site conservation planning (SCP) process to develop a conservation plan for the Potomac Gorge, which includes sections of C&O Canal NHP land near Great Falls. In 2000 the NPS established a cooperative agreement with TNC to support collaborative planning efforts, resulting in the Potomac Gorge Site Conservation Plan (2001). The Site Conservation Plan targets seven areas of conservation: Rare Groundwater Invertebrates, Riparian Communities, Terrace Communities, Anadromous/Semianadromous Fish, Upland Forest Blocks, Tributary Stream Systems, and Wetlands. Threats to these targets are identified and strategies to protect them are provided for implementation.²²³ The Site Conservation Plan was a significant undertaking and an important effort to establish and document the importance of the area to park staff and the public. As a result of the partnership with TNC and the efforts outlined in the Site Conservation Plan, valuable interpretive materials were developed for the Palisades District; however, without continued funding, TNC could not sustain their focus on the park and the implementation of the plan fizzled over time. TNC remains the co-landowner of

²¹⁸ Andrew Landsman, “Andrew Landsman Follow-Up,” interview by Kate Umlauf, WSP (Washington, DC: notes on file, WSP USA Inc., September 15, 2021).

²¹⁹ NPS, *Program Brief: Inventory and Monitoring Program* (Washington, DC: U.S. Department of the Interior, National Park Service, 2009).

²²⁰ NPS, 2001 Annual Report.

²²¹ NPS, Data Store, Integrated Resource Management Applications [IRMA]: Chesapeake and Ohio Canal National Historical Park (Washington, DC: U.S. Department of the Interior, National Park Service, Natural Resource Stewardship and Science, various).

²²² Jane E. Thomas, Simon D. Costanzo, R. Heath Kelsey, Catherine N. Bentsen, William C. Dennison, Patrick Campbell, Mark Lehman, Megan Nortup, Chris Stubbs, Michelle Carter, Brian Carlstrom, and John Hitchcock, *Chesapeake and Ohio Canal National Historical Park Natural Resource Condition Assessment* (Fort Collins, CO: U.S. Department of the Interior, National Park Service, Natural Resource Stewardship and Science, January 2014).

²²³ Allen O. Flack and S.R. Flack, *Potomac Gorge Site Conservation Plan* (Washington, DC, and Arlington, VA: National Park Service and The Nature Conservancy, 2001).

Bear Island with the NPS in this area and management continues to be cooperative (Figure 2.8). Aside from the Potomac Gorge Site Conservation Plan, the park's partnership with TNC has resulted in other programming, like the Weed Warriors, which gathers volunteers to contribute to invasive plant management in the park.²²⁴

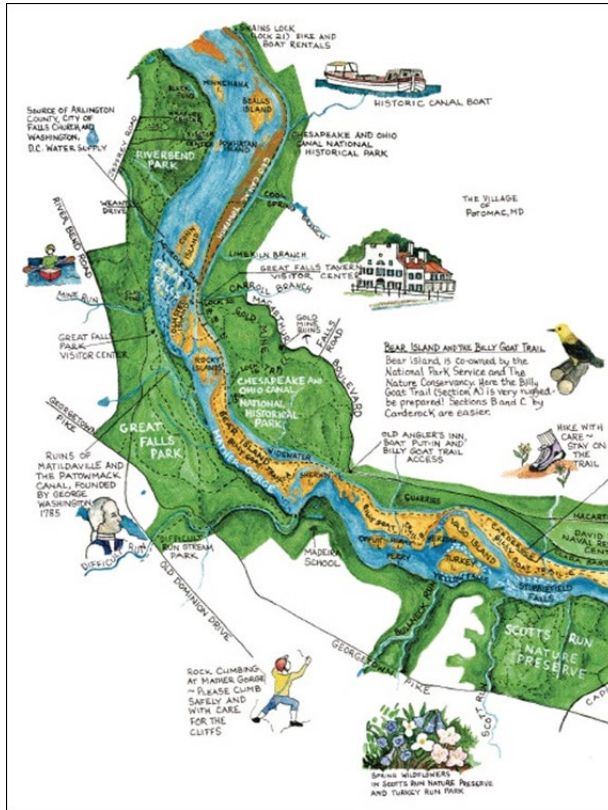


FIGURE 2.8: Section of Illustrated Map of the Potomac River Gorge, Showing Bear Island Area (NPS)

Dating back to the 1960s, ecological concerns began to come to the forefront of national park preservation efforts. The Advisory Board on Wildlife Management's 1963 report, *Wildlife Management in National Parks*, commonly known as the Leopold Report because of its chairman, A. Starker Leopold, had considerable influence on the NPS's shifting policies on natural resources. Leopold and the advisory board defended the importance of native flora and fauna to park preservation and made the connection between the expanding development of the parks and the loss of the ecological scene. The report proposed that the goal of managing national parks and monuments "should be to preserve, or where necessary to recreate, the ecologic scene as viewed by the first European visitors", and declared that "National parks should represent a vignette of primitive America."²²⁵

The NPS issued "Revisiting Leopold" in 2012, acknowledging that "emerging conditions—including accelerating environmental change, a growing and more diverse population of Americans, and extraordinary advances in science—make it urgent to revise the general principles of resource management and stewardship."²²⁶ The revised study notes that future resource stewardship within the

NPS must address development pressures, pollution impacts, climate change, terrestrial and biodiversity loss, habitat fragmentation, and the loss of cultural resources.²²⁷

As a result of this policy, the overall scientific integrity of the NPS strengthened, and at the C&O Canal NHP, collaboration between natural and cultural resource management was similarly strengthened.²²⁸ The park began working on a Natural Resource Condition Assessment, published in 2014 and carried out under the I&M Program.²²⁹ The report serves as a static snapshot highlighting natural resource data collected through the I&M program thus far. With these compiled data, future natural resource planning actions can be better informed. Since this report was issued, natural resource management has been looking forward and analyzing data that has been collected and is beginning to engage in active management. For example,

²²⁴ Landsman, interview.

²²⁵ A.S. Leopold, S.A. Cain, C.M. Cottam, I.N. Gabrielson, and T.L. Kimball, *Wildlife Management in National Parks: The Leopold Report* (Washington, DC: U.S. Department of the Interior, National Park Service, 1963).

²²⁶ NPS, Advisory Board Science Committee, *Revisiting Leopold: Resource Stewardship in the National Parks* (Washington DC: National Park System Advisory Board, 2012), 4.

²²⁷ NPS, *Revisiting Leopold*, 4.

²²⁸ Landsman, interview.

²²⁹ Thomas et al.

plans are developing for a multi-year project to visit endangered plant populations to collect seeds and to work with partners to propagate plants and replant them in the park.²³⁰ In 2019, the C&O Canal NHP began a planning process to identify natural resource research and management priorities in collaboration with subject matter experts and myriad park partners. Although this did not represent a major shift in resource management priorities, it has indicated a refinement and focus of priorities, as well as validation from external experts. The formalization of research objectives is intended to help guide the management actions proposed for funding. The four priority areas are aquatic habitats and resources; RTE species and communities; forest habitats and resources; and habitat connectivity.²³¹

Just as the scientific integrity of NPS natural resource management has strengthened, the park's public outreach and natural resource education has changed. Prior to the 2010s, natural resource information and outreach at the C&O Canal NHP was done through websites, social media, and print brochures that provided less detailed topical information. More recently, the park focuses on the education of and outreach to specific stakeholder groups and the broader scientific community. This includes formal public presentations, guest lectures to college students and faculty, peer-reviewed research manuscripts, and reports. As a result of this targeted outreach and the inclusion of the scientific community in the park's planning and project prioritization processes, the park has more formally established itself within the scientific community and has shared the importance of research in the national parks. This has furthermore led to the increased collaboration with researchers and in the inclusion of the C&O Canal NHP in externally-driven research endeavors. The C&O Canal NHP's Director of Natural Resources, Andrew Landsman, was granted the NPS Director's award for Natural Resources Research in 2020, an honor given to a single individual each year across the entire NPS. The work recognized by this award is generally done in coordination with park partners that lead the work.²³²

2.5.2 Rare Species, Threatened, and Endangered Species Monitoring

The C&O Canal NHP provides critical habitat for hundreds of RTE species, including plants, mammals, fish, insects, and birds. Owing to the large geographic range of the park and the presence of many different kinds of habitats, many RTE species, including the federally listed Indiana bat and short-nose sturgeon, have been documented in the park.²³³ Conversely, invasive and nonnative species made up approximately 10 percent of the species identified in the park in 2001 and threaten to have a negative impact on floodplain habitats, which are particularly vulnerable to invasion. Through species I&M programs, the park has been able to identify priority conservation areas and develop plans for their protection and conservation. NPS *Resource Briefs* for C&O Canal NHP amphibians, forest birds, forest vegetation, and fish and microinvertebrates, among others, are available online and provide overviews of the monitoring efforts completed at the park.

Three plant surveys were conducted from 1994 to 2000 with specific attention paid to documenting RTE plants: C&O Canal NHP: Sandy Hook to Cumberland (1995); the Potomac Gorge (1999); and Sandy Hook to the District of Columbia (2001).²³⁴

More than 40 State and globally significant natural areas exist in the park. The Potomac Gorge near Great Falls, including the shoreline of the Falls, Olmsted Island, Rocky Islands, Bear Island, and Chain Bridge Flats, represents a unique river ecosystem, with 10 globally rare riparian and river terrace communities containing over 100 RTE plant species.²³⁵ From 2014 to 2015, the park conducted a project to protect the

²³⁰ Landsman, interview.

²³¹ Landsman, interview.

²³² Landsman, interview.

²³³ Thomas et al.

²³⁴ Thomas et al., 22.

²³⁵ Thomas et al., 23.

globally rare habitat of the Potomac Gorge through native species restoration. Funding was provided to the C&O Canal NHP as well as the George Washington Memorial Parkway to protect the rare plants and habitats. Restoration efforts focused on propagating rare species and suppressing invasive plants that threatened the integrity of rare plant populations.²³⁶ Table 2.6 lists some of the major research and inventory efforts done at the C&O Canal NHP since 1991.

TABLE 2.6. MAJOR RESEARCH AND NATURAL RESOURCE INVENTORY EFFORTS AT THE C&O CANAL NHP, 1991 TO 2021

TITLE/SUBJECT	YEAR	DESCRIPTION
Species List	2000-2015	This inventory documents the occurrence of vertebrates and vascular plants in the park. It is one of the 12 core natural resource inventories of the NPS I&M Program.
Species Occurrence and Distribution	2000-2008	This inventory is a compilation of existing data at the time used to undertake targeted field investigations to document the occurrence of the species of vascular plants and vertebrates.
Inventory and Biological Monitoring of Fishes	2002-2004	Inventory of fishes in six parks of the NCA, including the C&O Canal NHP.
Freshwater Fish Inventory and Re-inventory	2002-2004/2018-2019	The inventory conducted between 2002 and 2004 was part of an effort made by NCRN to establish species distributions in parks. 61 fish species were inventoried. A re-inventory of freshwater fish in the park was conducted in 2018-2019.
Maryland Amphibian and Reptile Atlas	2010-2015	Result of a 5-year inventory effort by the Maryland DNR and the Maryland natural History Society to document the distribution of all species of reptiles and amphibians in Maryland.

²³⁶ Landsman, interview.

TITLE/SUBJECT	YEAR	DESCRIPTION
Survey of Dragonflies and Damselflies	2012-2014	Covered the upper 116-miles of the park. 81 species of dragonflies and damselflies were found to utilize this section of the park. ²³⁷
NCRN American Chestnut Inventory	2014	Resulted in a dataset of the first four years of forest vegetation monitoring (2006-2009) by the NCRN I&M Program.
Bat Surveys	2010s to present	Bats were inventoried in the park as early as 2003 by the NCRN and have been continually monitored through the 2010s and early 2020s.
Research into Invasive Plants and Insects	2017-present	New studies are highlighting the negative effects of exotic plants on native herbivores. ²³⁸
Amphibian Monitoring	2021	14 amphibian species identified within the C&O Canal NHP. ²³⁹

Several future projects are planned around the management of RTE plants in the park. One project, to survey at risk plant communities in highly visited area in and adjacent to Washington, D.C., began in 2020, expected to end in 2022. The C&O Canal partnered with the University of Maryland to analyze the park's long-term quantitative and qualitative data on RTE plant species. Work includes community analysis to determine long-term trends in holistic plant communities, identification of landscape- and micro-scale factors (e.g., adjacent development and local visitation) that influence rare plant survival, and filling of data gaps through employment of a botanist fellow. The park is currently synthesizing extant data and summarizing recent data collection efforts on RTE species in the park. This report describes past survey efforts, results of monitoring efforts from 2008 to 2021, and potentially lost RTE species since surveys in the 1990s. Also beginning in 2021 is a comprehensive multi-park project to evaluate endangered plant populations throughout western NCA parks. A botanist fellow will be hired to conduct the evaluation. Lastly, planned for 2022-2024, the C&O Canal is entering into an agreement with the Mt. Cuba Center to

²³⁷ Richard Orr, *Survey of the Dragonflies and Damselflies of the 116 Mile western Section of the C&O Canal national Historical Park (2012 through 2014)*, (Columbia, MD: Mid-Atlantic Invertebrate Field Studies, November 9, 2014), 2.

²³⁸ Andrew Landsman, J. Schmit, and E.R. Matthews, *Invasive Plants Differentially Impact Forest Invertebrates, Providing Taxon-Specific Benefits by enhancing Structural Complexit* (Washington, DC: U.S. Department of the Interior, National Park Service, 2021).

²³⁹ NPS, C&O Canal Amphibian Monitoring 2021 (Washington, DC: U.S. Department of the Interior, National Park Service, last updated June 27, 2022, <https://www.nps.gov/articles/000/c-o-canal-amphibian-monitoring-2021.htm>).

collect seed from RTE plants, ultimately propagating and growing individual plants to be planted back into the park.²⁴⁰

2.5.3 *Eel Ladders at Dams 4 and 5*

American eels spend most of their lives in riverine freshwaters. They migrate to the Sargasso Sea in the Atlantic Ocean to spawn, and the juveniles then find their way back to freshwater. The eels are part of the historic ecosystem of the Potomac River.²⁴¹

Once the most abundant species in East Coast rivers, eel populations have decreased dramatically in recent decades and completely vanished from some areas. Contributing factors include dams that hinder migrations into historic habitats, pollution, overfishing, climate change, and infestation by exotic parasites. During the 1980s and 1990s, Maryland DNR biologists noticed a decrease in the number of eels their electroshocking gear brought to the surface. When Dams 4 and 5 were up for relicensing in 2002, the DNR asked that special passages be built for them.²⁴²

As part of its 2002 Federal relicensing agreement, Allegheny Energy committed to building eel passages at its five dams on the Shenandoah River. The first opened in 2003. The power company constructed eel passages at its four other Shenandoah dams soon after and agreed to halt dam operation at night during the autumn, when mature eels migrate downstream, to reduce the number of eels killed in the power-generating turbines.

Around that time, Allegheny Energy also agreed to contribute \$150,000 to design and construct eel passages at Dams 4 and 5. The Federal government was responsible for constructing such an eel passage, since the dam structures are owned by the NPS and the U.S. Fish and Wildlife Service (USFWS) includes fish passage as one of their management priorities in this region. Costs to construct these passages, also known as eel ladders consisting of a series of chutes that zigzag up the dam, exceeded the available contributed funding, in part because of logistical difficulties associated with a historic bridge that had no electricity and would not support construction equipment. The Federal agencies paid for studies, additional engineering, and dealt with complex design issues, but funding actually to build the passages had run out.²⁴³

In 2009 the NPS drafted an EA for the Proposed Eel Ladder Construction at Dams 4 and 5 on the Potomac River to aid in the decision-making process for how best to design, construct, and operate an eel ladder at both dams. The EA recommended the following Preferred Alternative for Dam 4: the placement of the eel ladder, underground, along the Maryland shoreline at the corner of the dam on the east face of the abutment, which provides a good opportunity for eels to pass upstream and also protects nearby historic structures. At Dam 5 the EA recommended the eel ladder to be placed along the West Virginia shoreline at the tailrace of the hydroelectric plant.²⁴⁴

Following the EA, the NPS, the USFWS, and the Maryland Historical Trust (Maryland State Historic Preservation Office, or SHPO) signed an agreement in 2010 intended to govern the construction of the eel ladders at the dams and ensure compliance with the NHPA. Allegheny Energy, the owner and operator of

²⁴⁰ Landsman, interview.

²⁴¹ NPS, General Agreement Regarding Eel Ladder Construction, C&O Canal NHP (Crownsville: Maryland Historical Trust, August 2010), 1.

²⁴² Karl Blankenship, "Biologist fighting uphill battle to get eelways built on Potomac dams," *Bay Journal*, December 7, 2017.

²⁴³ Blankenship.

²⁴⁴ NPS, Chesapeake and Ohio Canal National Historical Park Environmental Assessment [EA]/Assessment of Effects: Proposed Eel Ladder Construction at Dams 4 and 5 on the Potomac River (Washington, DC: U.S. Department of the Interior, National Park Service, 2009), ES-3.

hydroelectric facilities attached to Dams 4 and 5, agreed to allow construction of an eelway attached to its powerhouse at Dam 5 and agreed to assume operational oversight of this eelway, as described in the September 2002 Supplemental Agreement for Dam Use between the U.S. Department of the Interior and Allegheny Energy Supply Company, LLC. To reduce impacts to the historic structure, the majority of the eel ladder at Dam 4 would be placed underground, masonry joint anchors would be used as an alternative to drilling into historic materials whenever possible, the structural elements would be camouflaged as much as possible, and a public interpretation program would explain the presence of the non-historic elements. The term of the agreement was 15 years, unless the signatories agreed to an extension.²⁴⁵

In 2017 agencies came up with \$150,000, on paper, to pay for an eel passage at Dam 4. Work on that passage was planned to begin in the summer of 2018 but was still awaiting funding in 2022 at the time this report was written. The passage at Dam 5 was installed in 2020 and was expected to cost over \$350,000, given its complexity (Figure 2.9).²⁴⁶ The eel ladder at Dam 5 was immediately damaged during the first high water event in 2020.

2.5.4 Deer Management

White-tailed deer population densities exceeding 20 deer per square kilometer are common for the forests in the eastern United States. This density is considered to be higher than the level necessary to allow sufficient forest tree and shrub regeneration. Similarly, dense deer populations affect the occurrence and abundance of herbaceous species on the forest floor. Deer population density surveys for deer in the Great Falls area of the park began in 2001 and occur annually.²⁴⁷ In 2002, as an early step in developing deer management plans, the Antietam and Monocacy National Battlefields and the C&O NHP partnered with the Smithsonian Institution to study deer impacts on crops and regeneration of wooded areas, conducted during 2003 and 2009 field seasons. Given the linear nature of the park, the NPS proceeded to gather data on the public perception of deer in the area.

In 2007, under a Cooperative Agreement between the NPS Biological Resource Management Division (BRMD) and Cornell University's Human Dimensions Research Unit, surveys were sent to local stakeholders to get an understanding of their perceptions about use of C&O Canal NHP lands, perceptions of and concerns about deer, opinions about NPS decision-making and land management, and background information with respect to deer issues. The survey revealed that many residents were concerned about the negative impacts associated with deer-vehicle collisions, the transmission of disease from deer to humans, and damage to landscape and natural plants



FIGURE 2.9: View of Eelway on Dam 5 of the Potomac River (Potomac Conservancy, 2020)

²⁴⁵ NPS, EA, Eel Ladder Construction, 4.

²⁴⁶ Blankenship.

²⁴⁷ Thomas et al.

from deer browsing. A majority of residents nearby and farther away believed that deer in the park were negatively impacting park plants and that the NPS should be managing deer-related impacts on the park.

The study provided NPS decision-makers with information about community interests related to deer impacts and management of NPS lands and was used to guide communication about deer management between NPS personnel and neighboring communities.²⁴⁸

Ten years after the stakeholders deer survey, in 2017, a White-Tailed Deer Management Plan and EA was drafted for the C&O Canal NHP and Harpers Ferry NHP.²⁴⁹ Both parks were facing the same issues of high deer densities and lack of forest regeneration.²⁵⁰ The purposes of this document were to evaluate a range of alternatives for managing white-tailed deer at the two parks and to assess the impacts that could result from continuation of the current management framework or implementation of any of the action alternatives.²⁵¹ The plan called for quickly reducing the density of deer to support long-term protection and restoration of native plants and to promote a healthy and diverse forest and addressed the potential for the spread of Chronic Wasting Disease in deer within the parks.²⁵²

The NPS selected an alternative including lethal reduction with the use of firearms and/or selective use of archery by authorized Federal agents as a deer management strategy to quickly reduce the population. Future lethal management activities may include the use of skilled volunteers who are trained, qualified, and certified under an NPS-developed system. The option was selected in June 2018 and the park conducted its first season of deer management in February and March 2019.²⁵³ Populations have since moved from 30 to 50 deer per square kilometer to nearing the population density goal of 8 to 15 deer per square kilometer.²⁵⁴ The NPS annually monitors forest vegetation and concurrently collects data on the impact of deer population reductions to wildlife taxa.

2.5.5 Wildland Fire Management

A single comprehensive Federal fire policy for the Departments of the Interior and Agriculture was established in 1995 after a deadly 1994 fire season. This policy recognized the essential role of fire in maintaining natural systems. This policy was updated in 2001, and a summary of elements relating to compliance with the policy was included in the NPS 2001 Management Policies. Both policies required that all areas with burnable vegetation to have a Fire Management Plan. Wildland Fire Management Plans are also completed in compliance with NEPA. NPS wildland fire management activities are essential to the protection of human life and property, the protection and management of irreplaceable natural and cultural resources, and the accomplishment of the NPS mission.

Two years prior to the issuance of NPS Director's Order #18 that required all park units with burnable vegetation to have a wildland fire management plan, C&O Canal NHP developed the Chesapeake & Ohio Canal NHP Wildland Fire Management Plan in 2004, revised in 2009. Fire management at the C&O Canal NHP is the responsibility of the park superintendent, with technical duties and accompanying

²⁴⁸ William F. Siemer, Kirsten M. Leong, Daniel J. Decker, and Karlene K. Smith, *Deer, People, and Parks: Perspectives of Residents in Communities Near the Great Falls Area of the Chesapeake and Ohio Canal National Historical Park* (Ithaca, NY: Human Dimensions Research Unit, Department of Natural Resources, December 2007).

²⁴⁹ NPS, *White-Tailed Deer Management Plan and Environmental Assessment: C&O Canal and Harpers Ferry National Historical Park* (Washington, DC: U.S. Department of the Interior, National Park Service, 2017).

²⁵⁰ NPS, *C&O Canal White-Tailed Deer Management Plan* (Hagerstown, MD: C&O CANAL NHP, last updated January 30, 2020).

²⁵¹ NPS, *White-Tailed Deer Management Plan and Environmental Assessment*.

²⁵² NPS, *C&O Canal White-Tailed Deer Management Plan*.

²⁵³ NPS, *C&O Canal White-Tailed Deer Management Plan*.

²⁵⁴ NPS Andrew Landsman, 2022.

responsibilities delegated to staff members. As outlined in the Wildland Fire Management Plan, the C&O Canal NHP historically operated under a suppression-only policy for the park. Under the suppression option, determination of the most appropriate management action in the event of a wildfire will consider human safety, threat and potential damage to property, resources, and cost effectiveness. The 2009 revision marks a slight shift in policy to allow for prescribed fires as a management option. The prescribed fire option allows the intentional ignition by management to accomplish management objectives in selected areas under certain conditions.²⁵⁵ As of 2022, prescribed fire has not yet been implemented at the park. As stated above, the 2004 Wildland Fire Management Plan was last revised and approved in 2009 and is due for a revision. Current park staff recommends that prescribed fire considerations be included in the next revision.

2.5.6 Wetland Delineation and Restoration

One of the C&O Canal NHP's primary goals is to protect the park's wetlands. Water is one of the park's characteristic features, with 261 perennial streams, three bodies of water, 54 miles of watered canal, and numerous other wetlands, totaling hundreds of water bodies; however, they have not been fully characterized.²⁵⁶ Policy and management guidance comes from several NPS orders, including Executive Order 11990, "Protection of Wetlands"; Director's Order 77: Natural Resource Protection (1998, updated 2002); and NPS Management Policies of 2006.

Wetland delineation and restoration efforts in the early 2000s included a water resources scoping report (2001) to establish baseline documentation and a wetland inventory in the Potomac Gorge from 2002-2004 (in partnership with TNC).²⁵⁷ Around then, the C&O Canal NHP hired a full-time GIS program coordinator who developed a park GIS system incorporating the baseline wetland information for future planning.

The park is required to ensure that projects do not adversely affect wetlands and have stringent requirements for mitigation or restoration when there are impacts. Therefore, the park often responds to construction or infrastructure undertakings by delineating and identifying any wetlands that may be impacted as a form of mitigation of effects.

Aside from mitigation efforts requiring wetland delineation, the NPS developed a Wetland Restoration Action Plan (WRAP) in 2016 designed to identify degraded or disturbed wetlands that could be improved or restored at the C&O Canal NHP and three other NCR parks.²⁵⁸ These actions could be done independently or could be included as mitigation for an impact to park wetlands elsewhere. As part of that funded planning project, the parks worked with the American Conservation Experience to focus restoration and conservation efforts on a number of wetlands across the four parks. Looking forward, the park has established funding in 2023 to continue proactive wetland restoration efforts, independently of required mitigation.

2.5.7 Natural Resource Initiatives and Challenges

Raised awareness of environmental concerns and impacts has brought new natural resource- and environment-focused programs to C&O Canal NHP. The park initiated a trash-free park program as part of the Leave No Trace initiative by 2003 and currently participates in the "Climate Friendly Parks" program, a network of national parks that are at the forefront of sustainability planning. Complementing the A Call to Action report, the park developed a climate action plan and committed to reducing overall greenhouse

²⁵⁵ NPS, Wildland Fire Management Plan, 2009.

²⁵⁶ NPS, Foundation Document, 36.

²⁵⁷ NPS, Data Store, IRMA.

²⁵⁸ NPS, Environmental Assessment of the Wetland Restoration Action Plan for Catoctin Mountain Park, Chesapeake & Ohio Canal National Historical Park, Harpers Ferry National Historical Park, Monocacy National Battlefield (Washington, DC: U.S. Department of the Interior, National Park Service, National Capital Region, April 2017).

gas (GHG) emissions at least 11 percent by 2016. Strategies included reducing electricity use in park buildings, developing renewable energy sources, encouraging energy-saving behavior among staff and visitors, reducing transportation emissions from park operations and visitor vehicles, diverting solid waste from the landfill by increasing recycling capacity and implementing the “Trash Free” program, and educating park employees and visitors about climate change and how to reduce GHG emissions.²⁵⁹ Also in 2016, the park participated in the BioBlitz, a national initiative to document biodiversity in NPS units in celebration of the Centennial. Prior to 2016, the BioBlitz was hosted by an individual park and involved a 24-hour period of documentation with subject matter experts leading citizens in the work. The 2016 events encouraged all parks to complete their own inventories and report them to the iNaturalist system to encourage visitors to get out and document species.²⁶⁰

As identified in the 2014 Natural Resources Condition Assessment, the most crucial natural resource concerns currently impacting the park are nonnative, invasive species, both plants and animals, that threaten forest resources; overpopulation of white-tailed deer overgrazing on native plants; and development encroaching on natural habitats. Encroachment also brings viewshed issues, particularly with cell phone towers and other obstructions in and along the periphery of the administrative boundary. Degraded air quality, on a regional scale because of vehicular traffic, is also a threat to the park, affecting certain habitats and significant scenic views. These threats are known, whereas climate change is an unknown and unpredictable threat, as it will be difficult to determine how the forest resources will respond to gradual warming over the next century (Figure 2.10).²⁶¹



FIGURE 2.10: Flooding near Swain's Lockhouse, June 2018 (Christine Rai, 2018)

In 2017 the RSS identified key natural resource management stressors in the park, such as flooding, invasive and exotic species, and climate change. Planned stewardship activities include implementation of the

²⁵⁹ NPS, *C&O Canal National Historic Park Greening Charrette* (Hagerstown, MD: National Park Service and U.S. Environmental Protection Agency, 200); NPS, *Chesapeake and Ohio Canal National Historical Park Climate Action Plan* (Washington, DC: U.S. Department of the Interior, National Park Service, Climate Friendly Parks, 2011).

²⁶⁰ NPS, National Park BioBlitzes (last updated March 4, 2019, <https://www.nps.gov/subjects/biodiversity/national-parks-bioblitz.htm>).

²⁶¹ Thomas et al., 3-4.

WRAP to complete wetland restoration projects once funding is secured, update GIS mapping of water resources, and establish a new cyclical monitoring system of RTE plants to achieve the long-term goal of completing new baseline surveys, the most recent of which was conducted in 2001.²⁶²

As outlined in the 2019-2023 Strategic Plan, the C&O Canal NHP is currently seeking to develop and implement a resource management plan to set natural resources and the park's most endangered species as priorities. This would help to direct the park in implementing the recommended stewardship strategies presented in the RSS. A recently updated flood response plan from 2020 seeks to address climate change by providing a comprehensive approach to flood emergency preparedness and post-flood assessment (see Chapter 4.0).²⁶³

2.6 INTERPRETATION AND EDUCATIONAL PROGRAMMING

2.6.1 *Evolution of Management Practices*

Interpretation and educational programming not only enhance the education of park visitors but nurture visitors' appreciation for the park, ultimately helping to preserve America's heritage.²⁶⁴ Reflected in the 2013 Foundation Document, the interpretive and educational efforts at the C&O Canal stem from a desire to tell the rich story of the canal and its operation while also providing for visitor recreation. To accomplish these goals, six designated interpretive themes, founded in the 1976 General Plan, provide a programming subject framework for the park: Human Ingenuity, Transportation Heritage, Life on the Canal, Change and Adaptation, Geology and Geography, and Place of Refuge.²⁶⁵

Interpretive programs at the C&O Canal NHP focus on engagement with the general public and are led by either seasonal or full-time uniformed NPS staff, most often delivered on park property as opposed to in local towns or schools. Educational programs focus on K-12 school groups and are not open to the general public. To participate, schools can request and schedule a field trip (on occasion the park staff will go to a school classroom), which were led by park staff until the Canal Classrooms Program began in 2013. The separation of interpretive programming from educational programming at the C&O Canal is not unique to other NPS parks; however, not all parks have both types. The C&O Canal NHP stands out among other parks with its innovative education model that engages retired educators to deliver its programming.

From 1990 to 2005, park leadership placed emphasis on interpretive canal boat programming at Georgetown and Great Falls, which included barge rides, living history presentations, and exhibitions at visitor centers.²⁶⁶ Plans were also developed during this period for new boat operations in Cumberland. In 1994, the construction of a brick plaza called Station Square in Cumberland initiated the revitalization of the Maryland canal town in hopes of attracting more tourists to the heritage area, known today as Canal Place. Owing to its location at the western terminus of the park, the Western Maryland Railway Station was planned as a long-term focus for improvements centered on interpretation and the visitor experience, as noted in the Canal Parkway plan.²⁶⁷ Seven years later, in 2000, the Cumberland Visitor Center and Museum

²⁶² NPS, Resource Stewardship Strategy Summary, 62-63.

²⁶³ NPS, Strategic Plan 2019-2023, 7-10.

²⁶⁴ NPS, *Director's Order #6: Interpretation and Education* (Washington, DC: U.S. Department of the Interior, National Park Service, 2005).

²⁶⁵ NPS, *General Plan*, 38; NPS, *Chesapeake and Ohio Canal National Historical Park Long-Range Interpretive Plan* (Washington, DC: U.S. Department of the Interior, National Park Service, Harpers Ferry Center, 2010), 9.

²⁶⁶ Emily Hewitt, "Emily Hewitt, Volunteer Program Manager, Interpretation, Education and Visitorship, Interview-8/6/2021, Notes also provided by Hollie Lynch, Education Coordinator," interview by Kate Umlauf, WSP (Washington, DC: notes on file, WSP USA Inc., August 6, 2021).

²⁶⁷ NPS, *Canal Parkway Development—Station Square Project* (Washington, DC: U.S. Department of the Interior, National Park Service, and Maryland State Highway Administration, May 1992), 1.

opened in celebration of the 150th anniversary of the completion of the C&O Canal (Figure 2.11).²⁶⁸ Another visitor center opened in 1995 as part of a \$1 million restoration of Williamsport at the restored Cushwa Basin Warehouse (see Figure 2.3). Other interpretive efforts focused on the park's layered cultural history and included wayside exhibits. Phase 1 of a park wayside exhibit plan was initiated in 2001, with many exhibits installed by spring 2002.²⁶⁹ In line with the emphasis on interpretive canal boat programming, a new packet-style canal boat, known as the Charles F. Mercer, arrived at Great Falls in 2005. Although a surge in funding around 2008 predominantly sparked a shift in programming focus, these new facilities and interpretive resources brought much-improved interpretation and educational opportunities to the park and, in part, ushered in a new phase of park programming.



FIGURE 2.11: View of Cumberland Visitor Center and Museum, Cumberland, Maryland (Tina Yoder, 2021)

Since the early 2000s, interpretive and educational initiatives in the park can be divided into four strategic focus areas: (1) interpretive boat programming at Georgetown, Great Falls, and Williamsport; (2) curriculum-based K-12 education programming at Great Falls, Williamsport, and Cumberland; (3) new or improved facilities, including visitor centers, exhibits, and waysides; and (4) digital media interpretation.²⁷⁰ These focus areas may have been informed by a 2003 visitor study, which aimed to assess the interpretation and educational programming needs of the park.

From 2006 to 2012, programming efforts were significantly shaped by an influx of Federal funding that allowed the park to increase seasonal staffing and focus on visitor center development and community engagement. In fiscal year 2008, interpretive seasonal staffing increased by 10 people.²⁷¹ Notably, among other Federal programs and initiatives, an increase in Centennial funding in 2008, ahead of the 2016 NPS Centennial, specifically contributed to the ability of the park to hire these seasonal interpretive rangers, which increased personal services and summer programming for visitors.

Following the opening of the visitor center in Cumberland, continued improvements and restorations at the terminus of the park included a new office building, plans for re-watering the canal basin, and the revitalization of Canal Place (see Section 4.1). These improvements all catered to an overall interpretive plan to introduce a canal boat program in Cumberland; however, in 2009-2010 the Cumberland boat program idea was abandoned by park leadership and focus pivoted to interpretation at Williamsport.²⁷² Although the boat operation did not come to fruition in Cumberland, the park benefited from the plan because the new infrastructure improvements allowed the expansion of educational programming with a long history of success.²⁷³ Interpretive initiatives made at Williamsport included various improvements to the canal prism and rehabilitation of canal structures for a canal launch program, which began as a seasonal

²⁶⁸ NPS, 2001 Annual Report.

²⁶⁹ NPS, 2001 Annual Report.

²⁷⁰ Hewitt, interview.

²⁷¹ NPS, Budget Justifications and Performance Information Report Fiscal Year 2008, 137.

²⁷² Hewitt, interview.

²⁷³ Hewitt, interview.

operation in 2012 upon the arrival of new boats (Figure 2.12).²⁷⁴ The increase in seasonal staff made possible by the Centennial funding contributed to the successful operation of the new boat program.

Unfortunately, shortly after the Williamsport launch program began, the boat operations at Georgetown ceased because of deteriorating boat conditions and a loss of interpretive staff. Supervisory interpretive staff previously stationed in Georgetown left the park around 2008 and the position was not refilled. Instead, the interpretive supervisor at Great Falls assumed leadership of both sites and both boat programs.

By 2012, the concurrent operation of both the Georgetown and Great Falls boat programs was no longer feasible, and the Georgetown operation was abandoned.²⁷⁵ Since 2012, the developing partnership between Georgetown Heritage and the C&O Canal NHP has resulted in the initiation of a new boat program in Georgetown operated by the partner organization and relieving the need for park interpretive staff.

Other interpretive programming, beginning in 2010, included engagement with the newly developed Canal Towns initiative (see Section 2.6.5), during which the C&O Canal NHP hosted a series of interpretive programs and events that connected the park with local communities along the canal. These events were focused in the western district of the park, west of Great Falls. Popular events included Canal Family Reunions, Canal Towns Partnership meetings and events, bluegrass music at the Bowles House in Hancock, and town-related events and festivals. In 2012, in partnership with the Blue Ridge Parkway Foundation, the C&O Canal NHP collaborated with D.C.-area hospitals, local physicians, and other regional national parks to launch the Track Trails program, a program featuring self-guided brochures to guide kids along the trails, under the NPS initiative Healthy Parks, Healthy People Program (Figure 2.13).²⁷⁶



FIGURE 2.12: View of Williamsport Launch Boat on Canal (NPS)

Educational programming from 2006 to 2012 included curriculum-based initiatives as well as a traveling museum exhibit, all designed to engage local students and schools. In 2006, the C&O Canal partnered with the Alice Ferguson Foundation to bring the Bridging the Watershed educational program to the park.²⁷⁷ Although the C&O Canal ended their participation in the program around 2009, it was a major focus for

²⁷⁴ Hewitt, interview; Associated Press, "Park Service Proposes C&O Canal Upgrades in Williamsport," *The Daily Record*, June 13, 2011; John P. McCarthy, *Excursion Boats* (Washington, DC: NPS, June 2014, Revised August 2014), 17.

²⁷⁵ Hewitt, interview.

²⁷⁶ Hewitt, interview.

²⁷⁷ NPS, *Long-Range Interpretive Plan*, 26; NPS, 2001 Annual Report.

programming and remains a popular program at other NCA parks. Bridging the Watershed brought middle school and high school students to the park to learn about the watershed through hands-on, curriculum-based learning modules. From 2010 to 2011, the park hosted a National Canal Museum traveling exhibit in Williamsport and engaged thousands of local elementary students. In 2011, in partnership with Washington County Public Schools, the C&O Canal NHP began developing curriculum-based field trips to the park for local students.²⁷⁸

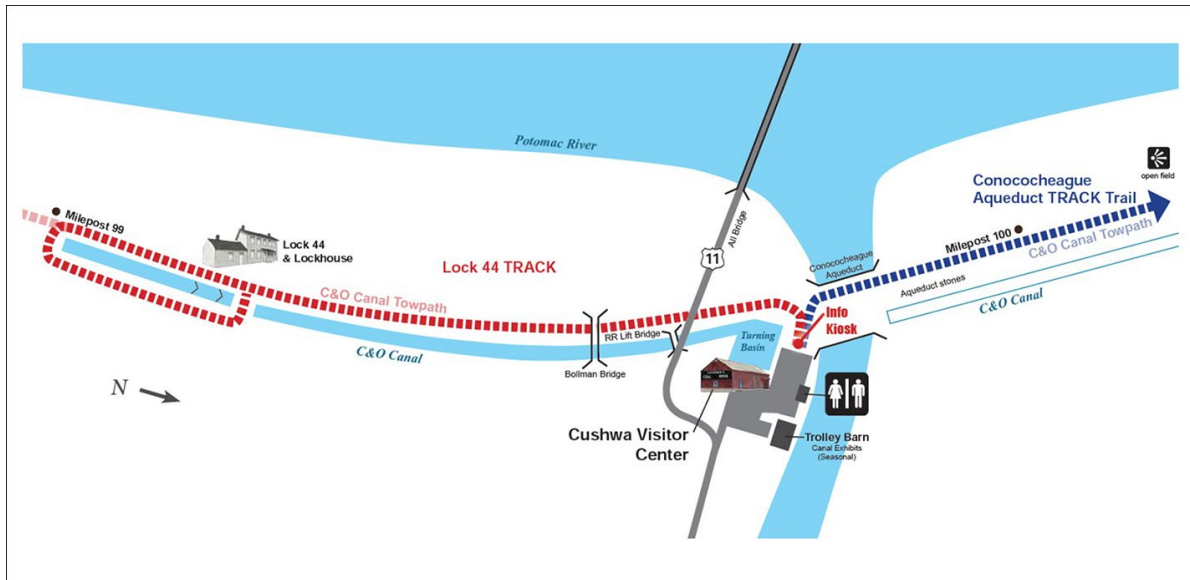


FIGURE 2.13: Map of Track Trails near Williamsport (Blue Ridge Parkway Foundation, 2021)

Although funding had increased around 2008 to hire more seasonal staffing, between 2009 and 2013, interpretation/education staff dropped from 19.3 full-time employees to 13. Changes to staffing and the deterioration of the canal boat in Georgetown led to the closing of the boat operations and a shift in focus to educational programming in the park. This shift to educational programming came in 2013 when the park formalized a new program known as the Canal Classrooms Education Program, designed to develop K-12 learning opportunities throughout the park (see Section 2.6.5). The award-winning program began in Williamsport with the creation of the Canal Classrooms Corps Teacher Program in partnership with the C&O Canal Trust and expanded rapidly over the next five years. Programming expanded to Cumberland and Great Falls by 2015, and eventually to in-school programming during the winter months in 2017. Canal Classrooms received the NPS national and regional Freeman Tilden award in 2017 for outstanding contributions to interpretation and education.²⁷⁹ The following year, park leadership scaled back support of the program as two educator positions went unfilled, resulting in limited in-park programming and the suspension of in-class programming. The number of students reached in the program sharply dropped from 15,000 in 2017 to 6,500 in 2019. In addition, because of safety restrictions in response to the COVID-19 pandemic in 2020 and 2021, in-person field trips to the park ceased and the park placed a new focus on developing digital and virtual learning opportunities, programs, and curriculum for K-12 audiences.²⁸⁰

²⁷⁸ Hewitt, interview.

²⁷⁹ NPS, "Freeman Tilden Award," NPS Celebrates!, accessed August 2021, <https://www.nps.gov/subjects/npscelebrates/tilden-award.htm>.

²⁸⁰ Hewitt, interview.

The use of digital technology for interpretive and educational programming has been important ever since the establishment of an NPS website in 1996, although it did not become a priority of park management practices until the NPS established a new website platform in 2005. The park uses the website to promote its diverse history as well as special programming, historical photos, and videos. In 2009 and 2011, respectively, the park created a Twitter account and a Facebook page to provide real-time announcements and information about special events. The park also created a Flickr page to share photographs with the community, although it is used on a limited basis.²⁸¹ Following the creation of these social media accounts, the park developed its first Web/Social Media Plan that has since been updated several times.²⁸² Diversification of social media as a result of the Social Media Plan included starting a park YouTube channel in April 2012 and an Instagram account in 2014. As of 2022, the “Chesapeake and Ohio Canal NHP” YouTube channel only had 223 subscribers, whereas the “C&O Canal Ntnl Historical Park” Instagram had 11,300 followers.

The C&O Canal recognizes the importance of digital interpretation in that it can reach different and wider audiences than cannot be reached just through interactions at the park. Not only can digital interpretation be more easily catered to people in their homes, but it can also be made accessible for those with physical or mental differences. The C&O Canal NHP is working to make videos in visitor centers fully accessible and to keep their website Section 508 compliant. Digital interpretation also helps the park stay relevant and keeps visitors interested through diversified engagement. Past and current digital programming includes Canal Discoveries, an application-based tool that essentially provides a visitor with a virtual ranger as they are guided through the park (see Section 2.6.5), a recent focus on distance and visual learning for implementation in the Canal Classrooms Program, OnCell (a mobile tour program beginning in 2013), and an in-development virtual tour of the Paw Paw Tunnel as planned for in the 2010 Long-Range Interpretive Plan.²⁸³ Prior to 2020, self-guided hikes or in-person tours of the Paw Paw Tunnel were available.²⁸⁴ The OnCell program shifted to the NPS application, in 2021.²⁸⁵

Similar to other areas of park operations at C&O Canal NHP, interpretation and educational programming faces challenges, including the linear nature of the park with its varying landscapes and cultural themes, flooding impacts on exhibit design and staff time, appropriate technological updates in the historical setting, budget sequestering, increased visitation, development encroachment, and staffing shortages.²⁸⁶ Rising programming needs, spurred by the restoration of the Big Slackwater and aqueducts, along with budgetary reductions, have placed a great burden on the park and its interpretive and education program. Determining how to conduct a successful program in the current economic environment will likely continue to be a challenge for the park.

2.6.2 Visitor Centers

From around 2006 to 2012, a period of increased seasonal staffing, the park could focus on visitor center operations and increased community engagement. Over those few years, the park operated three year-round visitor centers at Cumberland, Williamsport, and Great Falls, and four seasonal visitor centers at Hancock, Ferry Hill, Brunswick, and Georgetown. Numerous contact stations and interpretive program locations helped to increase capacity for informal roving and participation in community events and festivals by park staff. The visitor center at Ferry Hill opened for seasonal use at least as early as 2006 and remained open until 2017, staffed by seasonal rangers and volunteers. In 2012, made possible by several

²⁸¹ Flickr, “C&O Canal NHP,” accessed August 2021, <https://www.flickr.com/people/chesapeakeandohiocanal/>.

²⁸² Hewitt, interview.

²⁸³ NPS, Long-Range Interpretive Plan, 36.

²⁸⁴ NPS, Long-Range Interpretive Plan, 19.

²⁸⁵ Hewitt, interview; NPS, “C&O Canal: The NPS App” (last updated April 15, 2021, accessed November 2021, <https://www.nps.gov/choh/planyourvisit/get-the-app.htm>).

²⁸⁶ NPS, Long-Range Interpretive Plan, 14-15.

years of planning and grant funding, the C&O Canal NHP completed improvements to existing exhibits at Ferry Hill and opened new Civil War focused exhibits for the Civil War Sesquicentennial at both the Hancock (Bowles House) and Ferry Hill visitor centers. The Bowles House visitor center had recently opened in 2010 and operated seasonally, staffed by seasonal staff and volunteers, until the end of 2019. Due to the COVID-19 pandemic in 2020, the visitor center has since not been staffed. A potential agreement with the Town of Hancock would have town volunteers help to reopen the center.²⁸⁷ Table 2.7 lists provides a brief history/timeline of visitor center operations at the C&O Canal NHP from 1995 to 2019.

TABLE 2.6: BRIEF TIMELINE OF VISITOR CENTER OPERATIONS AT C&O CANAL NHP, 1995-2019

EVENT	YEAR
Cushwa Basin Visitor Center opens (Williamsport)	1995
Reconstruction/Rehabilitation of Georgetown Visitor Center	late 1990s
Brunswick Visitor Center opens in Brunswick Heritage Museum	Early 2000s
New Cumberland Visitor Center opens	2000
Refurbishment and stabilization of Great Falls Tavern Visitor Center	2000
Rehabilitation and opening of Ferry Hill Visitor Center	2006
Repairs and rehabilitation of Great Falls Tavern Visitor Center (including ADA improvements)	2006
Rehabilitation of Georgetown Visitor Center (including ADA improvements)	2006
Bowles House Visitor Center opens (Hancock)	2010
Georgetown Visitor Center closes following end to boat programming	2011
Exhibit improvements at Ferry Hill and Bowles House Visitor Centers	2012
Ferry Hill Visitor Center closes	2017
Bowles House Visitor Center open through 2019; did not re-open owing to pandemic in 2020	2019

2.6.3 Long-Range Interpretive Plan

All national parks are unified under the Comprehensive Interpretive Planning (CIP) processes developed by the NPS in 1995. The process helps parks to develop a park-specific planning document focused on interpretive media, personal services, and educational programming objectives. CIPs are composed of three parts: a Long-Range Interpretive Plan (LRIP), a series of Annual Implementation Plans, and an Interpretive Database (ID).

The C&O Canal NHP developed an LRIP in 2010 that covers the six interpretive themes that “capture the essence of Chesapeake and Ohio Canal National Historical Park’s significance”, first developed in the 1976 General Plan.²⁸⁸ The plan stressed the need to develop a multi-faceted interpretive program that incorporates the natural and cultural significance of the park. Project scoping identified 10 issues and challenges that could affect interpretation: (1) flooding, (2) technology, (3) politics, (4) economics, (5) increased visitation, (6) encroachment by neighbors, (7) Big Slackwater restoration, (8) the Western Maryland Rail Trail, (9) Canal Towns, and (10) canal launches. Interpretive goals in the plan include the improvement of orientation, marketing, and access to information and interpretation; the upgrading and improvement of site-specific interpretive operations; the establishment of canal launches; the expansion of the Canal Quarters Program; the development of a parkwide education program; the improvement of personal services (phone inquiries); and the expansion of existing partnerships. Recommendations in the plan include drafting an annual implementation plan for each new fiscal year based on funding

²⁸⁷ Hewitt, interview.

²⁸⁸ NPS, Long-Range Interpretive Plan.

opportunities and in coordination with other projects.²⁸⁹ C&O Canal NHP had previously identified its primary interpretive themes as Human Ingenuity, Transportation Heritage, Life on the Canal, Change and Adaptation, Geology and Geography, and Place of Refuge (see Section 2.6.1).²⁹⁰ These interpretive themes were also carried through to the 2013 Foundation Document.

Since the development of the LRIP, the park has steadily progressed in its implementation and has set priorities for a number of recommendations from the 2010 plan (Table 2.8). Park staff have identified a need to complete an updated LRIP as advances in technology (largely because of the 2019 COVID-19 pandemic) have changed park interpretive goals.²⁹¹ As of 2022, interpretive goals include securing funding for an updated LRIP and a wayside exhibit plan and maintenance, increasing digital interpretive programming, and developing a virtual tour of Paw Paw Tunnel.

TABLE 2.7: 2010 LRIP GOALS IMPLEMENTED AS OF 2021

Developed a social media strategy (updating 2021)
Increased social media activity as opposed to publications
Website made Section 508 compliant
Increased youth and student content added to website
Established a YouTube Video Library
Used interns for marketing assistance
Created database for effective marketing communications
Expanded formal and informal partnerships
Canal Quarters expanded through C&O Canal Trust
Completed wayside exhibit inventory
Bulletin Board update
Staff and volunteers trained for interpretive programming
Hired public affairs officer
Developed Interpretive Site Plan for Williamsport (see Chapter 4.0)
Canal Farm programming
Collaborated with local school districts to accomplish goals of intended teacher advisory board
Completed site-specific programming on nineteenth-century cooking, natural history of Olmsted Island, history of the Crommlein House, Indigenous Voices special event, George Washington Ball special events, Civil War encampments, Earth Science Week, Leave No Trace, and Audience-Centered Experience interpretation

Note: This is not an exhaustive list of all 2010 LRIP goals that were implemented. It is representative of interpretive programming developments from 2010 to 2021

2.6.4 C&O Canal Trust Partner Programming

The C&O Canal Trust (Trust) was founded in 2007 under the Mission Statement provided below. The park’s partnership agreement with the organization is discussed in detail in Section 3.1.1. This section details the interpretive and education programming managed by the Trust for the C&O Canal NHP.

The C&O Canal Trust, as the official non-profit partner of the Chesapeake and Ohio Canal National Historical Park, works in partnership with the National Park Service and local communities to raise funds to preserve the

²⁸⁹ NPS, Long-Range Interpretive Plan.

²⁹⁰ NPS, Long-Range Interpretive Plan.

²⁹¹ Hewitt, interview.

Park for future generations and to broaden support through programs that highlight the Park's historical, natural, and cultural heritage and recreational opportunities.²⁹²

The Trust manages many successful park programs, including Canal Quarters, Canal Community Days (and other volunteer programs), Canal Towns Partnership (CTP), C&O Canal Explorer, Canal For All, and the Bench Donation Program. The operation of each program is described below.

In partnership with the Trust, the C&O Canal NHP developed the Canal Quarters Program, a unique interpretive experience for visitors that allows overnight stays in restored canal lockhouses (Figure 2.14). The Trust began working on the Canal Quarters Interpretive Program in 2008.²⁹³ Kevin Brandt and Matt Logan, president of the Trust at the time, saw it as an opportunity to preserve the historic structures while providing a deeper experience of the canal to visitors.²⁹⁴ The park provided funding through task agreements for the renovation and furnishing of the lockhouses. The first lockhouse, Lockhouse 49, was made available for public lodging at the end of 2009. Lockhouses 6 and 22 opened in 2010, and Lockhouses 10, 25, and 28 became available in 2011.



FIGURE 2.14: Logo for Canal Quarters Program (C&O Canal Trust, 2021)

Expansion of the program was a planning priority in the 2010 LRIP and the 2013 Foundation Document; however, the seventh lockhouse, Lockhouse 21 (Swains Lockhouse), was not added to the program until 2019 following its restoration.²⁹⁵ The NPS chose the Swains Lockhouse for inclusion in the program as it could be more easily converted to accommodate accessibility while also retaining historic integrity and an “authentic look.”²⁹⁶ Plans for rehabilitation/restoration of the lockhouse to its 1916 appearance began around 2016 with the help of historical architects and other craftspeople from the NPS's HPTC in Frederick, Maryland.²⁹⁷ Previously completed HABS documentation of the building aided in the accurate restoration, and new designs were prepared to rehabilitate the building to meet accessibility requirements.²⁹⁸ Completing HABS documentation for Lockhouse 21 prior to restoration is referenced in the 2017 RSS Summary as a recommended stewardship activity, along with HABS documentation for the Blackford and Bowles Houses for potential future additions to the Canal Quarters Program.

Since 2009, thousands of people have spent the night in these restored lockhouses and the program has received a number of preservation awards, including the NPS 2011 Appleman-Judd Award for excellence in cultural resource stewardship, the 2012 Maryland Preservation Award for outstanding stewardship of historic properties by a government agency, the 2014 Advisory Council on Historic Preservation award for

²⁹² C&O Canal Trust, “About the C&O Canal Trust” (accessed June 2020, <https://www.canaltrust.org/about-us/about-the-trust/>).

²⁹³ Jane Neff, “C&O Canal Trust meeting with Jane Neff,” interview by WSP (Washington, DC: notes on file, WSP USA Inc., March 10, 2020).

²⁹⁴ C&O Canal Trust, “Superintendent Kevin Brandt Reflects on Career, Retirement.”

²⁹⁵ Neff, interview.

²⁹⁶ C&O Canal Trust, “Architectural drawings render an exciting first look at rehabilitated lockhouse” (February 2016, accessed October 2021, <https://www.canaltrust.org/2016/02/architectural-drawings-render-an-exciting-first-look-at-rehabilitated-lockhouse/>).

²⁹⁷ C&O Canal Trust, “Swains Lockhouse showcases the Historic Preservation training Center’s Passion for history and craftsmanship” (February 15, 2016, accessed October 2021, <https://www.canaltrust.org/2016/02/swains-lockhouse-showcases-the-historic-preservation-training-centers-passion-for-history-and-craftsmanship/>).

²⁹⁸ Historic American Buildings Survey, Chesapeake & Ohio Canal, Lockhouse at Lock 21, Swain’s Lock Road, State Route 190 Vicinity, Great Falls, Montgomery County, MD, date unknown (Washington, DC: U.S. Department of the Interior, National Park Service, <https://www.loc.gov/resource/hhh.md0737.sheet/?sp=2>); C&O Canal Trust, “Architectural drawings render an exciting first look at rehabilitated lockhouse.”

achievement in historic preservation, the 2017 Preservation Maryland's Best of Maryland Preservation Award for volunteers, and the 2020 Maryland Historical Trust award for project excellence in preservation partnerships.²⁹⁹ The buildings are kept in operating condition with the help of Quartermasters, volunteers who oversee the guests, complete maintenance tasks, and regularly inspect the buildings. The program was reopened following temporary closure from March 2020 to June 2020 during the COVID-19 pandemic.³⁰⁰

The Canal Pride Days initiative formed in 2007 as the Trust's annual volunteer events, now known as Canal Community Days.³⁰¹ The event originally spanned about a month each spring and attracted hundreds of volunteers to complete maintenance and preservation tasks around the park. In the new CCD format, events are also conducted with volunteers throughout the year in conjunction with businesses and community groups. In deciding which projects to undertake, the Trust coordinates with the park to identify priorities and organize groups of volunteers. The Trust volunteer program mobilizes up to 3,000 volunteers each year to do work along the canal in an attempt to engage volunteers in communities along the canal. Work typically involves minor maintenance, such as painting, spreading gravel, and removing invasive plants. The Trust does its own fundraising for this program, including in-kind donations of supplies by local businesses.

The CTP formed in 2011 to support the economic vitality of the numerous historic towns along the C&O Canal. Fiscally supported by the Trust, volunteer representatives from each of the participating towns meet each month to administer the program. Nine towns have participated in the program from the outset: Cumberland, Hancock, Williamsport, Sharpsburg, Shepherdstown, Harpers Ferry, Bolivar, Brunswick, and Point of Rocks. In 2020, Poolesville joined, and in 2021 Paw Paw, West Virginia, became the newest Canal Town. The Trust helped initiate the program with marketing ventures and fundraising, and the towns have since worked together to support themselves. The program has proved quite successful: the CTP now has a board of directors and they do their own marketing with oversight from the Trust.³⁰² Published brochures highlight activities at each town along the canal and provide brief histories for visitors (Figure 2.15).³⁰³

The Trust launched the C&O Canal Explorer mobile application in 2017 to replace Canal Discoveries, an online database of significant park resources offering a virtual exploration of the park and its history. A major update was made in 2021. Use of the database was incorporated into the mobile application, which alerts the user when they are near one of over 600 points of interest.³⁰⁴ Information focuses on towns, locks, tunnels, other canal infrastructure, historic buildings, the Appalachian Trail within the park, and many other manmade and natural features, including visitor amenities.

Canal For All, launched in 2016, focuses on bringing outdoor recreation and education programs and volunteer and career development opportunities to youth from underrepresented communities.³⁰⁵ The Trust received a grant from the National Environmental Education Foundation (NEF) and the Kendeda Fund in 2016 to pilot the program for two years, during which they formed partnerships with local governments, nonprofit organizations, and businesses to offer overnight stays and recreational programming. The program has continually received grants to implement its goals, including an annual

²⁹⁹ C&O Canal Trust, "Canal Quarters: Awards," (2021, accessed November 2021, <https://www.canaltrust.org/programs/canal-quarters/awards/>).

³⁰⁰ C&O Canal Trust, "Regulations and Response to COVID-19" (July 2020, accessed November 2021, <https://www.canaltrust.org/2020/07/regulations-response-to-covid-19/>).

³⁰¹ C&O Canal Trust, "Show Your Canal Pride From Home" (April 2020, accessed November 2021, <https://www.canaltrust.org/2020/04/show-your-canal-pride-from-home/>).

³⁰² Neff, interview.

³⁰³ Canal Towns Partnership, "Towpath to Town" (August 2021, accessed November 2021, <https://www.canal-trust.org/wp-content/uploads/2021/08/CTP-Brochure.pdf>).

³⁰⁴ C&O Canal Trust, "10 Years: Canal Discoveries" (2021, <https://www.canaltrust.org/about-us/about-the-trust/10-years-trust-accomplishments/10-years-canal-discoveries/>).

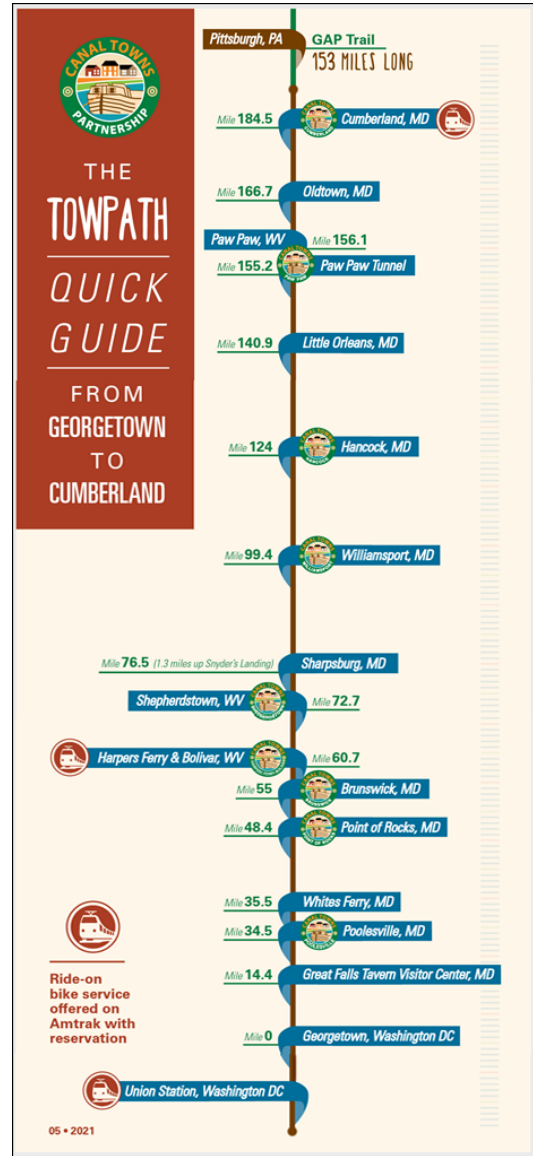
³⁰⁵ C&O Canal Trust, "C&O Canal Trust Programs" (2021, accessed June 2020, <https://www.canaltrust.org/programs/>).

\$19,000 grant from Montgomery County to launch a Conservation Jobs Corps program to have youth volunteers work on maintenance projects, e.g., cleanup following flood damage in Great Falls. As Canal For All moves beyond its pilot phase, the Trust is committed to continuing its work to engage diverse communities in the park, aligning with one of the park’s primary goals listed in the 2019-2023 Strategic Plan.

The park and the Trust have collaborated on a Bench Donation Program for the park starting as early as 2014. The purpose of the program, administered by the Trust, is to provide places for visitors to sit and enjoy the park, something that had been lacking. Individuals can sponsor a bench for a period of three years as a donation in the name of someone else. Logistically, once the funding for a bench has been received, the Trust orders the bench and works with the C&O Canal Association Volunteer In Parks Team to install it. The benches are made of recycled plastic lumber and are ordered in groups to be cost-effective (Figure 2.16). Removable plaques are placed on the backrest of the benches to recognize donors. In April 2020 Superintendent Tina Cappetta authorized the installation of benches along the 3.5 miles of the Washington, D.C. section of the Capital Crescent Trail maintained by the park. In addition, the donation level of all benches was raised to \$3,000, slightly higher than previously.³⁰⁶ According to the former C&O Canal Partnerships Coordinator, this program has become unexpectedly popular to the point that the Trust maintains a waitlist of donors.³⁰⁷

2.6.5 Canal Classrooms

One of the most impactful park interpretive programs at the C&O Canal NHP is the Canal Classrooms Education Program: curriculum-based education programming, administered by the park with support from the C&O Canal Trust, other partner organizations, and local schools. Canal Classrooms features more than 20 curriculum-based education programs developed in partnership with local schools, ensuring that all curriculum is relevant to national standards and meets student learning needs. This program led the park programming shift from a focus on boat programming to education as a priority. It was the first coordinated effort at the park to reach and engage K-12 students through collaboration with local school districts and curriculum-based learning modules. This coordinated approach has provided consistency and a greater capacity for outreach given the challenges of reaching the K-12 audience across such a large linear park along multiple States and school districts.³⁰⁸



2021)

³⁰⁶ Letter from Superintendent Tina Cappetta to C&O Canal Trust President Robin Zanotti, April 6, 2020.

³⁰⁷ Helwig, interview.

³⁰⁸ Hewitt, interview.



FIGURE 2.16: View of Bench at Four Locks, Donated as Part of the C&O Canal Trust Bench Donation Program (Nicholas Clements, 2021)

Officially introduced in 2013, groundwork for the educational programming had been in motion since 2010 from a partnership with the Washington County Public Schools to bring students to the park for education programs and the traveling canal museum exhibit. In 2012 the park updated a 2010 educational needs assessment and drafted a five-year strategic plan for the development of the parkwide education program that would become Canal Classrooms.³⁰⁹ The strategic plan highlighted five key elements:

- Curriculum-based programs developed with local schools;
- Creation of the Canal Classrooms Corps Teacher Program to provide staffing support with the delivery of K-12 programs, who work under the auspices of the C&O Canal trust;
- Creation of a Transportation Scholarship program to provide grants to K-12 groups visiting the park that could otherwise not come because of transportation costs;
- Partnerships with friends groups (now Philanthropic Partners) and school organizations to collaborate on programming and funding opportunities; and
- Continuous assessment to improve programming, training, and all aspects of the program.

The award-winning program receives critical funding from Philanthropic Partners and outside organizations, including the C&O Canal Trust, which solely funds the CCC Teacher Program and supports external grant opportunities, and the Friends of Historic Great Falls Tavern and C&O Canal Association, which support grant efforts to secure bus/transportation funding and donations to develop curriculum. The park handles all strategic planning, curriculum development, budgeting and procurement of supplies, communications, and marketing for the program.

³⁰⁹ Hewitt, interview.

In its first year, Canal Classrooms operated in Williamsport with 12 local, fourth-grade teachers recruited and trained for the Canal Classrooms Corps Teacher Program.³¹⁰ Since 2013 it has reached over 50,000 students, providing opportunities from them to learn and explore history, science, and recreational resources close to their community. Canal Classrooms can serve as a model for other parks to collaborate with local communities by reaching out to schools, teachers, and retired teachers to develop and deliver curriculum-based education programs for K-12 audiences.³¹¹

TABLE 2.9: NUMBER OF VOLUNTEERS AT C&O CANAL NHP, 2001 TO 2007

2.7 VOLUNTEERS

Volunteers at the C&O Canal NHP play an integral role in helping the park carry out interpretive programming by directly reaching park visitors and contributing to the upkeep of park resources for the continued enjoyment of visitors. Volunteer engagement can be traced as far back as the original Douglas Hike in 1954 that led the C&O Canal Association to advocate for the creation of the park and the protection of the canal. A recreation of this hike in 2004, in

YEAR	NUMBER OF VOLUNTEERS	NUMBER OF HOURS SERVED
2001	1,600	33,300
2002	No Data	No Data
2003	1,847	44,912
2004	2,369	46,864
2005	No Data	No Data
2006	+2,500	+50,000
2007	+2,500	+50,000

celebration of the 50th anniversary of the original hike, earned the park the NCR’s first Interpretive Teamwork Award.³¹² Prior to the formal creation of the volunteer program at the C&O Canal in 1996, rising numbers of volunteers seemed to correspond to major flood events, such as the 1986 flood.³¹³ Following the 1996 floods, volunteer support surged and the number of hours of service has only increased over time (Table 2.9).

National parks operate volunteer programs in accordance with the NPS-wide VIP program, established in 1970 under the Volunteer in the Parks Act of 1969. The Act enabled parks to “accept and use voluntary help and services from the public. . .to help preserve and protect America’s natural and cultural heritage for the enjoyment of this and future generations.”³¹⁴ Parks are further guided by Director’s Order 7 from 2016.³¹⁵ The C&O Canal did not formalize their VIP program until 1996, in response to major flooding events that devastated the park (see Section 4.2). The community wanted to help in the repair and restoration of the park resources, and park leadership realized that, in addition to the flood response, numerous other areas existed in which volunteers could be of value. Thus, park staff made a conscious effort to develop a volunteer program that supported general maintenance in addition to park programs and operations.³¹⁶ In 2001, under superintendent Faris, the park hired a volunteer coordinator to enhance the program, which reached 1,600 volunteers that year.

Volunteers are dispersed throughout the entire length of the C&O Canal NHP. Primary volunteer focus areas include assisting with visitor services within the park interpretive zones, providing information and communicating back to the park, staffing park visitor centers, and helping with minor maintenance and beautification projects. With the exception of the Resources Management Division, which supervises its

³¹⁰ Hewitt, interview.

³¹¹ Hewitt, interview.

³¹² NPS, Annual Narrative Report, 2003.

³¹³ Rita Knox, “Discussion with Rita Knox: 08/03/2017 (1:30pm),” interview by Sophie Kelly (Washington, DC: notes on file, WSP USA Inc., August 3, 2017).

³¹⁴ NPS, *Director’s Order 7* (Washington, DC: U.S. Department of the Interior, National Park Service, 2016).

³¹⁵ NPS, *Director’s Order 7 and Reference Manual 7* (Washington, DC: U.S. Department of the Interior, National Park Service, last updated November 27, 2019).

³¹⁶ Hewitt, interview.

own volunteers, volunteer programs in the park are overseen by the Volunteer Coordinator in the Interpretation, Education and Volunteers Division.

One of the major new volunteer initiatives heading into the 2000s was the C&O Canal NHP Volunteer Bike Patrol. Established in 1999 with eight participating members, the program has grown to over 150 members to date. Patrol groups are located in Georgetown, Great Falls, Williamsport, and Cumberland and are responsible for assisting park visitors along the towpath and monitoring and reporting park hazards.³¹⁷ Currently, the Bike Patrol is one of the largest volunteer programs in the park. A second and similar trail-based volunteer program is the Billy Goat Trail Stewards program, which works to create awareness of the sensitivity of the natural resources along the popular trail and the challenging nature of the hike. The stewards also help with first aid along the trail.³¹⁸ Other roles that volunteers served in the early 2000s included living history interpreters; hosts at lockhouses, campgrounds, and other historic buildings; maintenance assistants; and receptionists. By 2006 the VIP at C&O Canal NHP reached 2,500 volunteers serving over 50,000 hours, and the program was recognized for its excellence by receiving all three regional George B. Hartzog awards for outstanding volunteer service as well as the National Hartzog Aware for the most outstanding VIP program in the entire NPS.³¹⁹

The Trails and Rails Program began at C&O Canal NHP in 2012, offering a volunteer-led interpretive service aboard the Amtrak Capitol Limited train between Cumberland and Washington, D.C. Volunteers work on the train from 9 am to 7:30 pm narrating the history of the canal, the railroad, towns, and natural features as the train travels along the canal. Trails and Rails is a national NPS program.³²⁰

Roving Interpreters are typically responsible for welcoming visitors to the park in interpretive zones and providing them with information on the park's history, resources, regulations, and safety in the park. These volunteers are in communication with park staff and coordinate with the volunteer coordinator and interpretive rangers to assist in interpretive programming. Volunteers have filled the critical role of helping to interact with visitors to deliver desired visitor experiences.

Historically, the park has hosted the Canal Steward Program, consisting of long-term volunteers that care for designated sites in the park; however, as stipulated in the 2020 Volunteer Program Action Plan (VAP), the program is transitioning to be independently managed by the C&O Canal Trust. Similarly, management of the volunteer campground hosts will be moved under the leadership of the Visitor & Resource Protection Division, which manages the campgrounds, rather than by the park volunteer coordinator.³²¹

Many volunteer groups are led and coordinated by park partners or supporting outside organizations, such as the C&O Canal Trust, the C&O Canal Association, and the Potomac Appalachian Trail Club. The park's role in partner-led volunteer initiatives is to provide supplies, ensure park policies are followed, and occasionally provide staff support. For example, the level walker program is administered by the C&O

³¹⁷ "C&O Canal Bike Patrol," Chesapeake & Ohio Canal National Historical Park Volunteers-In-Parks Program (accessed June 2020, <http://www.C&O Canal NHPvip.org/bike-patrol/>).

³¹⁸ "Billy Goat Trail Stewards," Chesapeake & Ohio Canal National Historical Park Volunteers-In-Parks Program (accessed June 2020, http://www.C&O Canal NHPvip.org/billy_goats/).

³¹⁹ NPS, 2006 Annual Narrative Report.

³²⁰ "Trails and Rails Program," Chesapeake & Ohio Canal National Historical Park Volunteers-In-Parks Program (accessed June 2020, <http://www.C&O Canal NHPvip.org/rails-trails/>).

³²¹ NPS, *Chesapeake and Ohio Canal National Historical Park Volunteer Program Action Plan* (Washington, DC: U.S. Department of the Interior, National Park Service, 2020), 8.

Canal Association and assigns sections of the towpath to individual volunteers to walk at least annually and report on any observed damage or hazards.³²²

The C&O Canal Association (Association), an all-volunteer citizen's organization was established in 1957 to help conserve the natural and historical environment of the canal and the Potomac River basin. The Association works with the NPS to preserve and promote the natural and historical environment of the C&O Canal NHP and Potomac River Basin; however, they do not have a formal established relationship with the park. The Association played a significant role in establishing the park in 1971 and continues to advocate for the canal by sponsoring trips along the canal and donating time and money to monitor park conditions. Among other services, the Association also provides the necessary transportation funds for schools that participate in the park's curriculum-based education program and would not otherwise be able to come to the park.³²³

During the last decade park volunteers have continued to fill a vital role in the park, especially during the summer months when park visitation is the highest. The three largest program areas in which volunteers contribute are in programming, operations, and maintenance. An analysis of the staffing levels and visitation numbers since 1996 reveals the clear need for volunteer hours to keep the park operating. In 1996, about 1 million people visited the park, staffed by over 100 full-time NPS employees. By 2018 visitation had increased to almost 5 million and full-time staff had declined to 73. Volunteers at the C&O Canal NHP make up one of the largest VIP programs in the country.³²⁴ As park staff decreased, park volunteers greatly increased, with program participants composed of approximately 38 percent year-round and 68 percent one-time volunteers in 2018.³²⁵ Over 3,400 volunteers gave over 65,000 hours of service in 2018, a \$1.6 million value to the park.³²⁶ Yet, even as park volunteers remain strong, many functions of park management, such as the governmental processes involved with creating and facilitating programming, operational, and maintenance projects, cannot be carried out by volunteers and must remain the responsibility of park staff.

A 2020 VAP, developed in response to the 2019-2023 Strategic Plan, charts the path for the volunteer program moving forward. In a major strategy shift, the park will focus on the quality of volunteer programs rather than on increasing the number of volunteers.³²⁷ This shift stemmed from a period of conflict within the park in which the park staff struggled to manage the large number of volunteers available.³²⁸ The park now intends to maintain a level number of volunteers to best serve the park.

³²² "Level Walkers," Chesapeake & Ohio Canal National Historical Park Volunteers-In-Parks Program (accessed November 2021, <http://www.chohvip.org/level-walkers/>).

³²³ NPS, *Chesapeake and Ohio National Historical Park Williamsport Interpretive Site Plan* (Washington, DC: U.S. Department of the Interior, National Park Service, 2016), 32.

³²⁴ NPS, *Volunteer Program Assessment Report, Chesapeake, and Ohio Canal National Historical Park* (Washington, DC: U.S. Department of the Interior, National Park Service, 2019), 2.

³²⁵ NPS, *Volunteer Program Assessment Report*, 2, 8.

³²⁶ Marissa J. Lang, "'You can't mistreat us': Park Service volunteers push back, saying conditions are hostile and unsafe," *Washington Post*, September 16, 2018, accessed June 2020, https://www.washingtonpost.com/local/you-cant-mistreat-us-park-service-volunteers-push-back-saying-conditions-are-hostile-and-unsafe/2018/09/15/aa6277e2-b157-11e8-9a6a-565d92a3585d_story.html.

³²⁷ NPS, *Chesapeake and Ohio Canal National Historical Park Volunteer Program Action Plan*, 2.

³²⁸ According to Superintendent Tina Cappetta, conflict first arose when volunteers expressed discontent with the management of the volunteer programming at the park. Volunteers had taken on leadership roles but were untrained in NPS policies. When park staff attempted to regain control of these roles, many volunteers left in protest. As a result the VAP outlines a goal to reduce the number of volunteers to a number more easily and effectively managed by staff.

2.8 VISITOR AND RESOURCE PROTECTION

The protection of people and resources is a primary concern of park management. The VRP Division at C&O Canal NHP is responsible for law enforcement, special-use permits, emergency medical services (EMS), search and rescue, fire management, and the security of park facilities, buildings, and park-owned housing. VRP at C&O Canal NHP has evolved over the years to respond to new problems, programs, and directives.

Generally, the park's VRP issues are closely aligned with large recreation areas rather than more traditional national parks which tend to focus on the use of visitor centers.³²⁹ Recreation is the primary driver for visitors at the C&O Canal NHP, making the numerous access points, active local communities, and long transportation corridors primary factors driving VRP functions and needs. Over the last 10 years, VRP has focused on crimes against people over crimes against resources and thus, other important issues, such as tree cutting and boundary encroachments, are less often pursued.³³⁰

VRP staff are responsible for covering the approximately 160 miles of park land from Seneca to Cumberland, Maryland. In 2020, the division included the Chief Ranger, two district rangers, and eight field rangers. In the early years of the park, there were three law enforcement districts, but by 2020, the number of districts dropped to two. United States Park Police only covers the area from Seneca to Washington, D.C. and operates out of two districts, separate from VRP, for a total of four law enforcement districts in the park.³³¹

Much of what guides VRP practices comes from the Superintendent's Compendium. Posted on the park website and updated annually, the compendium presents the park-specific policies put in place at the discretion of the superintendent. These policies can include hours for visitor centers, prohibited substances and collection of park vegetation.³³²

2.8.1 Law Enforcement

The NPS allows delegated NPS employees who possess specific law enforcement certification to carry firearms and make arrests within the national park system. These professional law enforcement officers, or park rangers, are required by law to complete training and educational courses for certifications. At the C&O Canal NHP, this training consists of an initial training period and 40 hours of annual refresher requirements.³³³ All rangers are provided a reference manual containing park policies and standard operating procedures (SOPs). The three primary SOPs are for the use of body-worn cameras by law enforcement, evidence collection and handling, and arrests. Although there are localized standard procedures for law enforcement officers, they rely mostly on NPS policy and Federal regulations.³³⁴

Over many years, park law enforcement has partnered with local and regional law enforcement and fire departments, both for aid in the park and to help with incidents outside park boundaries. These cooperative relationships have included work with the United States Park Police, USFWS, and other national historical sites in the Interior Region 1-National Capital Area.³³⁵ One of the major changes to park law enforcement

³²⁹ Ed Wenschhof, "Ed Wenschhof, C&O Canal NHP Chief Ranger/Chief of Visitor and Resource Protection Interview Notes, 7/6/2021," interview with Meredith McCulley, WSP (Washington, DC: notes on file, WSP USA Inc., July 6, 2021).

³³⁰ Wenschhof, interview.

³³¹ Wenschhof, interview.

³³² Wenschhof, interview.

³³³ Wenschhof, interview.

³³⁴ Wenschhof, interview.

³³⁵ NPS, 2001 Annual Report.

partnerships occurred in 1996, when the NPS entered into an agreement with the State of Maryland to establish concurrent jurisdiction over Federal lands in the State. The agreement requires that the State grant the NPS the authority to enforce Federal laws in certain locations unless it has already been established that the NPS has primary jurisdiction. The concurrent jurisdiction is not automatically established from the agreement; the State of Maryland must grant it at their discretion. In areas of concurrent jurisdiction, NPS and local and State law enforcement may “make arrests without regard for park boundaries.” The agreement made it possible for the State to enforce serious crimes on Federal lands because both sets of laws could be enforced on NPS land where previously they could not.³³⁶ Still, because of jurisdictional challenges—for example, the management of the Potomac River by the State—NPS law enforcement is often limited in its capacity and relies on neighboring counties in West Virginia and Maryland to assist with more serious crimes.³³⁷ In 2021, the use of Memoranda of Agreement facilitated the cooperative relationships between outside agencies and included agreements with the State of Maryland DNR Natural Resource Police, the Allegany County Sheriff’s Office, and the Cumberland City Police Department. Each of these Agreements were extended in 2019 from previous Agreements for a term of five years.³³⁸

Since 1991, law enforcement violations have primarily stemmed from the use of drugs and alcohol, illegal marijuana-growing activity, and illegal tree cutting. More recently, illegal hunting, continued drug and alcohol use, illegal camping, and crimes against people have become more common. The locations of these violations occur in the cities as well as in more rural locations of the park.

Around the late 1980s and early 1990s, marijuana growers secretly cultivated plants in remote sections of the canal. The canal area was attractive to them as the soil is nutrient-rich because of the river, particularly on the Potomac River Islands.³³⁹ Growers often seek out public land because under Federal forfeiture laws they do not risk losing personal property for growing their plants on Federal land.³⁴⁰ In 1991, the C&O Canal NHP received \$88,000 from the NPS for two new drug enforcement rangers to patrol the canal for illegal marijuana-growing activity.³⁴¹ From late June to mid-July 1993, the NPS found 213 plants and 138 seedlings. A few years later, 254 plants were seized by the park in July 1997. Only minor issues have occurred recently around 2018, when a small growing area was cleared of plants.³⁴²

In the early 1990s, former Superintendent Faris indicated a particular need at C&O Canal NHP in enforcing the ban on alcohol, which local law enforcement was unable to help address because of jurisdiction; this was partially remedied by the 1996 agreement regarding concurrent jurisdiction, described above. Just a

³³⁶ Wenschhof, interview.

³³⁷ Wenschhof, interview.

³³⁸ NPS and Maryland Natural Resource Police, Memorandum of Understanding between United States Department of Interior National Park Service Chesapeake and Ohio Canal National Historical Park and State of Maryland Department of Natural Resources, Natural Resource Police (Hagerstown, MD, and Annapolis, MD: NPS, C&O Canal NHP and Maryland Natural Resources Police, 2019), 1-6; NPS and Allegheny County Sheriff’s Office, Memorandum of Understanding between United States Department of Interior Chesapeake and Ohio Canal National Historical Park and the Allegheny County Sheriff’s Office, Allegany County, Maryland (Hagerstown, MD, and Cumberland, MD: NPS, C&O Canal NHP, and Allegheny County Sheriff’s Department, 2019) 1-6; NPS and Cumberland City Police Department, Memorandum of Understanding between United States Department of Interior Chesapeake and Ohio Canal National Historical Park and Cumberland City Police Department (Hagerstown, MD, and Cumberland, MD: NPS, C&O Canal NHP, and Cumberland City Policy Department, 2019), 1-6.

³³⁹ Deb Riechman, “Canal Proves Fertile Ground for Pot Growers,” *The Star-Democrat*, May 26, 1991, 6.

³⁴⁰ “Battle rages over pot near Sharpsburg,” *The Star-Democrat*, August 2, 1993, 3; “Rangers find 254 pot plants at canal,” *The Star Democrat*, July 24, 1997, 2.

³⁴¹ NPS, *Chesapeake & Ohio Canal National Historical Park 1991 Annual Report* (Washington, DC: U.S. Department of the Interior, National Park Service, 1991), 3.

³⁴² Wenschhof, interview.

year prior, in 1995, the park had recorded 694 felony arrests and 1,419 misdemeanor arrests.³⁴³ The number of incidents has increased overall since 1995 (Table 2.10).

TABLE 2.10: NUMBERS OF REPORTED INCIDENTS, ARRESTS, AND OTHER OFFENCES AT THE C&O CANAL NHP, 2000 TO 2011

FY YEAR	REPORTED INCIDENTS	ARRESTS	WARNINGS/ CITATIONS ISSUED	PART 1 OFFENCES	PART 2 OFFENCES	MEDICAL RELATED RESPONSES	SEARCH AND RESCUES
2000	662	nda	814	27	512	93	32
2003	579	nda	nda	21*	nda	36	7
2004	499	nda	nda	68	nda	40	4
2010	579	10	491	nda	nda	nda	nda
2011	901	6	782	nda	nda	nda	nda

nda=no data available *includes 2 homicides

2.8.2 Staffing and Management Resources

Reductions in law enforcement staffing have been a consistent challenge for the park. According to Chief Ranger Ed Wenschhof, the park employed 20 officers prior to 2010, including seasonal and permanent staff. The 2001 park annual report noted a high turnover in its VRP staff, citing 12 vacant positions, and a slight increase in offences from the previous year.³⁴⁴ In 2003, the park requested a budget increase of \$674,000 to expand the VRP program, citing an increase in urbanization surrounding the park and a need for additional law enforcement to combat increasing threats. Records from NPS budget reports indicate that this funding request was granted.³⁴⁵

The 2006 annual report states the division retained 21 permanent FTE that year.³⁴⁶ Records show that in FY 2008, seasonal law enforcement staffing increased by seven people during a period of increased funding; however, because of staffing reductions shortly afterward, law enforcement coverage as a whole became limited to fewer hours covered in a day, fewer late night shifts, and reduced leave/training. Office space was also reduced, and various measures, like equipping vehicles with computers, were taken to improve mobility and reach distant areas of the park more easily.³⁴⁷ Two ranger stations formerly located at Four Locks and Antietam are now located at Ferry Hill and Williamsport.³⁴⁸

One of the major changes affecting VRP management practices occurred in 2010, when the NCA switched from using centralized radio dispatch system to a regional system. Law enforcement dispatch therefore became a function of the regional office, which covers eight parks, including the C&O Canal NHP and others in the Northeast. The regional dispatch center was originally located at Ferry Hill and relocated to Hagerstown at an unknown date. It moved to facilities at Harpers Ferry National Historical Park at the end of 2021. The Park Police operate on their own frequency with five repeaters located on mountains. VRP has switched from using analog to digital radios and can now connect with other agencies, such as the statewide radio network in Maryland, in addition to other parks.³⁴⁹

³⁴³ Associated Press, "Pact covers C&O Canal, 16 other areas in Md.," *The Baltimore Sun*, August 17, 1996, 14.

³⁴⁴ NPS, 2001 Annual Report.

³⁴⁵ NPS, Budget Justifications and Performance Information Report Fiscal Year 2003, 110.

³⁴⁶ NPS, 2006 Annual Narrative Report.

³⁴⁷ Wenschhof, interview.

³⁴⁸ Wenschhof, interview.

³⁴⁹ Wenschhof, interview.

2.8.3 Other Responsibilities

VRP manages EMS throughout the park. This includes remote area responses, trips and falls, and more serious injuries and rescue needs. Qualified Emergency Medical Technicians (EMTs) volunteer for the park on the weekends. In 2020, these volunteers were stationed at Great Falls as no park rangers are stationed at that location. Although it is illegal by State law to swim and illegal by Federal regulations to enter the water in the park, river rescues are often needed. In those cases, Montgomery County Fire and Rescue provides assistance to the NPS.

2.8.4 Visitation

In 2021 the C&O Canal NHP ranked eighth among the most visited national parks.³⁵⁰ High visitation appears to stem from the park's proximity to Washington, D.C., which has a large metropolitan area population and a high volume of tourists. In addition, the large acreage of the park can accommodate high traffic numbers, even if only for short visits. As referenced by current and past park officials, the trend of rising visitation rates dates back to 1997, directly following the 1996 floods, which stimulated overall public interest in the park.³⁵¹ The NPS nationally records recreation visits, non-recreation visits (use of land, roads, and facilities for non-visitor convenience, such as commuter traffic using NPS-administered roads or tradespeople working in the park), and overnight stays (including campground campers and backcountry campers).

Prior to 1997, statistics show that recreational visitation at the C&O Canal NHP peaked at 6,184,948 in 1985 and dropped as low as 904,509 in 1996; however, the linear nature and numerous uncontrolled access points of the park made accurate counts difficult at the time (Figure 2.17; Table 2.11). The period of apparent declining visitation from the mid-1980s to the mid-1990s can be attributed to a revision of the counting method. Barry Mackintosh, author of the 1991 C&O Canal NHP Administrative History, explains that following the high visitation counts in the mid-1980s, the park revised the counting method and produced much lower and likely more realistic counts in 1988, 1989, and 1990.³⁵² The counting method is revisited each year by park staff and adjustments are made as necessary to provide the most accurate count possible.³⁵³ Current visitation numbers count visits rather than individual visitors, who may be counted repeatedly as they enter and exit the park or appear at different times in different places. In 2020 visitors were counted at each access point, and the number of vehicle occupants was estimated by assuming 2.5 people per vehicle. Among many other specific counting procedures, when the park reports visitation numbers for Integrated Resource Management Application (IRMA) reporting, pedestrian numbers are divided by two to eliminate double counting upon entry and exit.³⁵⁴ As far back as 1993, non-recreational visitors have been estimated at a flat 990 per month.

Overnight stays count individuals or group camping at the park either at designated campgrounds, in the backcountry, or other miscellaneous locations such as trailside shelters, boats, or youth hostels. Campgrounds were first developed along the canal in the 1950s; however, park camping fees were not introduced until 2000. As of the date of the report, five paid primitive campgrounds in the park require reservations. Prior to 2015, campers paid on site under the honor system, dropping payment into an iron

³⁵⁰ Wenschhof, interview.

³⁵¹ NPS, Annual Park Recreation Visits (1951-Last Calendar Year): Chesapeake and Ohio Canal NHP (CHOH) (IRMA, Stats Report Viewer, accessed August 12, 2021, [https://irma.nps.gov/STATS/SSRSReports/Park%20Specific%20Reports/Annual%20Park%20Recreation%20Visitation%20\(1904%20-%20Last%20Calendar%20Year\)?Park=CHOH](https://irma.nps.gov/STATS/SSRSReports/Park%20Specific%20Reports/Annual%20Park%20Recreation%20Visitation%20(1904%20-%20Last%20Calendar%20Year)?Park=CHOH)); Lewis, interview.

³⁵² Mackintosh, 182.

³⁵³ NPS, Visitor Use Counting Procedures: Chesapeake and Ohio Canal NHP (IRMA, 1993-2021, accessed August 2021, <https://irma.nps.gov/STATS/Reports/Park/CHOH>).

³⁵⁴ Wenschhof, interview.

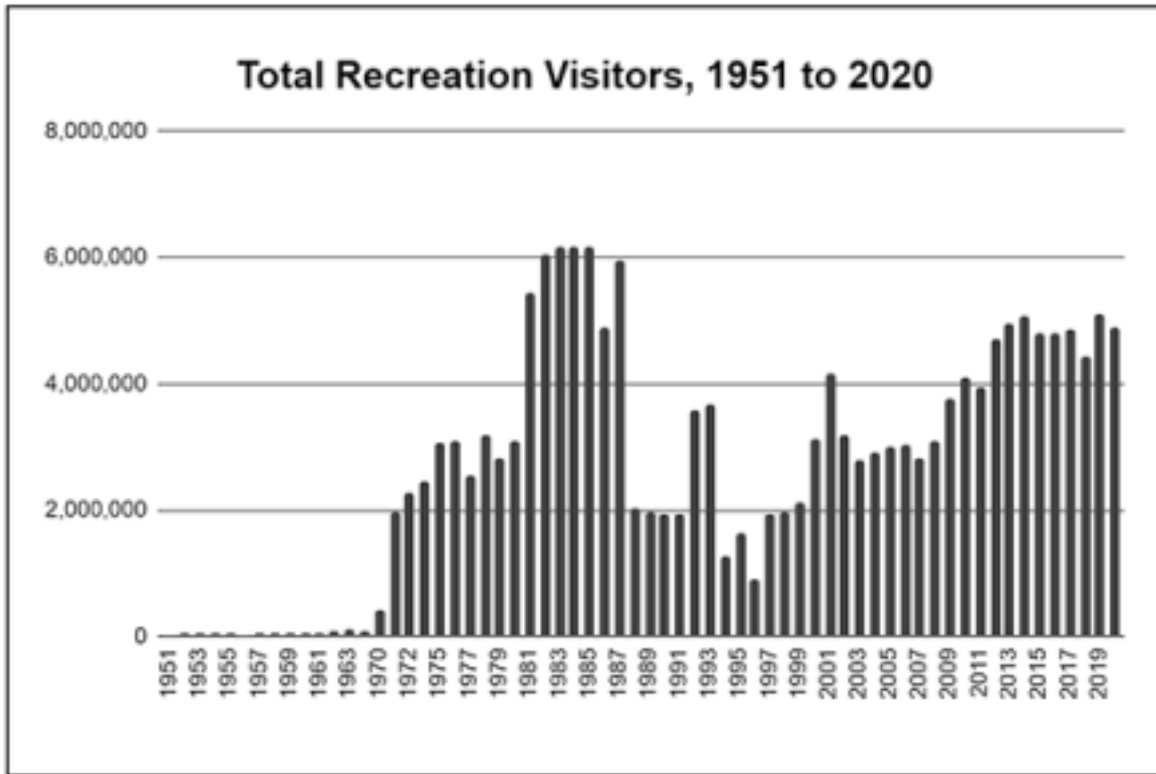


FIGURE 2.17: Chart Showing Total Recreation Visitors to C&O Canal NHP from 1951 to 2020 (NPS IRMA, 1993-2021)

TABLE 2.11: SUMMARY OF VISITATION AT C&O CANAL NHP, 1979 TO 2021

YEAR	RECREATION VISITORS	NON-RECREATION VISITORS	TENT CAMPERS	RV CAMPERS	BACKCOUNTRY CAMPERS	MISC. CAMPERS	TOTAL OVER-NIGHT STAYS
1979	2,832,646	81,614	12,199	3,011	47,263	0	62,473
1980	3,101,125	81,069	16,339	1,888	39,491	0	57,718
1981	5,450,477	100,041	14,612	2,157	48,400	0	65,169
1982	6,057,618	111,080	11,935	1,511	48,140	0	61,586
1983	6,175,834	95,535	15,128	1,413	66,143	0	82,684
1984	6,159,201	210,590	11,455	974	45,278	0	57,707
1985	6,184,948	81,167	5,813	971	54,872	0	61,656
1986	4,895,961	4,880	0	0	3,519	0	3,519
1987	5,962,193	86,162	7,644	1,158	0	0	8,802
1988	2,034,097	40,624	6,958	1,688	31,976	0	40,622
1989	1,970,287	20,920	6,763	1,223	27,459	0	35,445
1990	1,943,676	22,152	7,961	2,268	32,769	0	42,998
1991	1,945,201	14,952	11,334	2,068	27,924	0	41,326
1992	3,586,255	15,012	12,584	3,052	35,124	0	50,760
1993	3,661,497	11,880	11,227	2,904	17,659	0	31,790
1994	1,276,705	11,880	9,785	1,698	6,950	0	18,433
1995	1,624,288	11,880	6,632	1,797	5,831	0	14,260
1996	904,509	11,880	3,942	1,530	3,430	0	8,902
1997	1,934,030	11,880	7,041	1,896	3,552	0	12,489
1998	1,984,400	11,880	9,332	2,177	4,052	0	15,561
1999	2,116,916	11,880	8,868	1,089	3,034	0	12,991

YEAR	RECREATION VISITORS	NON-RECREATION VISITORS	TENT CAMPERS	RV CAMPERS	BACKCOUNTRY CAMPERS	MISC. CAMPERS	TOTAL OVER-NIGHT STAYS
2000	3,115,654	11,880	6,941	0	210	0	7,151
2001	4,174,048	11,880	5,014	0	100	0	5,114
2002	3,202,378	11,880	22,223	0	0	0	22,223
2003	2,801,592	11,880	18,521	0	0	0	18,521
2004	2,918,399	11,880	16,085	0	0	0	16,085
2005	3,000,005	11,880	5,012	0	0	0	5,012
2006	3,039,178	11,880	4,276	0	0	0	4,276
2007	2,809,968	11,880	5,840	0	0	0	5,840
2008	3,111,468	11,880	6,571	0	0	0	6,571
2009	3,751,681	11,880	4,770	0	0	0	4,770
2010	4,111,238	11,880	8,432	0	0	1,799	10,231
2011	3,937,504	11,880	5,536	0	0	2,154	7,690
2012	4,712,377	11,880	4,933	0	0	3,114	8,047
2013	4,941,367	11,880	4,669	0	0	2,626	7,296
2014	5,066,219	11,880	6,479	0	0	2,686	9,168
2015	4,798,312	11,880	3,891	0	0	2,640	6,532
2016	4,813,078	11,880	3,724	0	0	2,708	6,433
2017	4,859,573	11,880	23,669	531	0	4,896	29,096
2018	4,438,818	11,880	22,407	545	0	2,986	25,938
2019	5,116,787	11,880	6,518	592	0	2,771	9,881
2020	4,888,436	11,880	15,523	1,389	0	9,075	25,987
2021	5,005,217	11,880	18,545	1,709	0	16,803	37,057

safe, until online reservations became available. Over the years, these campgrounds had been used for long-term homesteading, a trend reduced by the use of the online reservation system. The campgrounds each

consist of 15 to 20 sites, mostly located close to the river, with 31 other hiker/biker sites open on a first-come, first-serve basis. Figure 2.18 shows an inconsistent trend of tent campers, the most common type of camper at the park, over the years with notable rises in the early 2000s and again in the late 2010s. See Table 2.11 for the complete usage statistics at C&O Canal Campgrounds from 1979 to 2021.

High visitation rates have caused significant congestion at park entrances, particularly at Great Falls, which is the only park entrance that requires an entry fee. A shift to credit/debit card only payment, as opposed to cash, has decreased wait times for entry.

A visitor study completed in 2003 in conjunction with staff observations have provided insight into C&O Canal NHP for its recreational activities as well as interpretive activities. The park gathered almost 662 questionnaires that provided valuable data on the visitor experience, including demographics, most visited places, facility use, preferred educational programming, and understanding of the park’s significance. For most people, recreation was the reason for visiting. Jogging, walking, and hiking were the most common activities. While at the park, the highest percentage of groups visited Great Falls. The most important elements and qualities to visitor groups were clean air/water, natural surroundings, a safe/crime-free environment, and scenic views. Visitors rated trails, canal boat tours, restrooms, parking, and ranger-led walks/talks as the most important services and facilities. The highest rated services and facilities in terms of quality were canal boat tours, ranger-led walks/talks, assistance from park staff, trails, and park brochures and maps. The most mentioned topics visitors would prefer to learn about at the park in the future included history, canal construction, and natural history/ecology. Among those interested in learning about the park, the most preferred methods were roadside/trailside exhibits, other printed materials, visitor center

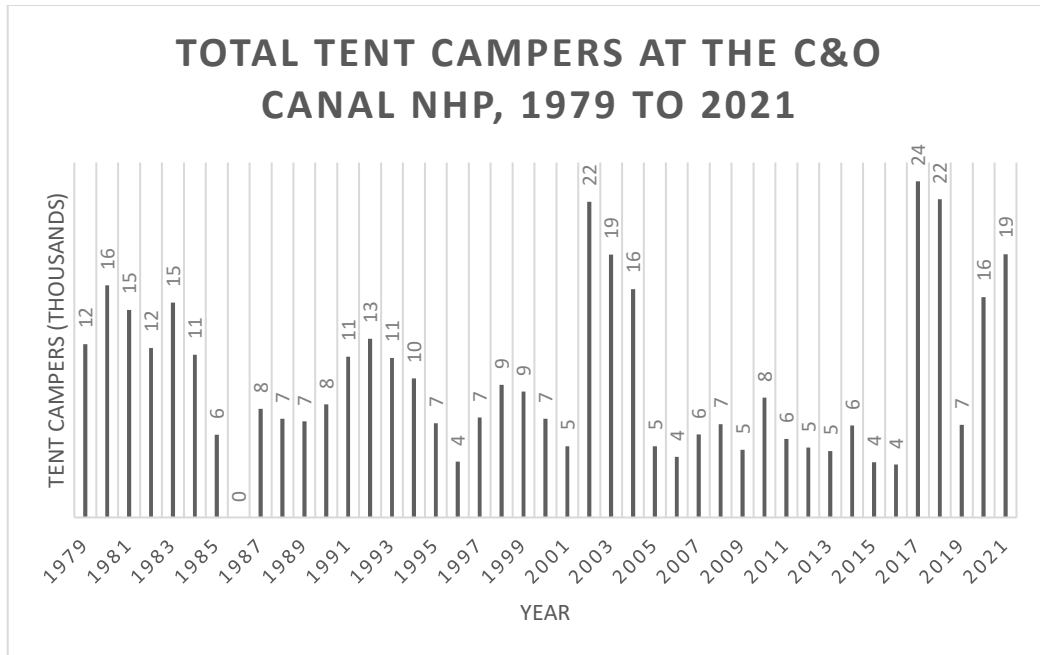


FIGURE 2.18. Chart Showing Total Tent Campers at the C&O Canal NHP from 1979 to 2021 (NPS IRMA, 1993-2021)

exhibits, websites, and ranger-guided walks, talks, tours. The highest number of visitor groups voted the national significance of the park as being its historical value.³⁵⁵

2.9 FACILITY MANAGEMENT

The park Maintenance Division is responsible for the maintenance and preservation of park grounds and structures. The division historically has operated out of a number of maintenance shops located throughout the park. The locations of these shops have played a significant role in the shaping of the maintenance division practices and mission. In the late 2010s shops at Monocacy, Hancock, Williamsport, and Oldtown were combined to consolidate resources. As of the writing of this report, some of those shops have been reopened as primary maintenance shops located in Williamsport (planned to close), Oldtown, Hancock (restarting after consolidation), and Great Falls. The Williamsport shop is operated under a General Services Administration (GSA) lease, which has dramatically increased in cost over the years because of improvements. As a result of the increase in cost to lease the shop and input from current maintenance staff, Superintendent Cappetta intends to return maintenance operations to shops owned by the park, including Hancock.³⁵⁶

³⁵⁵ Bret H. Meldrum, Margaret A. Littlejohn, James Gramann, and Steven J. Hollenhorst, *Chesapeake & Ohio Canal National Historical Park Visitor Study (Summer 2003)* (Washington, DC: U.S. Department of the Interior, National Park Service, Social Science Program, May 2004).

³⁵⁶ Wenschhof, interview; Cappetta, interview.

Immediately following the floods of 1996, maintenance hiring increased and financial resources were abundant for the repair of park structures. From 1996 to the early 2000s, the maintenance division flourished and took on major projects, including the restoration of Lock 44 and construction of the lock gate (1999-2000), the Monocacy Aqueduct restoration (completed in 2005), and the restoration of numerous lockhouses in anticipation of the Canal Quarters Program. The division relied on skilled tradespeople, including a team of stone masons beginning around 2000 to work on restoring culverts and locks.³⁵⁷ Hiring generally increased during summer months or following natural disasters. In 2001, the park reported the preservation of 50 historic structures as well as numerous other maintenance activities, including removal of hazardous trees, stabilization of structures, flood repairs, mowing along the towpath, trash collection and disposal, maintenance of campgrounds, maintenance and control of the watered canal, completion of a new boat launch at Lander, and repairs to the towpath.³⁵⁸

By the end of fiscal year 2004, the park had 206 unfunded facility projects logged in the PMIS exceeding \$89 million in estimated costs (Appendix D).³⁵⁹ Maintenance seasonal staffing in fiscal year 2008 increased by 13 people; however, following a parkwide trend, financial resources began to diminish around 2010 and maintenance staff decreased.³⁶⁰ By 2017 only one stone mason remained in the maintenance division. Focus shifted to preventive maintenance as a more feasible mission given the loss of staff.³⁶¹ The park also fought the impacts of a reduced staff by entering into a Memorandum of Understanding with the Maryland Department of Public Safety and Correctional Services in 2016 to employ inmate crews for routine facility and grounds maintenance.³⁶²

The park created a Facilities Services Assistant position in 2010 to reduce the amount of work delegated previously to the park Administrative Assistant. The Facilities Services Assistant tracks all maintenance activity in the park using the Facility Management Software System (FMSS). The position completes administrative work for the division, including payroll, vehicle reports, credit card statements, and work orders.³⁶³

FMSS is an agency-wide, asset-based work identification, management, and analysis system that tracks resource conditions, maintenance and operations, repair and rehabilitation, and removal. The NPS first began using the system in 1985 when it was created as a maintenance management system in response to a statutory agreement (Pub. L. No. 98-540, 98 Stat. 2718). FMSS also complies with Executive Order 13327 – Federal Real Property Asset Management (2004) requiring the agency to identify and categorize all of its assets.³⁶⁴ Visitation trends, in part, dictate the way that the Maintenance Division operates throughout the park: locations with higher traffic and visitation rates generally require more maintenance. Maintenance requirements increase in the summer months with the rise in visitation.

To successfully maintain, preserve, and restore structures/grounds, maintenance division staff must request and compete for funding. Competing priorities and work tasks as well as a lack of operational budget

³⁵⁷ Kline, interview.

³⁵⁸ NPS, 2001 Annual Report.

³⁵⁹ NPS, Annual Narrative Report, 2004.

³⁶⁰ NPS, Budget Justifications and Performance Information Report Fiscal Year 2008, 137.

³⁶¹ Kline, interview.

³⁶² NPS and Maryland Department of Public Safety and Correctional Services, Memorandum of Understanding between Chesapeake and Ohio Canal National Historic Park and the Maryland Department of Public Safety and Correctional Services (Hagerstown, MD, and Baltimore, MD: NPS, C&O Canal NHP, and Department of Public Safety and Correctional Services, August 2016), 1-2.

³⁶³ Kline, interview.

³⁶⁴ U.S. Government Accountability Office, *GAO-17-136: Process Exists for Prioritizing Asset Maintenance Decisions, but Evaluation Could Improve Efforts* (Washington, DC: US GAO, December 2016, accessed September 2022, <https://www.gao.gov/assets/gao-17-136.pdf>), 26.

increases have led the division to contract for various work, including mowing.³⁶⁵ As a result preventive maintenance operations, such as towpath grooming, downed tree removal, trimming, and locks and lockhouse upkeep, have become a focus of existing maintenance staff.³⁶⁶

³⁶⁵ Kline, interview.

³⁶⁶ Patti Kline, "Discussion (08/08/2017 @ 11:00 am), Patti Kline (Maintenance Division)," interview by Sophie Kelly (Washington, DC: notes on file, WSP USA Inc., August 8, 2017).

3.0 PARTNERSHIPS AND AGREEMENTS

Partnerships and agreements with local organizations and local and State governments have been instrumental in maintaining the park, attracting interest, organizing special programs, and enhancing community relationships. The park maintains close relationships with local community organizations, private entities, Canal Towns, local law enforcement agencies, and State agencies.

During his tenure former Superintendent Faris maintained existing agreements for the private operation and maintenance of dams and use of the famed Plummer's Island and initiated new cooperative relationships, including agreements with the Potomac Conservancy and the Colonial Dames of America. He had hoped to invest more park resources in establishing long-term formal relationships with outside organizations and communities but the framework for such partnerships did not adequately develop during his time at the park. Following in Faris's footsteps, former Superintendent Brandt took advantage of updated NPS policies and became a major advocate for community partnerships. Under Brandt's leadership, the C&O Canal NHP established almost 30 new partnerships and agreements, including philanthropic partnerships with the C&O Canal Trust, Georgetown Heritage, and Friends of Historic Great Falls Tavern. Current Superintendent Tina Cappetta has strengthened these partnerships and fostered new ones, including Cooperative Management Agreements with the Towns of Williamsport and Hancock. These partnerships and agreements fall under several formal categories defined and guided by ever-evolving NPS policy. Many of the challenges associated with managing these relationships stem from the repeated updating of policy requirements surrounding the nature of the agreements.³⁶⁷

The NPS circulated a new set of guidelines in 2003 for establishing formal relationships with parks. NPS Director's Order #20: Agreements, accompanied by the National Park Service Agreements Handbook, sought to clarify and standardize agreement formats and the roles and responsibilities of participating parties. The 2003 order superseded the Federal Assistance and Interagency Agreement Guideline, NPS-20, Release No. 3 (1986) and its 1999 renewal.³⁶⁸ The NPS allows partner agencies, organizations, and individuals to establish these formal relationships with parks under several different types of agreements. At C&O Canal NHP, agreement types since 1990 include Cooperative Agreements, Cooperative Management Agreements, Philanthropic Partnership Agreements (formerly Friends Group Agreements), General Agreements, Supplementary Agreements, Memoranda of Agreement, and Understanding Agreements.³⁶⁹

NPS Director's Order #21: Philanthropic Partnerships, published in 2016, solidified the policies for establishing partnerships with the NPS. This policy guides partnership programs across the NPS and most notably expanded the role of what a partner could be. Earlier issues of this policy, originally titled Donations and Fundraising in 1998 and revised in 2006 and 2008, lacked a framework for oversight of partnerships and allowed scattered and essentially un-monitored agreements. Primary 2016 revisions included simplifying the agreement process, broadening the scope of giving through electronic donations, providing clearer guidance on donor recognition, updating guidance for sharing intellectual property, and maintaining integrity and impartiality of the NPS in all philanthropic efforts.³⁷⁰ The 2016 update has become a major policy change throughout the NPS and has directly affected the ways in which partnerships are managed at the C&O Canal NHP.

³⁶⁷ Helwig, interview.

³⁶⁸ NPS, *NPS-20: Agreements* (Washington, DC: U.S. Department of the Interior, National Park Service, 2003).

³⁶⁹ NPS, *NPS-20: Agreements*.

³⁷⁰ NPS, "Frequently Asked Questions about Director's Order 21" (Washington, DC: U.S. Department of the Interior, National Park Service, last updated August 17, 2018, accessed October 2021, https://www.nps.gov/subjects/partnerships/do21-faqs.htm#CP_JUMP_5751976).

3.1 PHILANTHROPIC PARTNERSHIP AGREEMENTS AND PARTNERS

Philanthropic Partnerships are increasing in importance as essential and effective means for the NPS to fulfill parts of its mission and foster a shared sense of stewardship that is crucial for the future. The management of these relationships helps the NPS to deliver public service at a higher level of quality, given the increased resources at their disposal, and to build on past partnership successes and develop new ones.

Philanthropic Partnership Agreements are the most complex type of relationship in the park. Formerly known as Friends Group Agreements, Philanthropic Partnership Agreements distinctly allow the partner organizations to fundraise for the park using the park name and official NPS logos. For some park projects/initiatives, Philanthropic Partners can often act in a shorter and less complex time frame. Some of these partners are also given space for offices in C&O Canal NHP facilities to maintain essential and transparent communication channels between the park and the partner organization. Although these organizations also fundraise to support their own operation, their primary role is to support park operations. C&O Canal NHP has one of the largest and most active partnership programs in the Interior Region 1–National Capital Area, maintaining three Philanthropic Partners governed by signed Philanthropic Agreements: the C&O Canal Trust, Georgetown Heritage, and Friends of Historic Great Falls Tavern.

3.1.1 *The C&O Canal Trust*

A few years into his tenure as superintendent, Kevin Brandt worked with Matt Logan, the former head of the Potomac Conservancy, to form the C&O Canal Trust (Trust) in February 2007.³⁷¹ Brandt and Logan modeled the Trust after the Golden Gate Conservancy, taking an interest in the complete blending of Trust staff and park staff to carry out the mission. The Trust aims to work in concert with the NPS to promote, protect, and restore the canal by raising funds for two initiatives, Towpath Forever and Canal Classrooms, and managing four partner programs: Canal Quarters, Canal Towns, Canal Community Days, and Canal Discoveries (see Section 2.6.5).³⁷²

The Trust became an official Friends Group of the C&O Canal NHP upon the signing of a Friends Group Agreement in December 2008. In 2014 an agreement extended the partnership for an additional five years.³⁷³ The NPS and the Trust signed a five-year Cooperative Agreement in 2017 with the objective of working in partnership to identify, develop, and implement projects and programs to advance their shared interests. Under this agreement, the two parties have mutually agreed to identify projects and programs that the Trust could complete to complement or expand upon what the park has capacity to complete. The Trust agreed to work together with the park to educate canal visitors, neighboring landowners and communities, and other audiences about the distinctive challenges and stewardship needs of the park; work with the park to develop programs and volunteer opportunities to support those provided by park staff; and work with the park to restore historic structures to aid the park’s education and interpretation efforts.³⁷⁴ A 30-year Philanthropic Partnership Agreement was signed in 2019 to replace the original Friends Group Agreement and clarify the relationship between the park and the Trust.³⁷⁵

³⁷¹ C&O Canal Trust, “Superintendent Kevin Brandt Reflects on Career, Retirement,” August 9, 2019, accessed March 31, 2020, <https://www.canaltrust.org/2019/08/superintendent-kevin-brandt-reflects-on-career-retirement/>.

³⁷² C&O Canal Trust, “About the C&O Canal Trust,” accessed June 2020, <https://www.canaltrust.org/about-us/about-the-trust/>.

³⁷³ NPS and C&O Canal Trust, *Philanthropic Partnership Agreement Between the National Park Service, Chesapeake and Ohio Canal National Historical Park and the C&O Canal Trust, Inc.* (Washington, DC, and Hagerstown, MD: NPS, C&O Canal NHP and C&O Canal Trust, 2019), 2-3.

³⁷⁴ NPS and C&O Canal Trust, *Cooperative Agreement between the United States Department of Interior, National Park Service and C&O Canal Trust, Inc.* (Washington, DC, and Hagerstown, MD: NPS, C&O Canal NHP and C&O Canal Trust, 2017), 1-3.

³⁷⁵ NPS and C&O Canal Trust, *Philanthropic Partnership Agreement*, 2-3, 7.

3.1.2 Georgetown Heritage

Founded in 2014, Georgetown Heritage (Heritage) works in partnership with the NPS to revitalize, activate, and interpret NPS assets in Georgetown. The organization was initially motivated by the abandonment of interpretive canal boat operations in Georgetown in 2011. These boat operations dated to the 1930s and the cancellation of the program inspired the establishment of Georgetown Heritage and their goal to return the interpretive canal boats to the area. Unlike with the Trust, Superintendent Brandt was not initially involved in the formation of the organization. The Georgetown community started a planning effort for the entirety of the town, which included the canal. Little emphasis was placed on the revitalization of the canal in the early planning stages, but that slowly changed and the members of the community began to see potential in the park as a tourism draw and community landmark.³⁷⁶ In officially forming the organization, Georgetown heritage focused restoration efforts on the canal within the park.

Heritage became an official park Friends Group in the same year it was founded. In 2017, the NPS and Heritage signed a five-year Cooperative Agreement under which Heritage agreed to work together with the park to educate canal visitors, neighboring landowners, communities, and other audiences about the distinctive challenges and stewardship needs of the park, work with the park to develop programs and volunteer opportunities to augment and support those provided by park staff, and work with the park to restore historic structures to aid the park's education and interpretation efforts.³⁷⁷ In 2019 Heritage entered into a new 30-year Philanthropic Partnership Agreement with the park, replacing the original Friends Group agreement.

Heritage is dedicated to the revitalization and interpretation of the canal in Georgetown and in its short tenure has aided in the planning efforts for the substantial repairs to Locks 3 and 4 and stabilization of the canal wall in Georgetown, all funded by the NPS, and planning for the construction of a historic replica canal boat. To achieve its priority of restoring this mile-long section of the canal, Heritage developed a comprehensive master plan to guide work, known as the Georgetown Canal Plan (see Section 4.5). The organization introduced a new canal boat in July 2021 with plans to launch an interpretive boat program in the near future. To facilitate this program, as of January 2021, Heritage and the park are planning to enter a second Cooperative Agreement. The main purpose of the agreement will be to provide permission and guidance to Heritage for the canal boat program; it will also allow Heritage to operate the bottom floor of the NPS visitor center as a ticket sales center.³⁷⁸ Heritage plans to open a new office in Georgetown in 2021.³⁷⁹

3.1.3 Friends of Historic Great Falls Tavern

The Friends of Historic Great Falls Tavern (Friends), an all-volunteer organization, was established in 1973 to support the C&O Canal NHP in the preservation and maintenance of the Great Falls Tavern Visitor Center as well as other historic structures along the canal. It remains the oldest Philanthropic Partnership group in the park. In the 1990s, Friends' projects focused on the restoration of the Great Falls Tavern, including fencing, landscaping, replacement of the mahogany shutters, porch repair, and lighting

³⁷⁶ Kevin Brandt, "Questions for Kevin Brandt," interview by Kate Umlauf, WSP (Washington, DC: notes on file, WSP USA Inc., October 12, 2021).

³⁷⁷ NPS and Georgetown Heritage, Cooperative Agreement between the United States Department of Interior National Park Service and Georgetown Heritage, Inc. (Washington, DC: NPS, C&O Canal NHP and Georgetown Heritage, 2017), 1-2.

³⁷⁸ NPS, Georgetown Boat Operation Cooperative Agreement Project Initiation Form (Washington, DC: U.S. Department of the Interior, National Park Service, C&O Canal NHP, 2020); Ben Helwig, comments provided to WSP on C&O Canal NHP Administrative History draft, February 2022 (Washington, DC: notes on file at WSP USA Inc.).

³⁷⁹ Helwig, interview.

replacements.³⁸⁰ In the early 2000s, efforts shifted to the construction of a replica canal boat which required a large fundraising campaign over several years. More recently, the Friends fundraised \$25,000 for the restoration of Swains Lockhouse.

In 2003 Friends of Historic Great Falls Tavern made the decision to build a replica canal boat following the retirement of the Canal Clipper III, a replica freight boat that had been in operation for 30 years. Local third graders initially sparked the fundraising efforts, donating \$2,000 in 2004, and by early 2006, the Friends of Historic Great Falls Tavern had nearly met their goal of \$545,000. The C&O Canal Association awarded the organization a \$50,000 grant and the State of Maryland awarded a \$200,000 grant for the purchase. The Albany-based Scarano Boat Builders completed the 57-foot packet boat by September 2006 and a new passenger service launched on the canal at Lock 20 in Potomac, Maryland.³⁸¹ The C&O Canal NHP received a Certificate of Authenticity from the American Canal Society in recognition of the boat in 2012. The boat's color scheme is based on a mid-1830s painting discovered by Park Ranger Rod Sauter.³⁸² The construction of this replica freight boat, named the Charles F. Mercer, in 2005 has been their biggest achievement to date (Figure 3.1).

The Friends of Historic Great Falls Tavern became an official Friends Group in the late 1990s when it received its 501c3 status. In 2015, the park and the Friends signed a new Friends Group Agreement extending their partnership an additional five years.³⁸³ Following its expiration in 2020, a new 20-year Philanthropic Partnership Agreement took the place of the Friends Group Agreement to continue the relationship (signed October 2021).

3.2 COOPERATIVE AGREEMENTS

Under P.L. 104-208, the NPS may “enter into cooperative agreements that involve the transfer of National Park Service appropriated funds to State, local, and tribal governments, other public entities, educational institutions, and private nonprofit organizations for the public purpose of carrying out National Park Service programs.”³⁸⁴ On the premise that resource preservation is a park program in support of a public purpose, this authority has been interpreted to mean that the NPS can allow the partners to rehabilitate and use park historic structures, conduct research, contribute to resource management programs, and support interpretive programs.

Cooperative Agreements must meet the following three criteria, otherwise they are considered “General Agreements” (see Section 3.4): (1) the agreement transfers money, property, services, or anything else of value from the NPS to the partner; (2) the principal purpose of the NPS assistance is to help carry out a public purpose of support of any NPS program or develop research and training programs concerning the program;³⁸⁵ and (3) the program will have substantial NPS involvement.

³⁸⁰ NPS and Friends of Historic Great Falls Tavern, Friends Group Agreement Between the National Park Service, Chesapeake and Ohio Canal National Historical Park and The Friends of Historic Great Falls Tavern, Inc. (Washington, DC: U.S. Department of the Interior, National Park Service, July 1, 2015).

³⁸¹ Friends of the Historic Great Falls Tavern, “Charles F. Mercer” (accessed October 2021, <http://fhgft.org/projects/merceroindex.html>); C&O Canal Trust, “Canal Boat Charles Mercer” (accessed June 23, 2021, <https://www.canal-trust.org/pyv/canal-boat-charles-mercero/>).

³⁸² C&O Canal Association, “Charles F. Mercer canal boat” (April 21, 2020, accessed June 23, 2021, <https://candocanal.org/2020/04/21/charles-f-mercero-canal-boat/>).

³⁸³ NPS and Friends of Historic Great Falls Tavern, Friends Group Agreement, 1, 5, 7.

³⁸⁴ United States Congress, Public Law 104-208, September 30, 1996, 16 U.S.C. § 1g.

³⁸⁵ The public purpose for research/training programs is often that of providing training and educational opportunities for students which are often heavily involved in the work.



FIGURE 3.1: View of Charles F. Mercer Replica Canal Boat During Construction (Friends of the Historic Great Falls Tavern, 2015-2018)

In 2017 the park entered into Cooperative Agreements with both the C&O Canal Trust and Georgetown Heritage. As described in Section 3.1, both of these organizations became Philanthropic Partners in 2019. On a national scale, Cooperative Agreements are made between the NPS and other organizations, for example, when the NPS hires SCA or AmeriCorps crews to work in a park, to carry out the preservation of resources or provide training to individuals. The C&O Canal NHP entered into park-specific Cooperative Agreements with the Trust and Heritage for instances where the park wants to engage the partner to execute a program because of their knowledge of the park and its resources. For example, the park uses the Trust to help administer the Canal Classrooms program through the Cooperative Agreement.

In 2003, the NPS and the Colonial Dames of America entered into a Cooperative Agreement involving the Abner Cloud House in Washington, D.C. The Colonial Dames has assisted in preserving and restoring the house and continues to oversee daily maintenance of the home. The NPS believed that the organization could continue to prove helpful with fundraising efforts, interpretation, and promotion of the park's preservation activities. Under the agreement, the NPS agreed to provide preventative maintenance of the house, allow the Colonial Dames to use the first and second floors and the attic of the house, and provide interpretive training to the Dames, who would conduct tours for the public. The house contains an interpretive exhibit, office, and meeting space for the Colonial Dames, whose use and occupancy is expected to assist in its preservation. More specifically, the Dames agreed to open the first and second floors of the house for public tours and exhibits once a month on a weekend, furnish the house, make no alterations to the house or grounds without the Superintendent's approval, and provide financial support for the proper display of the museum collection's artifacts and preservation maintenance of the house. The agreement and operations are reviewed by the two parties at least once every five years.³⁸⁶

³⁸⁶ NPS and the Colonial Dames of America, Cooperative Agreement between the United States Department of the Interior National Park Service and The Colonial Dames of America, Chapter III (Washington, DC: NPS and the Colonial Dames of America, 2003), 1.

Signed in 2016, a five-year Cooperative Agreement between the NPS and Brunswick Potomac Foundation aimed to increase visitor awareness of the historical and recreational value of the park and to join efforts with the Brunswick Museum to protect the historic and scenic resources of Brunswick, Maryland. Part of the first floor of the Museum was opened to the park to establish a visitor center. Another section of that floor would be shared by both parties to conduct interpretive programs and present multimedia programs to the public. This agreement allocated \$7,000 to the Brunswick Potomac Foundation for such interpretive programming.³⁸⁷ The business relationship between the two parties has since ended; however, the visitor center remains in place and retains the NPS logo.³⁸⁸

Other Cooperative Agreements include draft agreements with Georgetown Heritage for operations associated with a new canal boat and the C&O Canal Trust for its operation of public lodging at restored park lockhouses. The Canal Quarters Program first entered into a sub-agreement in 2012 under the broader Friends Group Agreement with the C&O Canal Trust. The draft Cooperative Agreement includes the Trust's use of Canal Quarters lockhouses rather than providing funds for the Trust to operate the program.³⁸⁹

Cooperative Agreements are maintained by the NPS nationwide with the Cooperative Ecosystem Studies Units (CESU). These include a wide-range of agreements that facilitate relationships between the NPS and various universities and research institutions that are critical to resource management, preservation, and research work in the park. Individual organizations maintain master Cooperative Agreements with the NPS under the CESU. The C&O Canal NHP then administers individual Task Agreements under those master Cooperative Agreements to accomplish work. Owing to the configuration of the park and staffing, the C&O Canal NHP regularly interacts with universities to accomplish required tasks. Ten to 20 agreements under CESU could be underway at any given time. Beyond research, the park also establishes Task Agreements under the master Cooperative Agreements with non-profit organizations such as the SCA and American Conservation Experience. These tasks can also be established by the Maintenance and Interpretation divisions.

3.3 COOPERATIVE MANAGEMENT AGREEMENTS

The 1998 National Park Service Omnibus Management Act amended the National Park System General Authorities Act to authorize Cooperative Management Agreements “where a unit of the National Park Service is located adjacent to or near a State or local park area, and cooperative management between the National Park Service and a State or local government agency...will allow for more effective and efficient management of the parks.”³⁹⁰

The C&O Canal maintains three Cooperative Management Agreements wherein the NPS has the authority to allow a neighboring municipality to help the NPS care for the park. These exist with the State of Maryland through MEDCO at the park headquarters, the Town of Williamsport, and the Town of Hancock. The motivations and stipulations of these agreements vary based on the circumstances of the land being managed.

The CMA, between the NPS and the State of Maryland, represents an atypical agreement structure and accounts for the underlying provisions for the relocation of the park headquarters to Williamsport. In 2018,

³⁸⁷ NPS and Brunswick Potomac Foundation, Cooperative Agreement between the United States Department of the Interior National Park Service and Brunswick Potomac Foundation (Washington, DC: NPS, C&O Canal NHP and Brunswick Potomac Foundation, 2016), 1; Helwig, interview.

³⁸⁸ Helwig, interview.

³⁸⁹ NPS, Project Initiation Form: Canal Quarters Program Cooperative Agreement (Washington, DC: U.S. Department of the Interior, National Park Service, April 2020).

³⁹⁰ United States Congress, National Parks Omnibus Management Act of 1998 (Public Law No: 105-391), Section 802.

prior to developing the CMAs with Williamsport and Hancock, the NPS and the State of Maryland, acting through MEDCO, entered into a CMA for the Williamsport Cooperative Management Area (WCMA). The WCMA, located at the mid-point of the canal adjacent to Williamsport, includes Federal land administered by the NPS and land owned by Washington County, with a ground lease to MEDCO. The latter was formerly known as the Miller Lumber Company property, which, under this agreement, would be transformed into the new headquarters for the C&O Canal NHP. Therefore, contradictory to a typical CMA in which the NPS allows a municipality to maintain Federal land, this CMA stipulates the use and occupancy of State land by the NPS. The agreement term was set at 32 years, unless terminated earlier. At the conclusion of the agreement, the NPS will evaluate whether the Washington County-owned land directly associated with the WCMA could be donated to the NPS. The NPS will begin the review process no later than five years prior to the conclusion of the agreement to meet these requirements.³⁹¹

Williamsport's Cushwa Basin consists of patches of Federal land that are intermixed with local, unacquired land tracts. Because of the difficulty and uncertainty in distinguishing land ownership, the NPS has simply managed all of the land as part of the park.³⁹² The park entered into a Cooperative Management Agreement with the Town of Williamsport in 2020 to formalize the already established understanding between the park and the town. The agreement established the terms and conditions under which the NPS and the town would cooperate to maintain, design, and construct improvements to the Cushwa Basin Cooperative Management Area (CBCMA) of the C&O Canal NHP in Williamsport and to operate, maintain, and manage the CBCMA on a long-term basis. The CBCMA is located adjacent to the WCMA (described below) and includes all lands owned by the town and the NPS located within the park's boundary. Federal parkland within the CBCMA remains under NPS administrative jurisdiction, and the primary administration of CBCMA is the responsibility of the NPS. The parties agreed to cooperate to fund agreed-upon improvements and deliver programming according to the agreement and based on the Williamsport EA and Finding of No Significant Impact (FONSI). Although most actions to be implemented under the FONSI are on Federal land administered by the NPS, numerous items included in the EA would take place on lands partially or entirely owned by the town because of the patchwork of land ownership in the area. The agreement clarifies this by having all these lands within the CBCMA administered uniformly. The parties can mutually agree to terminate the agreement at any time.³⁹³

Unlike the CMA with the Town of Williamsport, which places primary management responsibility on the NPS, the CMA with the Town of Hancock, signed in November 2020, places primary management on the local government. The CMA with the Town of Hancock represents a more traditional version of such an agreement. The Hancock Cooperative Management Area (HCMA) consists of land owned by the NPS in the vicinity of Hancock, including two sites within the park boundary connected by the C&O Canal Towpath and the canal prism: Little Tonoloway Day Use Recreation Area and the Hancock Visitor Center. The agreement allows the town to conduct mowing and maintenance for the Hancock section of the park. As of February 2022, the park is renegotiating this CMA with the town.

3.4 GENERAL AGREEMENTS/OTHER AGREEMENTS

General Agreements are generic instruments used for a wide range of mutually agreed-to policies, procedures, objectives, understandings, and relationships with Federal and non-Federal entities.³⁹⁴ Unlike

³⁹¹ NPS and State of Maryland, Cooperative Management Agreement between the National Park Service, United States Department of the Interior and the State of Maryland Acting Through the Maryland Economic Development Corporation for the Williamsport Cooperative Management Area (Washington, DC: NPS, C&O Canal NHP, and State of Maryland, 2018), 1-2, 8-9.

³⁹² Helwig, interview.

³⁹³ NPS and Town of Williamsport, Cooperative Management Agreement between the National Park Service, United States Department of the Interior and the Town of Williamsport, Maryland for the Cushwa Basin Cooperative Management Area, (Washington, DC: NPS, C&O Canal and Town of Williamsport, 2020), 1-3, 9.

³⁹⁴ NPS, NPS-20: Agreements.

Cooperative Agreements, General Agreements must not commit the NPS to providing financial assistance and simply contracts the park to work with an entity on a project, each taking on specified tasks.

Other common forms of agreements, include planning and development agreements, fundraising or donation agreements, reimbursable agreements, and programmatic agreements, all of which do not qualify as a General Agreement or Cooperative Agreement.

Numerous General Agreements and other agreements have been implemented at the C&O Canal NHP over the last three decades. Table 3.1 lists all active agreements in the park as of 2021. Selected agreements are described in detail below.

Prior to the establishment of the park, the canal company had an agreement with the Potomac Edison Company, a power company, for the use and maintenance of Dams 4 and 5. This is first documented in a 1953 supplemental agreement, which was amended or extended 10 times since. The dams are owned by the United States but the Allegheny Energy Supply Company owns and operates hydroelectric facilities that draw water from the impoundments created by the two dams. In the 2002 amended agreement, an account was established at the National Park Foundation to hold the funds contributed by the power company for repair and maintenance of the dams. By entering into the current agreement in 2009, the two parties expressed their continued interest in the relationship established by the earlier agreements and in the continuation of the fair division of maintenance and repair costs. The parties agreed that the power

TABLE 3.1: ACTIVE C&O CANAL NHP AGREEMENTS AS OF 2022

TYPE OF AGREEMENT	DESCRIPTION	PARTNER	AGREEMENT START	AGREEMENT END
CA	Overall CA with Heritage	Georgetown Heritage	2017	2022
CA	Overall CA with the Trust	C&O Canal Trust	2017	2022
CA	Abner Cloud House	Colonial Dames of America	2003	2028
CA	Boat Operations	Georgetown Heritage	In development	Unknown
CMA	CMA with MEDCO - New HQ	MEDCO	2018	2050
CMA	CMA with Williamsport - Cushwa Basin	Town of Williamsport, Maryland	2020	2050
CMA	CMA with Hancock	Town of Hancock, Maryland	2021	2031
DA	Georgetown Heritage Donation Agreement-Utilities	Georgetown Heritage	Drafted 2021	Unknown
DA	DA Cumberland Interpretation Position	C&O Canal Association	2021	2022
FA	Georgetown Heritage Fundraising Agreement	Georgetown Heritage	2017	2022
GA	Fairfax County Carderock Sewer	Fairfax County	2016	2021
GA	DNR Waterway Improvement Fund-General	Maryland DNR	2003	2023
GA	PATC Agreement	PATC	2018	2023
GA	TNC - Bear Island	TNC	2017	2042

TYPE OF AGREEMENT	DESCRIPTION	PARTNER	AGREEMENT START	AGREEMENT END
GA	Plummer's Island Agreement	Washington Biologist Field Club	1959	Perpetuity
GA	Canal Quarters Program	C&O Canal Trust	2009	5 years
Letter	Bench Program Letter/SOP	C&O Canal Trust	2014	2025
MOA	Law Enforcement Agreement	Allegany County, Maryland Sheriff	2019	2024
MOA	Law Enforcement Agreement	Cumberland, Maryland Police Dept.	2019	2024
MOA	Law Enforcement Agreement	Maryland DNR Police	2019	2024
MOA	MOA for WMRT	Maryland DNR	2014	2064
PPA	Philanthropic Partnership Agreement with C&O Canal Trust	C&O Canal Trust	2019	2039
PPA	Philanthropic Partnership Agreement with Georgetown Heritage	Georgetown Heritage	2019	2039
PPA	Philanthropic Partnership Agreement Friends of Historic Great Falls Tavern	FHGFT	2021	20 years
RA	RA for phone use at HQ	C&O Canal Trust	2017	2022
RA	Reimbursable Agreement with DNR-Toilets	Maryland DNR	2018	2023
RA	Reimbursable Agreement with DNR-Four Locks	Maryland DNR	2018	2023
SubCA	Canal Quarters Program	C&O Canal Trust	2009	2021
SA	Agreement to operate Dams	Cube Hydro	1953	2019

*CA=Cooperative Agreement; CMA=Cooperative Management Agreement; DA=Donation Agreement; FGA=Friends Group Agreement; FA=Fundraising Agreement; GA=General Agreement; MOA=Memorandum of Agreement; PPA=Philanthropic Partnership Agreement; RA=Reimbursable Agreement; SubCA=Sub-Cooperative Agreement; SA=Supplemental Agreement.

company would maintain at least a \$100,000 balance in the National Park Foundation account.³⁹⁵ Since 1953, the canal and the park have benefited from the financial assistance in maintaining these structures for operational use. PE Hydro Generation, LLC now holds the agreement as the successor-by-assignment to Allegheny Energy Supply Company, LLC.

The oldest agreement still active in the park is a General Agreement between the NPS and the Washington Biologists' Field Club, Inc. (WBFC). In 1959, as part of the acquisition of land on the shores of the Potomac River for the extension of the George Washington Memorial Highway, the NPS took possession of Plummer's Island, which contained about 12.238 acres of land from the WBFC.³⁹⁶ The NPS agreed to

³⁹⁵ U.S. Department of the Interior and Allegheny Energy Supply Company, Supplemental Agreement for Dam Use between the United States Department of the Interior and Allegheny Energy Supply Company, LLC (Washington, DC: U.S. Department of the Interior, 2009), 1-2.

³⁹⁶ "The History of the Washington Biologists' Field Club on Plummers Island," Washington Biologists' Field Club (Washington, DC: WBFC, accessed November 2021, <https://wbfc.science/the-history-of-the-washington-biologists-field-club-on-plummers-island/>).

remove the 12.238-acre parcel from the condemnation. In return, the WBFC agreed to deed the land to the NPS at no cost with the WBFC reserving the right to “continue to maintain the island as a natural wild area and use it for scientific research. . . .so long as the Washington Biologists’ Field Club, Inc. exists. . . .”³⁹⁷ Under the agreement, the WBFC is responsible for the maintenance of its buildings and facilities on the island and was allowed to construct a fence surrounding the facilities to deter public access. An existing historic cabin, built on the island in 1901, was stipulated as the responsibility of the WBFC, followed by a stipulation that no other buildings could be constructed without the approval of the NPS. The NPS retains responsibility to maintain the lands under Federal jurisdiction/administration. The history of the club dates to its incorporation in 1901, and their research continues today. Plans by the Maryland Department of Transportation to widen the American Legion Memorial Bridge may threaten portions of Plummer’s Island and adjacent areas of the park; however, the NPS is working with the WBFC to ensure that negative impacts from the bridge project are minimized, mitigated, and avoided to the greatest extent possible.

The park entered into a General Agreement with TNC in 2017. This agreement pertains to the cooperative management of Bear Island, Maryland, and its environs. The NPS and TNC jointly acquired the island from a power company in the 1990s. The parties share a one-half, undivided real property interest in fee. The agreement ensures coordinated management across political and ecological boundaries to protect biodiversity and restore natural habitats and ecosystems of the Potomac River Gorge and the sharing of data, education, outreach opportunities, and management techniques. The agreement therefore requires each party to be informed of activity on the island. The agreement term was set at 25 years; however, both parties are legally bound to be in a partnership even without an agreement given the joint land ownership.³⁹⁸

3.5 HISTORIC AND AGRICULTURAL LEASING AGREEMENTS

Leasing historic property under Section 111 of the NHPA (P.L. 96-515) provides both resource protection and revenue that may be used to defray costs associated with the management of historic leased properties. It states that after consultation with the Advisory Council for Historic Preservation, Federal agencies may lease historic properties if the preservation of the property is adequately ensured. Furthermore, as prescribed in the 2006 NPS Management Policies, a lease must ensure preservation of the property and must not “unduly limit its appreciation by the public, interfere with visitor use and enjoyment of the park, or preclude use of the property for other management purposes judged more appropriate or cost-effective.”³⁹⁹ The regulations governing leasing of historic properties under this authority are contained in 36 CFR 18. The NPS use of historic leases must comply with the uses and stipulations in the associated Director’s Order 38 and Reference Manual.

3.5.1 Long-Term Leasing

About 1,100 people sold land along the canal to the NPS during the 1970s. About 200 of them bought Special Use Permits to retain rights to the property for seasonal residential use for periods of two to 25 years. Permit extensions were often granted until about 1993, when the Clinton administration halted the practice after issues arose on property use.

In the mid-1990s, these leases were nearing expiration.⁴⁰⁰ As the leases expired, the properties were bought back by the government. This posed logistical difficulties for the park given the large influx of returned

³⁹⁷ NPS, Agreement and Stipulations between the Washington Biologists’ Field Club, Inc. and the United States of America (Washington, DC: U.S. Department of the Interior, National Park Service, 1959), 2.

³⁹⁸ NPS and The Nature Conservancy, General Agreement between the U.S. Department of the Interior, National Park Service, Chesapeake and Ohio Canal National Historical Park and The Nature Conservancy (Washington, DC: NPS, C&O Canal and The Nature Conservancy, 2017), 1, 6; Helwig, interview.

³⁹⁹ NPS, Management Policies.

⁴⁰⁰ David Dishneau, “Unhappy C&O leaseholders gain a congressional ally,” *The Star-Democrat*, April 24, 1996.

properties. Although the NPS contended that the structures on these properties should be vacated and removed, insufficient funds for demolition precluded the park's ability to do so on all acquired properties. The NPS has historically allowed individual park superintendents to issue permits for continued private use of structures that had significant historical value or would otherwise attract vandals. The NPS could also grant exceptions when vacating a property would present a hardship for occupants. As of 1997, there were 81 lessees within C&O Canal NHP, and not all of them wanted to buy back their lots from the government.⁴⁰¹ Those whom opposed government acquisition of properties found an ally in U.S. Representative Roscoe Bartlett who wanted the NPS to sell the properties back to the former owners or extend their leases.⁴⁰² Bartlett sponsored a bill, House Resolution 104, that would authorize sale or lease of national park land to private individuals across the country. Each of the parks would retain the proceeds for maintenance and improvements. Park managers would be able to dictate the uses and appearance of reclaimed dwellings and could buy scenic easements from private owners to ensure compliance.⁴⁰³ However, the bill failed to pass in 1997.⁴⁰⁴

In 1999 families who were being evicted hired a national activist named Charles Cushman of the American Land Rights Association to assist them in their fight against the NPS.⁴⁰⁵ By October of that year, the NPS had extended one lease at the C&O Canal NHP and was considering extending another in hardship cases where the structures were the residents' year-round homes. Superintendent Douglas Faris stated that he had no authority to extend the other agreements.⁴⁰⁶

3.5.1.1 Scandal and Response

A long history of scenic easements that prohibited landowners from altering the historic landscape on lands bordering the C&O Canal NHP brought national attention to the park in 2004. At the start of Superintendent Kevin Brandt's tenure, pressure from superior NPS officials and a wealthy landowner resulted in the unprecedented granting of permission to remove approximately 130 mature, protected trees along the canal bank by Dan Snyder, the billionaire owner of the Washington National Football League team and landowner along the C&O Canal, allegedly to create a better view of the Potomac River.⁴⁰⁷

In a 2006 Investigative Report, Inspector General Earl E. Devaney states that in 2002 Snyder offered C&O Canal NHP Superintendent Faris \$25,000 as mitigation for his scenic easement variance request to remove easement-protected trees; this illicit bribe was rejected by the park.⁴⁰⁸ An initial clearing conducted by Snyder in 2003 complied with scenic easements in place, which allowed removal of trees less than 6 inches in diameter at chest height; however, these actions were in violation of a county forest conservation law.⁴⁰⁹ Snyder had not obtained the required county permit for the tree removal and was ultimately fined \$1,000 for the violation. As revealed in the Inspector General's investigation into the NPS actions, Daniel Smith, NPS Special Assistant to Director Fran Mainella, had spoken with Snyder's lawyer on the subject of further

⁴⁰¹ "Former property owners seek land back from Park Service," *The Baltimore Sun*, March 6, 1997, 71.

⁴⁰² Dishneau, 3.

⁴⁰³ "Former property owners seek land back from Park Service."

⁴⁰⁴ "National Park tenants protest loss of vacation homes," *The Star-Democrat*, October 18, 1999, 15.

⁴⁰⁵ "C&O residents hire activist," *The Star-Democrat*, August 30, 1999, 5.

⁴⁰⁶ *The Star-Democrat*, "National Park tenants protest loss of vacation homes."

⁴⁰⁷ Earl E. Devaney, Investigative Report on Allegations that the National Park Service Improperly Allowed Daniel Snyder to Cut Trees on Government Land (Washington, DC.: U.S. Department of the Interior, Office of Inspector General, January 19, 2006).

⁴⁰⁸ "Showdown at the Chesapeake and Ohio Canal National Historical Park," *National Parks Traveler* (October 29, 2011, accessed October 2020, <https://www.nationalparkstraveler.org/2009/03/showdown-chesapeake-and-ohio-canal-national-historical-park>); Devaney, Investigative Report, 2006.

⁴⁰⁹ "Protecting the View from the River," *The Connection* (Alexandria, VA: February 1, 2005, accessed October 2020, <http://www.connectionnewspapers.com/news/2005/feb/01/protecting-the-view-from-the-river/>).

tree removal and later suggested calling the removal an exotic-plant extermination program.⁴¹⁰ The following June, newly acting Superintendent Kevin Brandt was included in a meeting with Smith and Snyder to discuss a deal. The NPS granted Snyder a Special Use Permit to clear the trees on the bank with a condition he would replant native species in replacement of those removed and abide by a new easement to conserve his yard as a no-cut zone.⁴¹¹ The investigation found that these actions did not follow established procedures in the NPS Director's Handbook, including the failure to initiate an EA when instituting changes to an easement agreement.

Those opposed to these actions cited a long history of scenic land easements previously upheld by the NPS that prohibit landowners from removing mature trees on lands bordering the park and were frustrated by the blatant disregard for the policies, ethical standards, and legal easements meant to be upheld by the NPS. Neighbors of Snyder along the canal reported feeling betrayed by the park. In the face of significant backlash from neighbors, the NPS defended the decision as a long-term benefit for C&O Canal NHP.⁴¹² In response to the scandal, Superintendent Kevin Brandt remarked, "we obviously know who Dan Snyder is, and we're sure everyone will look at this and wonder, but with the nonnative species that were there, we thought this was the right decision."⁴¹³ Brandt expressed hope in strengthening relationships with the county planning board to avoid violations of the county forest conservation laws in the future.⁴¹⁴

3.5.2 Historic Leasing Program

Around 1998 the C&O Canal NHP established a historic leasing program as a means of taking care of a subset of historic structures in the park. The leasing authority is established under 54 U.S.C. § 1021 et seq. (NPS General Leasing Authority) and 54 U.S.C. § 306121 (Historic Leasing Authority). The Code of Federal Regulations (36 CFR Part 18, Leasing of Properties in Park Areas) regulates the leasing of historic properties in park areas. Other important policies that guide the implementation of the program include NPS Management Policies, Director's Order #38 (Real Property Leasing) and Reference Manual, and the Policy Memorandum 07-01 (Authorizing Activities Through Leases Versus Concession Contracts or Commercial Use Authorization).

NPS historic leases are so named because the lease of non-historic land is not permitted under the regulations of Part 18. Any Federal agency may "lease historic property owned by the agency to any person or organization, or exchange any property owned by the agency with comparable historic property, if the agency head determines that the lease or exchange will adequately ensure the preservation of the historic property" (54 U.S.C. § 306121). For the purposes of the C&O Canal NHP, historic leases to third parties are meant to assist the park in its preservation and ongoing maintenance goals as well as act as a means of enhancing the park historic landscape, consistent with the park's purpose. By charging rent to tenants, parks can direct funds toward preservation projects and deferred maintenance of leased properties and structures.

Lessees are responsible for the repair and maintenance of leased structures and their associated lands, which includes but is not limited to the following: repairs, maintenance, replacement, upgrading, capital improvements, and maintaining grounds of the premises in good condition through regular mowing, managed lawns and ornamental plantings, and avoidance or removal of unsightly storage or parking of

⁴¹⁰ Tim Murphy, "Smokey and the Bandit," *Washington Monthly* (January/February 2014), accessed October 2020, <https://washingtonmonthly.com/magazine/janfeb-2014/smokey-and-the-bandit/>.

⁴¹¹ Murphy, "Smokey and the Bandit."

⁴¹² Matthew Mosk, "Clear Answers lacking in NFL Owner's Clear-Cutting," *The Boston Globe*, December 20, 2004, 3.

⁴¹³ Mosk.

⁴¹⁴ *The Connection*, "Protecting the View from the River."

materials, equipment, or vehicles. The lessee is also responsible for paying to the proper authority all taxes and assessments imposed by Federal, State, or local agencies.

As stipulated in 36 CFR Part 18.11, all leases must contain terms and conditions “to assure use of the leased property in a manner consistent with the purposes of the applicable park area.” For the C&O Canal, the expressed purpose is the preservation and maintenance of historic structures and other properties.⁴¹⁵ Therefore, to meet those provisions, all accepted proposals to lease C&O Canal NHP property must be followed by the completion of a detailed plan to rehabilitate and use the structure. These plans must follow the requirements outlined in Reference Manual #38 – NPS Real Property Leasing.

The NPS initiated the historic leasing program in 1979; however, the C&O Canal NHP did not begin soliciting bids for leases until 1998. At that time, the park was experiencing the financial and logistical burden of being unable to maintain all of the historic structures along the length of the park: Superintendent Faris hoped renting the properties would ease the burden of maintaining the large number of historic structures in need of maintenance.⁴¹⁶ Prior to 1979, historic structures were used by the public through Cooperative Agreements and Special Use Permits.⁴¹⁷ In the program’s early years, the C&O Canal NHP held historic lease agreements for six historic structures: Lockhouse 6, Lockhouse 10, the Myers Property, the West House, the Burnside Property, and the Cooper House. In 2002 the park paused the leasing of any new structures to address the strengths and weaknesses of the program. Several deficiencies of the program were identified, including tenants performing unapproved work to historic structures, improper treatment of hazardous materials, and improper financial documentation held by the tenants. In addition, park staff worked with the Solicitor’s Office, Maryland Department of the Environment, and an independent auditor to assess the program and provide recommendations to address the deficiencies.

By 2021 two of the original six agreements remained active leases with the addition of the WCC. Lockhouses 6 and 10 were later incorporated into the C&O Canal Quarters Program and the leases were terminated. The Cooper House lease expired in 2010 and the Burnside Property lease terminated in 2004 due to violations of the lease terms.⁴¹⁸ As of the date of this report, the park provided park housing in the historic Weber house in Clear Spring, Maryland, in addition to the non-historic Davis house at Great Falls and in an apartment in the Ferry Hill Mansion complex.

The NPS leased the Myers Property, a ca. 1850 farmhouse across the river from Harpers Ferry, after advertising the rental in 1997.⁴¹⁹ The park intended to lease two additional properties at the time, the Little House near Hancock and the Donegan (Anthony) House 12 miles southeast of Hancock; however, tenants were never found, possibly because no bids were received or prospective tenants did not meet requirements. The Donegan House had previously been occupied until 1992, when the lease expired and remained vacant until its demolition as part of a larger project managed by the Denver Service Center beginning in 2015 and ending around 2019.⁴²⁰

Often in conflict with historic lease agreements are concession contracts, which differ from historic leases in that they are between the NPS and a private company specifically to provide services to park visitors. Historic leases are explicitly reserved for residential use.⁴²¹ When historic leasing first began in 1979, the

⁴¹⁵ Katherine Boyle and Blyth McManus, “KBB Admin History Questions Blyth McManus Interview 8/3/2021,” interview by Kate Umlauf, WSP (Washington, DC: notes on file, WSP USA Inc., August 3, 2021).

⁴¹⁶ “To ease cash shortfall, park plans to rent out historic old canal houses,” *The Miami Herald*, August 4, 1999, 50.

⁴¹⁷ Boyle and McManus, interview.

⁴¹⁸ Boyle and McManus, interview.

⁴¹⁹ “Buildings at C&O Park to be offered to renters,” *The Baltimore Sun*, October 3, 1997, 122.

⁴²⁰ Blyth McManus, comments received by WSP on C&O Canal NHP Administrative History, February 2022 (Washington, DC: notes on file, WSP USA Inc.).

⁴²¹ NPS, NPS Policy Memorandum 07-01: Authorizing activities through leases versus concession contracts or commercial use authorizations (Washington, DC: U.S. Department of the Interior, National Park Service, May 9, 2007).

NPS allowed commercial uses under leases. These policies changed in 1998 as the C&O Canal was negotiating its first historic leases, including the Sarah's Fancy estate and the lease of the West House.

In early 1998, the NPS chose Henry Beale to rehabilitate a 200-year-old estate along the canal called Sarah's Fancy, now known as the Bowles House Visitor Center (Hancock). Beale planned to pay for the \$100,000 project with the fees he would charge groups to stay at the historic 12-room mansion over the course of his long-term lease. Beale had hoped to negotiate a 99-year historic lease rather than a concession contract, which would have restricted his operation with various insurance obligations and regulations governing concessions. Despite opposition from nearby park concessionaires who claimed Beale would create unfair competition for their business, the park intended to agree to the lease. However, Congress passed a package of concession reforms in October 1998, eight months after the NPS accepted Beale's proposal but before it signed a lease. The law required anything construed as a visitor service to be provided under a concession contract, including Beale's inn, and limited concession terms to 10 years. Beale believed the 10-year time constraint did not allow sufficient time to recoup the cost of the renovations to the mansion and the agreement ended. Given the new regulations, the NPS instead needed to select a tenant only interested in occupying the mansion as a residence, with no associated commercial use.⁴²² No tenant was found.

In January 1999 Don Handy signed an agreement to rehabilitate the West House, a small two-story structure along the canal near Seneca, intended to become the new headquarters for his existing outdoor adventure business. Over the course of the negotiations, which were now informed by the new regulations on concession contracts, the NPS decreased the lease term from 99 to 35 years and eliminated the ability to sell snacks and rent outdoor equipment. If the NPS had allowed Handy to offer snacks and rentals, the business would have been in direct competition with Fred Swain's concession at Swain's Lock, about 5 miles downstream from the West House.⁴²³ At this time, any type of outdoor recreation concessionaire would have been duplicative with the Swain's concession.

The WCC had been under various forms of management with the Federal government since the early 1900s, including short-term leases and Special Use Permits, prior to its inclusion in the park historic leasing program.⁴²⁴ The WCC boathouse was constructed in phases beginning in 1905 along the Potomac River, designated a D.C. Landmark in 1973, and listed in the NRHP in 1990.⁴²⁵ Because the building lies within the C&O Canal NHP boundaries, its care is overseen by the NPS and subject to Federal regulations. In 2011 the boathouse was stabilized and documented by the HPTC, and in 2014 a structural investigation confirmed that the building was in poor condition. Because of safety concerns, the NPS restricted the occupancy to the first floor of the structure's West Bay. Structural supports were inserted to stabilize the building until appropriate restoration could occur. To facilitate rehabilitation, the NPS completed a Historic Structure Assessment Report for the building in 2014 and is currently working to restore the building, guided by a 2021 HSR. The current 60-year lease, signed in 2019 by WCC, serves as the agreement between the park and the WCC for its rehabilitation and use.

The NPS administers historic leases by ensuring the legal and policy requirements are being met, maintaining communications with the lessee, and inspecting the properties. This can include the preparation of HSRs for the structures to guide proper preservation. At the C&O Canal NHP, the lack of a dedicated staff member to manage the leasing program until 2020 has historically challenged the operation of the program. As far back as the 1990s, various staff from the Resource Management Division have taken on the management of the program as an additional duty to their role, contrary to the guidance in Reference Manual 38 that specifically states that parks should have a dedicated staff member handle historic leasing.

⁴²² "Entrepreneurs complain of raw deals on national park fixer-uppers," *The Star-Democrat*, July 17, 2000, 5.

⁴²³ *The Star-Democrat*, "Entrepreneurs complain of raw deals on national park fixer-uppers."

⁴²⁴ Boyle and McManus, interview.

⁴²⁵ Betty Bird, National Register of Historic Places Registration Form: Washington Canoe Club (Washington, DC: U.S. Department of the Interior, National Park Service, September 1989); NPS, *Georgetown University Boathouse Environmental Assessment* (Washington, DC: U.S. Department of the Interior, National Park Service, April 2006), III-23.

It was not until 2020 that a dedicated staff member was hired to manage the leasing program at the C&O Canal NHP. Currently, all C&O Canal NHP historic leases are managed under the Resource Management Division, who work closely with Region 1 – National Capital Area Office Leasing Specialists.

Although there are clear benefits to the historic leasing program, including the revenue gained for the care of historic structures and park maintenance, there still exists management burdens for the NPS. The revenue gained through this program goes towards the funding of a historic structures leasing specialist who manages compliance and serves as the point of contact at the park for lessees. However, the costs associated with preparing and administering the lease, including paying for HSRs, condition assessments, and the actual repair or rehabilitation of the buildings, are generally paid by the NPS and can be extensive. The C&O Canal NHP has had difficulty in attracting tenants because many structures are remote and there are challenges with flooding and limited access to utilities.

In addition to these issues, safety measures put in place because of the COVID-19 pandemic in 2020 forced the park to stall efforts to boost participation in the program. However, moving into 2021, progress on the leases has resumed. The park plans to continue the leasing program as long as it remains feasible as a means to preserve historic structures and tend to deferred maintenance.

3.5.3 Agricultural Leasing Program

The park holds a responsibility to keep the open landscape of historically farmed fields open. Since the park's inception, the park has done so by partnering with local agricultural operators. Agricultural leases are granted to third parties and are intended to support local farming enterprises and economic activity in the area while providing benefit to the NPS through the retention of historically farmed lands. Prior to 2015, these agricultural leases were managed through the Special Use Permit program under the Visitor and Resources protection Division.⁴²⁶ Today, the C&O Canal NHP utilizes 36 CFR Part 18 leases to increase term length and enhance the stewardship of the lands.

The NPS established Part 18 leases for 25 agricultural properties beginning in 2019. Lease agreements include properties in Allegany, Frederick, Montgomery, and Washington counties and allow for amortization of lease costs in return for approved physical improvements to the properties such as fence repairs. The lease terms were set at 10 years and preference would be given to farmers who could demonstrate knowledge and experience in sustainable agriculture and conservation practices. The leased properties consist of agricultural fields in hay, row crops, or for grazing and were known to have been used for farming during the operational era of the canal.⁴²⁷ Three new leases were signed in 2021, also set to expire in 2029. A regular cycle of renewals for these properties is expected.

The agricultural leasing program primarily enables the park to preserve its historic landscape. Because the park does not have the capacity to staff and manage farming enterprises, leasing the property to a third party provides a means of retaining the original use of the land and therefore retaining the significant historic characteristics and aesthetics of the landscape. Some special agricultural lease requirements for lease of C&O Canal NHP land are listed below.

- Only no-till farming is permitted. Plowing can contribute to soil loss from erosion and wind.
- As a historical park, the C&O Canal NHP must take precautions to protect known and unknown archeological material.
- All pesticides used in the park must be pre-approved by the Interior 1-National Capital Area Regional Office. At the end of the growing season, reports on what pesticides were used and crop yield are required.

⁴²⁶ Boyle and McManus, interview.

⁴²⁷ Boyle and McManus, interview.

A noted challenge that has arisen over the years is an apparent lack of demand for the certain properties, often considered undesirable for modern farming given their remote locations and restrictions on pesticide use. For example, in recent years, two properties have been removed from the leasing program because of logistical difficulties in accessing the fields, necessitating specifically sized equipment and long and unimproved, narrow access roads. As properties are removed from the program, the land must be maintained in other ways. In addition, as staff numbers remain low, the park does not have the ability to monitor the use of the land to prevent violations such as pesticide use and driving on the towpath. Consistent staffing and the passing of institutional knowledge have proven critical for the effective operation of the agricultural leasing program. The program also appears to be threatened by a lack of interest among younger farming generations, with many current lessees nearing retirement. The park intends to continue the agricultural leasing program as long as it remains feasible and aligns with the goals of the park and the NPS to preserve the historic viewshed of the canal.

4.0 KEY DEVELOPMENTS

Overcoming the challenges in managing and operating any national park, in particular the expanses of a linear park with a relatively meager staff and budget, requires innovation and strategy to balance visitor experience with the management and protection of cultural and natural resources. This chapter highlights the key strategic developments at the C&O Canal NHP that have contributed to the successful operation of a national park that provides a highly popular recreation destination as well as a unique cultural experience to millions of people annually. For much of the length of the park, visitors can recreate sustainably, as visitors biking or hiking on the towpath are surrounded by the intact historic landscape and structures. The park's proximity to the District of Columbia has resulted in a consistent increase in visitors, which requires the park to account for impacts to cultural and natural resources and accommodate larger numbers of visitors in park facilities and visitor use areas. Since 1991, key developments have included ambitious redevelopment of Canal Towns, creation of flood management systems, major restoration projects, and formalized park planning documents. The developments highlighted below have been organized by date and provide an overview of some of the most impactful and successful projects that have shaped the identity of the C&O Canal NHP over the last 30 years.

4.1 CANAL PLACE, CUMBERLAND

At the western terminus of the C&O Canal, the NPS hosts the Cumberland Visitor Center, set in a revitalized heritage area known as Canal Place. Although the attractions at Cumberland are not all associated with the national park, the C&O Canal NHP has been involved with a series of projects dating to the early 1990s that sought to transform this location into a popular tourist destination. One of the major developments during the many years Canal Place was in development was the opening of the Cumberland Visitor Center and museum in 2000. The visitor center and plans for the restoration of the canal created a new interest in the western part of Maryland and the potential for future engagement with the park. However, despite the efforts of the NPS and many other organizations to enhance the area, that potential did not hold up as anticipated.

The CPPDA (also referred to as the Authority) was formed in 1993 as a State agency and a public corporation. It consists of nine members, six appointed to four-year terms by the governor with Senate advice and consent, one who represents the Cumberland Mayor and City Council, one who represents the Maryland Historical Trust, and a final member who represents the U.S. Department of the Interior.¹ The Canal Place Historic Preservation District was created upon the formation of the Authority. The District was redesignated as the Canal Place Heritage Area in 2001 and enlarged and renamed the Passages of the Western Potomac Heritage Area in 2018.² The work of the Authority focuses on the preservation, development, and management of the Cumberland section of the canal with a goal “to transform the area through historic preservation to enhance recreation, commerce, civic life, transportation, education, and ecology.”³ Yet, because the Authority does not have regulatory control of the heritage area, the C&O Canal NHP Superintendent ultimately makes the decisions on Canal Place undertakings.

¹ In 2021 Tina Capetta, C&O Canal NHP Superintendent, served as the U.S. Department of the Interior representative on the Authority (<https://msa.maryland.gov/msa/mdmanual/25ind/html/12canal.html>).

² “About Us,” Passages of the Western Potomac Heritage Area (Cumberland, MD: Canal Place Preservation and Development Authority, 2020, <https://passagesofthepotomac.org/about-us/>).

³ “Origin & Functions,” in Maryland Manual On-line, *A Guide to Maryland & Its Government* (Cumberland, MD: Canal Place Preservation & Development Authority, accessed February 19, 2020, <https://msa.maryland.gov/msa/mdmanual/25ind/html/12canalf.html>).

Redevelopment of the mostly abandoned tourist area began in 1993 when State Highway Administration district engineer Wally Beaulieu envisioned Station Square at the Western Maryland Railway Station.⁴ Construction on the \$1.8 million Station Square project was scheduled to begin in spring 1994 and involved the construction of a brick plaza, a pedestrian promenade, and a parking area. The area would also feature trees, a picnic grove, park benches, and decorative streetlights. Project funding consisted of \$720,000 from the Federal government, \$180,000 from the State government, \$520,000 from the Appalachian Regional Commission, \$100,000 from Allegany County, and the city's donation of land valued at \$280,000. Connecting the tourist activity at the Western Maryland Railroad Station to the city's business district emerged as the main goal of the project.⁵ Other goals of the project included the transformation of the downtown area, the filling of empty buildings with museums chronicling Cumberland's transportation and industrial history, restaurants and shops, and a waterfront park to attract 500,000 tourists a year.⁶

Station Square was the first phase of a larger revitalization project, Canal Parkway Development, that involved renovating the blighted area around the Cumberland train station, rebuilding the canal's long-buried terminus, creating additional parkland, and building a mile-long Canal Parkway (Figure 4.1).⁷ The Station Square project was completed by October 1994.⁸

Senators Barbara Mikulski and Paul Sarbanes of Maryland announced in June 1994 that the Senate Appropriations Committee had approved \$500,000 to study the development of Canal Place.⁹ The following month, the Appalachian Regional Commission provided an additional \$325,000 for the designing of Canal Parkway, a thoroughfare that would extend south from Cumberland past the canal to the area's regional airport across the Potomac River in West Virginia.¹⁰

In preparation of an EA, the NPS and relevant State agencies held a Combined Location/Design Public Hearing in December 1993 to gather public input on the project. Written comments from those who attended were taken into consideration when the most feasible build alternative was selected. The selected alternative included the construction of a two-lane highway, re-watering the C&O Canal, and restoring the towpath and canal to their historic elevations. The Final Environmental Impact Statement/Section 4(f) Evaluation for the Canal Parkway Development Study prepared by the NPS, the Maryland Department of Transportation, and the State Highway Administration and approved by the NPS and the U.S. Department of Transportation was made available for public review in April 1995.¹¹

The State approved the \$42 million Canal Parkway in early 1996 and the Cumberland city council approved the \$200 million public-private Canal Place venture. The Canal Place Authority then turned its attention to rebuilding and rewatering the terminus of the canal which was expected to cost at least \$35 million. The USACE began engineering studies for the project and it was expected that they would approve at least part of the project the following year. This phase of the project would include excavating 15 feet of fill from approximately 1.5 miles of the terminus, rebuilding it, and siphoning water from the Potomac beneath a

⁴ Deb Riechmann, "Cumberland to showcase its station," *The Baltimore Sun*, March 3, 1993, 22.

⁵ Riechmann.

⁶ "Cumberland plans history tourism infrastructure," *The Star-Democrat*, April 2, 1996, 3.

⁷ Riechmann; Greg Tasker, "Western Maryland sees tourists, cash in C&O Canal project," *The Baltimore Sun*, October 2, 1994, 87, 100.

⁸ Tasker.

⁹ "Grant would fund study of Canal Place," *The Baltimore Sun*, June 30, 1994, 95.

¹⁰ "Canal Place gets \$325,000 boost," *The Baltimore Sun*, July 20, 1994, 77.

¹¹ "Public Notice: Maryland Department of Transportation, State Highway Administration, and U.S. Department of the Interior, National Park Service," *The Baltimore Sun*, April 24, 1995, 100.



About the Plan

The terminus area of the C&O Canal Park is vital to the success of the Park Master Plan. At the heart of the Terminus is the historic Western Maryland Railway Station, anchoring the C&O canal and the railroad, and serving as the focus for historic interpretation and orientalism. The proposed Station Square Plaza in front of the Station building presents an exceptional opportunity to link the open space resources of the canal park with the core of historic Cumberland's downtown. This project would enable Cumberland to realize the bulk of the Master Plan for the Station Square area and would lay the groundwork for further public and private investment. The plaza would become an important civic focal point and a venue for performances, concerts, rallies and exhibits, providing an open space heart for the community.

FIGURE 4.1: Drawings of Proposed Canal Place, Station Square Improvements (National Park Service, 1992)

creek and through a basin.¹² The State legislature appropriated \$2.1 million in April 1996 to begin the initial Canal Place construction.¹³

Having secured a Federal grant for the work at the end of 1996, the USACE began their \$500,000 design and engineering study for the rewatering of the canal in Cumberland in January 1997.¹⁴ Later that year, ground was broken for the \$1.3 million Wills Creek Esplanade, which would feature tracts displaying vintage railroad cars, an outdoor stairwell at the train station, and 400 feet of brick sidewalk near the canal terminus. The work was scheduled for completion the following April.¹⁵ Also that year, the CPPDA was planning the renovation of the western terminus of the park. The NPS planned to occupy the first floor and to install an interpretive exhibit and visitor center.¹⁶

A Senate committee approved a \$15 million plan to rewater 1.1 miles of the canal in Cumberland in July 1998. The project planned to excavate and realign a combined stormwater and sewage line, reline the canal basin with clay, restore the canal locks, recreate a section of the turning basin, and fill the prism with water.¹⁷

In January 1999 the State Board of Public Works considered a proposal for a \$400,000, 209-foot steel pedestrian bridge that would carry foot traffic over Wills Creek in downtown Cumberland and link a 200-year-old cabin to the Western Maryland Station Center.¹⁸

By March 2002 the CPPDA anticipated that 10 retail shops and two acres of festival grounds would be opened the following spring. The Crescent Lawn festival grounds, just south of Interstate 68 near the restored train station, would be the venue for the city's annual Rail Fest and Canal Fest events and possibly outdoor summer film showings, kite-flying contests, and Easter egg hunts. State officials awarded a \$2.8 million contract to Somerset Steel Erection Company of Allegany County to build the Canal Place development. This marked the beginning of a major building phase for the project. Owners of a restaurant, an outdoor adventure store, a toy store, a candy shop, a camera store, three gift shops, a pastry shop, and a custard shop had already signed letters of intent to lease space in the three tin-roofed, one-story buildings. The businesses were expected to open in May 2003. A fourth building, modeled after the warehouses that formerly surrounded the canal's terminus, would be built upon completion of rewatering the canal. The NPS planned to lease that building to house a replica canal boat that would carry visitors on short sight-seeing trips.¹⁹

In July 2002 the CPPDA updated a 1996 Canal Place Heritage Area Management Plan to guide the project for another five years.²⁰ Accomplishments up to that date included the renovation of the railway station and lease of the first floor by the NPS for a visitor's center, development of Station Square, and the construction of the replica canal boat.

The Senate's 2003 Energy and Water Development Appropriations Bill earmarked \$5 million in further funding for the restoration and rewatering of the canal terminus.²¹ In May 2003 the Canal Place Trestle Walk, a brick and timber path linking the downtown project to the canal, was dedicated and several shops

¹² Gary Gately, "Cumberland bets on tourism," *The Baltimore Sun*, March 31, 1996, 29, 32.

¹³ "Re-discovering our heritage," *The Baltimore Sun*, April 28, 1996, 38.

¹⁴ "Funding approved for study of C&O Canal water project," *The Baltimore Sun*, January 1, 1997, 20.

¹⁵ "Downtown Cumberland revitalization project begins," *The Baltimore Sun*, September 16, 1997, 58.

¹⁶ "Park service to occupy W. Maryland Station Center," *The Baltimore Sun*, October 28, 1997, 60.

¹⁷ "Part of C&O Canal to be rewatered," *The Star-Democrat*, July 30, 1998, 5.

¹⁸ "Pedestrian bridge to link historic sites," *The Star-Democrat*, December 18, 1998, 5.

¹⁹ David Dishneau, "Construction contract moves Canal Place forward," *The Star-Democrat*, March 20, 2002, 5.

²⁰ HRG Consultants, Inc., *Canal Place Heritage Area Management Plan Update* (Cumberland, MD: Canal Place Preservation and Development Authority, July 2002).

²¹ "Federal money set aside for Canal Place," *The Star-Democrat*, August 7, 2002, 5.

at Canal Place were open for the dedication event, held on the first day of Canal Fest. It was anticipated that the remaining shops would be open by mid-June.²² Later that year, in October, the Ancient Order of Hibernians made a request to the CPPDA to place a six foot tall Celtic cross monument honoring Irish laborers who helped build the C&O Canal and B&O Railroad near the western terminus of the canal.²³ CPPDA board members approved the installation of the large Celtic cross by the Ancient Order of Hibernians in June 2007. The 6-foot cross would stand on a 3-foot base near a footbridge connecting the canal towpath to Canal Place. The group would pay \$12,500 for the monument and hoped that a dedication ceremony could be held on St. Patrick's Day 2008.²⁴ The monument was installed in June 2008 and unveiled the following month.²⁵

Congress approved an additional \$2.75 million for the rewatering of the canal in Cumberland as part of a \$388 billion Federal spending bill in November 2004. The USACE would use the money to continue excavating and possibly line the turning basin in preparation for the rewatering. The USACE claimed it would have the basin completed by 2006 but did not set a target date for rewatering the Cumberland section of the canal.²⁶ CPPDA anticipated in November 2005 that the rewatering of the section would begin in the spring of 2006. The USACE had planned to fill the turning basin and a 0.25-mile stretch of the canal in the fall of 2005, but inclement weather delayed the work.

At the end of 2005, the USACE had fully halted its design process for rewatering because the Western Maryland Scenic Railroad presented logistical issues for conveying water and canal boats further downstream. Unless the tracks were moved, Canal Place would end there, and boat rides would not be possible. Allegany County Administrator Vance Ishler said that the county was willing to seek funding from the Federal Appalachian Regional Commission to relocate the tracks. Delegate LeRoy Myers from Washington-Allegany doubted whether the railroad had a future, since it was losing its State operating subsidy after 2005.²⁷

In realizing that the planned re-watering would not accommodate the length of the canal boats planned for operation, the USACE sought an additional \$10 million to extend the rewatered section to over a mile and complete the project. Senators Sarbanes and Mikulski announced that Congressional negotiators had agreed on only a \$900,000 appropriation for the project in FY2006.²⁸

As of May 2006, six shops were operating at Canal Place and there was one vacant shop. A construction crew was in the process of erecting a building on the edge of the canal to serve as an NPS station and ticket office. Graders groomed the canal embankments, completing work that had begun in the summer of 2003 when the USACE re-excavated a section of the canal and the basin and patterned its cement walls to look like stone. It was hoped that by the fall of that year, the C&O trail would be connected to the Allegheny Highlands Trail, a continuous path over 300 miles long that extended from Georgetown to Pittsburgh.

Ten years after the first State legislature appropriation for the project, water was pumped into a 0.25-mile section of the canal from the Potomac River in anticipation of a ceremony held on Saturday, May 13, 2006, to mark the milestone.²⁹ That summer, the U.S. Senate authorized an additional \$10.8 million for the

²² "Canal Place project likened to Inner Harbor," *The Star-Democrat*, May 18, 2003, 5.

²³ "Irish cultural group wants C&O memorial," *The Star-Democrat*, March 23, 2004, 5.

²⁴ "Cross to honor Irish canal workers," *The Baltimore Sun*, June 21, 2007, B5.

²⁵ Nick Madigan, "Standing strong for those long gone," *The Baltimore Sun*, July 13, 2008, B1.

²⁶ "Federal funds will help with canal rewatering," *The Star-Democrat*, November 25, 2004, 6.

²⁷ "Scenic railroad becomes obstacle to Canal Place," *The Star-Democrat*, December 2, 2005, 6.

²⁸ "C&O Canal in Cumberland may be rewatered in spring," *The Star-Democrat*, November 11, 2005, 7.

²⁹ Arthur Hirsch, "Hopes float on refilling waterway to revive area," *The Baltimore Sun*, May 11, 2006, B1, B2.

USACE to complete the rewatering of the canal terminus.³⁰ By the end of the year, Canal Place contained eight shops and restaurants.³¹

By the end of 2013, the NPS considered closing the rewatered turning basin because it appeared to be leaking into nearby Wills Creek, the water source for the project. Repairing the leak was a costly prospect. In addition, one of two large pumps intended to eventually rewater over a mile of the canal for boat rides had failed. Canal Place struggled with losses estimated at \$27,000 that year, and \$100,000 in FY 2015. The city and Allegany County planned to stop giving Canal Place local hotel and motel tax dollars in 2014 in the belief that the project should be self-supporting.³²

Members of the Western Maryland State legislative delegation formed a task force in 2017 to study the future of Canal Place, including the possibility of dissolving the entity. The State had invested over \$30 million in Canal Place since purchasing the site, but Canal Place had struggled to develop a revenue stream other than collected rent. Its annual budget was between \$550,000 and \$600,000, 70 percent of which was covered by rent and other miscellaneous income. The budget was supplemented with State funding. Per the recommendation of the task force, the State provided funding for just over two years, allowing work to be done on the Footer building, including the replacement of the roof. Private funding from the banks was acquired in January 2017 once the building was repaired to a point where it could be restored.

The Shops at Canal Place have proven to be a difficult site for business owners (Figure 4.2). As of September 2019, the full rewatering of the canal had not been completed by the NPS because of an economic downturn and Canal Place had not received programming grants in recent years. According to local business owner Doug Hutchins, the four or five events initially held each summer had consolidated to one large event, the River and Rails Festival held in August. Shop owners complained about a lack of foot traffic, the lack of bathrooms in the shops, and the lack of a rear entrance or window in the shops. The shops were also hard to see because of the interstate. If the Authority were to be dissolved, shop tenants would have first right of refusal on changes that could result from the task force's recommendations. The task force has not yet made its decision, which was expected by December 2019.³³

4.2 RESPONSE TO MAJOR FLOODS AND STORMS

Echoed by Superintendents Cappetta and Brandt during personal interviews, flooding and major storms have caused major impacts in the successful management of the park. These events tend to create a sense of camaraderie among the staff, and more significantly the public, in attempts to protect the history of the park. The park's response to major floods and storm events has evolved over the years from a response-based approach following the 1996 floods to a prevention-based approach in more recent history. Major restoration projects have also stemmed from damage caused by flooding, including the restoration of the Monocacy Aqueduct in the early 2000s.

³⁰ "Senate OKs funds for C&O Canal work," *The Baltimore Sun*, July 21, 2006, B5.

³¹ David Dishneau, "Md. section of Pittsburgh-to-Washington bike path complete," *The Star-Democrat*, December 15, 2006, 10.

³² "Cumberland canal basin may close," *The Star-Democrat*, December 20, 2013, 11.

³³ Greg Larry, "Shops at Canal Place not best spot for businesses," *Times-News*, September 9, 2019 (accessed March 24, 2020, https://www.times-news.com/news/local_news/shops-at-canal-place-not-best-spot-for-businesses/article_9db07c3f-c239-5c86-9a92-9e94c4a42682.html); Greg Larry, "Task force to study Canal Place's future," *Times-News*, November 3, 2017 (accessed March 24, 2020, https://www.times-news.com/news/local_news/task-force-to-study-canal-place-s-future/article_05e21af0-22c2-59e8-a142-ee977b91cb58.html).

4.2.1 *The Floods of 1996*

Many former staff consider the floods of 1996 to be the most impactful events in the park's history.³⁴ As a result of the 1996 floods, administrative structures were changed specifically to address the need for rebuilding as well as the need to coordinate a large influx of volunteers. For example, the park hired more maintenance staff to take on projects, a compliance officer to coordinate the overwhelming amount of repair and rehabilitation work, and converted interpretive staff to volunteer coordinator roles.³⁵ Although devastating to the park, the major damage to the cultural and historic resources also garnered an influx of financial resources that provided opportunities to complete preservation projects that otherwise may not have happened.³⁶ The floods inspired the formation of community foundations for park fundraising, new sources for financial resources, and refined administrative practices.³⁷



FIGURE 4.2: View of Entrance to the “Shops at Canal Place, Festival Grounds, and C&O Canal/Towpath” in Cumberland, Maryland, 2009 (Jon Dawson)

In January 1996 the waters of the Potomac, fed by rainfall and melting snow from a blizzard in early January, became a deluge, flooding at least 80 percent of the canal and towpath, washing away sections of the towpath, walkways, parking lots, boat ramps, and picnic areas, and draining much of the canal.³⁸ The park was forced to close to prevent visitors from entering unsafe areas.³⁹ Fifteen damage assessment teams were sent out to determine flood damage to the park.⁴⁰ These teams determined that 70 percent of the canal was swamped and towpaths and locks were submerged under rushing water up to 10 feet in depth. Breaches of the towpath and canal prism walls drained portions of the canal that had been rewatered as part of previous restoration efforts. Many of the park's approximately 1,500 historic structures were also flooded. About 75 percent of the low boardwalk sections of a pedestrian walkway leading from the mainland to Olmsted Island at Great Falls was damaged or carried away by floodwaters (Figure 4.3). The \$750,000 walkway, completed in 1994, had replaced a structure washed away by Tropical Storm Agnes in 1972. The walkway's

³⁴ Nancy Walther, “Nancy Walther: 08/29/2017 @ 11:30am,” interview by Sophie Kelly (Washington, DC: notes on file, WSP USA Inc., August 29, 2017).

³⁵ Walther, interview.

³⁶ Tina Cappetta, “Former Park Employees Discussion Questions,” interview by Sophie Kelly (Washington, DC: notes on file, WSP USA Inc., September 21, 2017).

³⁷ Walther, interview.

³⁸ “Flood-damaged areas to receive federal assistance,” *The Star-Democrat*, January 24, 1996, 3; Frank D. Roylance and Kerry A. White, “Teams assess C&O Canal damage,” *The Baltimore Sun*, January 26, 1996, 21.

³⁹ NPS, *Chesapeake and Ohio Canal National Historical Park Flood Recovery Plan* (Washington, DC: U.S. Department of the Interior, National Park Service, December 1997), 11.

⁴⁰ Roylance and White, 21.



FIGURE 4.3: Newspaper Image Showing Damage to Boardwalk near Great Falls
(*Baltimore Sun*, January 26, 1996, 21)

elevated bridge sections, designed to withstand such a flood, survived. Piles of mud, uprooted trees, logs, and other debris were left throughout the park.⁴¹

According to Superintendent Faris, the canal and towpath could have remained closed for months for repairs, citing an estimate for the water damage in the millions of dollars.⁴² He hoped to open the Cumberland and Hancock visitor centers within one month of the flood; however, he had to prioritize the inspection of all bridges and aqueducts for structural integrity, slowing any progress on reopening visitor centers.⁴³ In anticipation of park visitors that summer, some critical emergency repairs were made to other areas of the park; however, it was expected to take multiple years of repair before the park was returned to its pre-flood condition.⁴⁴

By February the damage had been assessed at \$20 million. Businesses and residents offered to donate money, labor, and supplies to help repair the park. A Bethesda quarry company donated up to 100,000 cubic yards of material to rebuild the towpath and berm, Bell Atlantic sent cell phones for park rangers, and a nonprofit organization in Western Maryland sought funds from private donors. Shortly after the flooding, the NPS reopened several areas along the canal, including Angler's Inn in Carderock in Montgomery County and areas in Washington and Allegany counties.⁴⁵ Congress had appropriated \$2 million by mid-February, and Secretary of the Interior Bruce Babbitt hoped to match that amount with private and

⁴¹ Roylance and White, 24.

⁴² "Flood-damaged areas to receive federal assistance," 3.

⁴³ "Park users mobilize to save C&O Canal damaged by flood," *The News Journal*, February 2, 1996, 7.

⁴⁴ NPS, Flood Recovery Plan, 11.

⁴⁵ "Offers flood in to help repair historic C&O Canal," *The Star-Democrat*, February 1, 1996, 5.

corporate donations by the end of the year. By that time, \$500,000 had been donated from corporate entities and an additional \$15,000 from private individuals.⁴⁶

Volunteers spent Saturdays at Great Falls and elsewhere making repairs to the park. By June volunteers had made enough progress repairing the walkway leading to Olmsted Island at Great Falls that the NPS hoped to reopen the walkway by July 4 to link the reopening of the boardwalk to the start of the canal's construction in 1828. Seventy-five percent of the boardwalk was reusable, requiring repairs in some places and new, stronger footings. The owner of a home renovation business supervised the restoration of the walkway, loaning a cement mixer to pour stronger footings. Boy Scouts of America troops removed brush, planted grass seed, and painted picnic tables and trash cans at the Horsepen Branch hiker-biker camp and three dozen adult volunteers spread gravel nearby. The Potomac Conservancy organized several thousand volunteers to help rebuild five miles of the towpath between Locks 5 and 10 in addition to the Olmsted Island walkway. Potomac Conservancy co-founder Paul M. Rosa mobilized individuals, tree-removal specialists, and contractors with heavy equipment. He also set up a website for the canal and convinced two stonemasons from Toronto, Ontario to rebuild a damaged canal lock. Some 6,000 people had volunteered since the flood occurred and more than 3,000 had been scheduled. Donations from corporations, non-profit organizations, and private individuals had reached \$3 million, in addition to donated equipment and materials.⁴⁷

On September 8 of the same year, a second flood of comparable size to the January event hit the park. Brought on by heavy rainfall from Hurricane Fran, the flood waters washed away much of the work that had been completed since January. The effects seemed less destructive as some preventive measures had been taken, including removing equipment from vulnerable buildings.

Following this second flood, the park used recovery money appropriated by Congress in January to conduct a comprehensive damage assessment that identified over 800 features in need of repair at an estimated cost of \$65 million.⁴⁸ The consulting engineers contracted to complete the assessment formed teams within each maintenance district and accompanied park resource specialists in the identification of damaged structures. Data collected included existing conditions, proposed repairs, cost estimates, and safety precautions for each resource. The process resulted in a list of projects, organized by priority, from which undertakings could be chosen and refined for design and implementation.⁴⁹

4.2.1.1 Recovery Program

The park issued a Flood Recovery Plan in June 1997, which discussed previous floods, flood prevention measures taken by the C&O Canal Company prior to the formation of the park, the 1996 floods, assessment of damages, and detailed a Flood Recovery Program.⁵⁰ Between the flooding and drafting of the plan, the park contracted over \$4 million of construction work, expended over \$3.5 million for labor, materials, and equipment for projects completed by park maintenance crews, and obligated over \$1.5 million for various studies and engineering designs. To implement the recovery program, park managers hired a park-based recovery team consisting of 10 project managers, resource management professionals, and support staff to facilitate the proper execution of projects, in addition to a 30-person construction team. All 40 employees hired for the recovery team worked on two-year contracts.⁵¹ Over 6,200 volunteers supplemented the recovery team in cleaning up from the January flood and September floods and contributing to numerous other projects around the park, including rebuilding Olmsted Island bridges, painting picnic tables, and

⁴⁶ "C&O Canal park ravaged by floodwaters," *The Daily Times*, February 18, 1996, 3.

⁴⁷ Lowell E. Sunderland, "A Labor of Love," *The Baltimore Sun*, June 23, 1996, 133, 136.

⁴⁸ NPS, Flood Recovery Plan, 12.

⁴⁹ NPS, Flood Recovery Plan, 13.

⁵⁰ NPS, *Flood Recovery Plan*.

⁵¹ NPS, Flood Recovery Plan, 16.

repairing trails. Youth conservation organizations and crews from local prisons also aided in the recovery program.⁵² In combination with the funds received prior to the second flood, donations, emergency appropriations, and grants totaled nearly \$24 million by 1997. Although only accounting for 30 percent of the estimated cost for all repairs, the impressive sum facilitated timely repairs to damaged structures.

Along with completing emergency repairs, the park used funds to contract engineering studies on complex projects as well as special studies to provide information on best practices in sustainable repairs and the nature of flooding in the region. These special studies proved invaluable to flood management in the park because the knowledge was now available on how frequently these events may occur and how best to prepare structures to survive future impacts.

High-priority repairs were divided into three categories: interim repairs (completed between January and December 1996), day labor and contract projects (completed between December 1996 and October 1997), and other projects (scheduled between November 1997 and December 1998). Interim repairs included downed tree removal, debris removal, culvert repairs, silt removal, towpath fill, bridge rebuilding and replacement, and cleaning of inhabited structures. Day labor projects focused on those needed to reopen visitor programs and services and included towpath restoration, repairing canal breaches, resetting retaining walls, repair to pedestrian bridges, and continued debris removal. Contracted projects included reconstruction of the Georgetown retaining wall, replacement of Fletchers wood bridge, Great Falls area culvert and lock repairs, towpath retaining wall repairs, and other significant breach areas.⁵³

The 1997 Flood Recovery Plan outlined future needs for flood recovery. The park hoped to revise the park flood emergency plan, which they accomplished that same year, establish additional stream gauging stations at Monocacy River, Paw Paw, and Williamsport to formalize a comprehensive monitoring and forecast system, expand the GIS program to include data on flood characteristics to aid in plans for future flood recovery, evaluate the General Plan, and establish a park endowment program to help fund “the preservation maintenance of historic structures and retrofit sustainable measures along the canal to minimize future flood impacts.”⁵⁴ The 1976 General Plan was reevaluated in the early 2000s under Kevin Brandt; however, an updated plan was not developed as it was considered to be too expensive to complete (see Section 2.1.2).

4.2.2 Monocacy Aqueduct

The Monocacy Aqueduct is considered an icon of American civil engineering. The granite masonry structure is the largest of 11 aqueducts erected along the C&O Canal, consisting of six piers, two abutments, and seven arches each with a span of 54 feet, for a total length of 516 feet.⁵⁵

After Tropical Storm Agnes damaged the already bowed Monocacy Aqueduct in 1972, ripping off much of the iron railing along the top of the aqueduct, the Federal Highway Administration installed steel trusses, timbers, and turnbuckles, half-filled the canal trough with dirt, installed internal steel support rods, grouted cracks, and built a drainage field.⁵⁶ The NPS hired Bureau of Reclamation divers in 1995 to inspect the piers and foundations. The divers discovered that the river had eroded the base of the structure, and water was

⁵² NPS, Flood Recovery Plan, 17.

⁵³ NPS, Flood Recovery Plan, 30-34.

⁵⁴ NPS, Flood Recovery Plan, 38.

⁵⁵ NPS, “Monocacy Aqueduct,” Chesapeake and Ohio Canal NHP (last updated April 30, 2020, accessed November 2021, <https://www.nps.gov/choh/learn/historyculture/themonocacyaqueduct.htm>).

⁵⁶ Sunny Kaplan, “Time catches up with Monocacy Aqueduct,” *The Baltimore Sun*, November 16, 1997, 116-117; Candus Thomson, “Aqueduct joins list for endangered,” *The Baltimore Sun*, June 15, 1998, 55; David Snyder, “Historic bridge being returned to its old glory,” *The Star-Democrat*, July 13, 2003, 6; Arthur Hirsch, “Echo of the Industrial Revolution,” *The Baltimore Sun*, July 11, 2005, B4.

entering the piers and hollowing them out. During the floods of 1996, the aqueduct was submerged by high floodwaters and struck by trees that were washed down toward the Potomac. Following the floods, Congress allocated \$23.6 million for canal repairs; \$150,000 of which was spent removing debris that had accumulated along the upstream side of the aqueduct.⁵⁷

The American Society of Civil Engineers (ASCE) and the C&O Canal Association began raising money to study and stabilize the aqueduct and restore it to its original condition which was anticipated to cost up to \$8 million. Fundraising was a challenge as the aqueduct lacked a constituency because of its remote location. The NPS allocated \$120,000 in early 1997 for an engineering study to determine the condition of the aqueduct and estimate repair costs. Toward the end of the year, the ASCE installed an electronic monitoring system to alert the NPS of any movement in the aqueduct. The C&O Canal Association, leading the Uphold the Monocacy Drive, campaigned and raised money for the structure's restoration. By the end of 1997, the group had raised \$50,000 which was put aside until the NPS could identify the aqueduct's most urgent needs. The group also applied for foundation grants and lobbied Congress for funding. According to Superintendent Faris, the first work that needed to be done was the stabilization of the piers below the water, which could cost about \$100,000 for each of the seven piers.⁵⁸

In early 1998, Maryland Senators Paul Sarbanes and Barbara Mikulski, along with Senator John Warner and Charles Robb of Virginia, asked the National Trust for Historic Preservation to add the aqueduct to its list of the nation's Most Endangered Historic Places.⁵⁹ The aqueduct made the National Trust's list of the 11 most endangered historic places in the country and was the only site in Maryland that year (Figure 4.4).⁶⁰ Senators Sarbanes and Mikulski vowed to lobby for Federal funds for the repairs that would get the

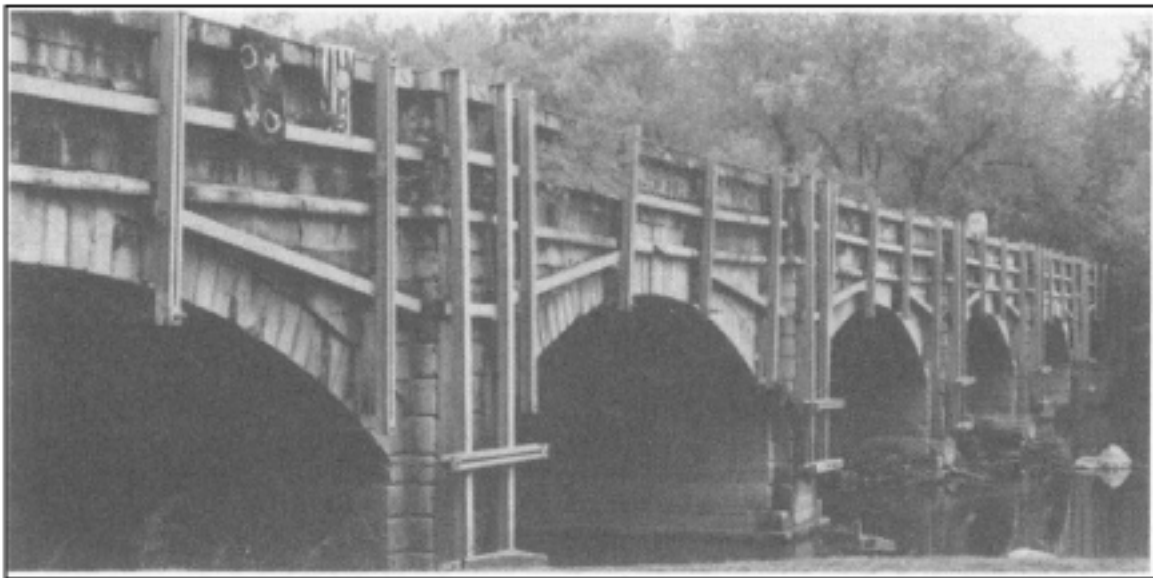


FIGURE 4.4: Image of the Monocacy Aqueduct, 1998, Showing Bracing Installed After 1972 Storm Damage (C&O Canal Association, 1998)

⁵⁷ Kaplan, 117.

⁵⁸ Kaplan, 116-117.

⁵⁹ "Monocacy Aqueduct protection sought," *The Baltimore Sun*, March 4, 1998, 76.

⁶⁰ C&O Canal Association, "National Trust Puts Monocacy Aqueduct on Most Endangered List," *Along the Tow-path* XXX, no. 3 (Summer Issue 1998).

aqueduct removed from the endangered list. According to the senators, restoring the aqueduct was anticipated to cost around \$5 million.⁶¹ According to the NPS, simply stabilizing the aqueduct enough to remove the bracing was estimated to cost \$500,000, and restoring it to its original appearance would cost at least \$10 million.⁶² By that time the C&O Canal Association had raised about \$100,000. Divers had also recently discovered that the riverbed around the aqueduct's piers was shifting and weakening.⁶³

On May 5, 1999, the NPS unveiled a \$5.6 million plan to repair the aqueduct, estimated to take at least four years to complete. The repair plan was prepared by architects McMullan & Associates of Vienna, Virginia, and cost much less than the previous estimate of \$10 million. The plan included replacing the steel girders with interior braces, sealing the canal bed with concrete, and reinforcing the upstream parapet, which is responsible for withstanding much of the river's physical force. Senators Sarbanes and Mikulski asked the Senate Appropriations Committee for \$800,000 for the park for fiscal year 2000, partly so work on the aqueduct could begin.⁶⁴ In 2001 Congress allocated \$6.4 million to restore the aqueduct.⁶⁵

In August 2002 Corman Construction Inc. of Annapolis Junction won a \$4.4 million contract to help restore the aqueduct. As part of the overall \$6.4 million project to restore the structure, the firm's work involved removing steel girders installed after Hurricane Agnes hit in 1972, leaving \$2.2 million for the remainder of the restoration.⁶⁶ Work began in fall 2002 and was expected to be completed in the winter of 2003-2004; however, high water on the Monocacy River from heavy rain and snow in 2003 postponed the work and NPS officials anticipated completion of the work in summer 2004.⁶⁷

The restored aqueduct was dedicated in late May 2005, marking the end of the \$6.4 million project that took almost three years (Figure 4.5). The structure now featured fresh mortar, reset stones, a new wrought-iron railing, and a scored concrete surface resembling wood planks and fitted with drains.⁶⁸

4.2.3 Flood Management

A large portion of C&O Canal NHP lands are located within a 50- or 100-year floodplain, thus facing major flooding events around every 12 years. The floods of 1996 remain two of the most significant in the C&O Canal NHP's history, shaping flood management and damage repair practices used presently.

Under Superintendent Faris park staff revised the park's Flood Response Plan (or emergency plan) in December 1997 to be better prepared for future flooding. Revisions accounted for the relocation of maintenance equipment and materials and sandbagging of specific areas. Actions recommended by the flood hydraulic studies would be taken to include the use of the stop gate at Great Falls, the position of various lock gates, and the opening of waste weirs.⁶⁹

The park again updated the 1997 Flood Response Plan in 2015, approved by Superintendent Kevin Brandt. The 2015 plan provided a detailed process of emergency declaration, notification, and roles and responsibilities of park staff in the event of a flood. The plan included action plans for several vulnerable park locations (Georgetown, Little Falls, Edwards Ferry, Point of Rocks, Harpers Ferry, Williamsport,

⁶¹ Candus Thomson, "First lady urges preservation partnership," *The Baltimore Sun*, June 16, 1998, 26.

⁶² *The Baltimore Sun*, "Monocacy Aqueduct protection sought."

⁶³ Candus Thomson, "Aqueduct joins list for endangered," *The Baltimore Sun*, June 15, 1998, 61.

⁶⁴ "Park service plans seek \$5.6 million for aqueduct," *Daily Press*, May 6, 1999, 32.

⁶⁵ Hirsch, "Echo of the Industrial Revolution," B4.

⁶⁶ "Construction firm winds bid to restore aqueduct," *The Baltimore Sun*, August 22, 2002, B2.

⁶⁷ David Snyder, "Historic bridge being returned to its old glory," *The Star-Democrat*, July 13, 2003, 6.

⁶⁸ Hirsch, "Echo of the Industrial Revolution."

⁶⁹ NPS, Flood Recovery Plan.



FIGURE 4.5: Restored Monocacy Aqueduct (NPS)

Hancock, Paw Paw, and Cumberland), emergency contact numbers, a museum collections flood mitigation and recovery plan, and fish rescue procedures.⁷⁰

In 2010, the park implemented the Incident Command System (ICS) for management of significant flood events. This system calls for daily planning meetings and strategy sessions in the event of a major or moderate flood. Under this system, in anticipation of a flood, all ICS trained staff are required to be up to date on their training and expected to monitor the weather. Based on anticipated weather conditions, and in coordination with park-wide operations, ICS staff may assist in the movement of artifacts and other museum collection items to specified locations. Post-flood responsibilities of ICS staff include closures of dangerous areas, documentation of damage to property, prevention of looting, inspection of culverts/bridges/aqueducts, documentation of impacts to natural and cultural resources, and dissemination of information to the public.⁷¹ Park staff expressed challenges in completing post-flood documentation, an issue given more attention since 2020.⁷²

In keeping flood management a priority at C&O Canal NHP, Superintendent Cappetta signed the latest C&O Canal Flood Response Plan on May 18, 2020, to protect the extensive collection of vulnerable historic resources. An addendum to the plan, dated October 2020, addressed the Lower Reach/Georgetown section of the canal. The revised 2020 plan does not include significant changes; however, staff have reported better adherence to procedures outlined in the plan in recent years. For example, the effects of minor floods were not previously documented, but the park has recently begun to do so. Other steps taken to improve flood

⁷⁰ NPS, *C&O Canal National Historical Park Potomac River Flood Response Plan* (Washington, DC: U.S. Department of the Interior, National Park Service, September 30, 2015).

⁷¹ NPS, *C&O Canal National Historical Park Potomac River Flood Response Plan*, 2015.

⁷² John Adams, "Interview with John Adams: 3/10/2020 (1pm)," interview by WSP (Washington, DC: notes on file, WSP USA Inc., March 10, 2020).

response include providing keys and training to Georgetown Heritage members and foundry building management so they can use sandbags and operate the lock so it does not overflow during heavy rain.⁷³

4.3 WILLIAMSPORT

Situated on the east bank of the Potomac River, Williamsport is located at the approximate halfway point of the C&O Canal. Numerous canal-related features exist along this short section, including an aqueduct, lock, lockhouse, railroad lift bridge, warehouse, and boat basin. Williamsport is a “classic ‘canal town’ with strong connections to the canal,” and “serves as a gateway to the Williamsport portion of the . . . Park.”⁷⁴

4.3.1 Rewatering of the Cushwa Basin and Canal

The NPS began a \$1 million restoration project in Williamsport in the early 1990s, led by Superintendent Thomas Hobbs. First suggested in the 1976 General Plan, the goal was to make the Williamsport section of the canal a tourist destination to rival Georgetown and Great Falls.⁷⁵ To start, the NPS acquired a railroad lift bridge from the Potomac Edison Company for \$1 in 1991 that would eventually be restored as part of this project.⁷⁶ A few years later, infill was removed from the Cushwa Basin, stone walls encircling the basin were reconstructed, and the Cushwa Warehouse was stabilized and renovated (Figure 4.6). Work



FIGURE 4.6: Newspaper Image Showing Superintendent Thomas Hobbs During Reconstruction of the Cushwa Turning Basin, 1993 (*The Daily Times*, June 21, 1993, 12)

⁷³ Adams, interview.

⁷⁴ National Park Service, *Chesapeake and Ohio National Historical Park, Williamsport Interpretive Site Plan* (Washington, DC: U.S. Department of the Interior, National Park Service, 2016), 6.

⁷⁵ “Canal project to be completed in one year,” *The Daily Times*, June 21, 1993, 12.

⁷⁶ Andrew Schotz, “Williamsport bridge project gets a lift,” *The Star-Democrat*, December 30, 2007, 7.

continued and a pump station was installed to draw water from the Conococheague Creek into the basin. The remainder of the canal in Williamsport was excavated down to its clay liner. In May 1995 the NPS opened its visitor center in the Cushwa Warehouse.⁷⁷

Meanwhile, the restoration of Lock 44 was underway.⁷⁸ The lock's limestone blocks were photographed and numbered before being removed. Once the lock was stabilized, the stones would be put back in their exact order. It took many years to fully restore the lock, as reports indicate its restoration as ongoing in 1999.⁷⁹ Maryland State Senator Donald F. Munson had helped secure bond bill funding through the Maryland General Assembly for the Lock 44 restoration as well as the railroad lift bridge restoration.⁸⁰ The lift bridge restoration, however, did not start until 16 years following the NPS purchase of the structure in 1991.

The NPS held a ceremony at the lift bridge in September 2007 to recognize its historical significance.⁸¹ The town and the NPS together funded \$60,000 for design specifications for the bridge's restoration. The report relied in part on original drawings of the bridge from New York Central Iron Works, which had been given to State Senator Donald F. Munson by a constituent several years earlier. Following the completion of the report and drawings, engineers prepared a preliminary design for repairing the bridge along with a cost estimate.⁸²

In the summer of 2011, an EA was developed and released for public review. The NPS's preferred alternative involved rewatering approximately 0.25 mile of the canal to extend the 0.5-mile section that already contained water. Visitors would then be able to ride in launch boats through restored canal structures, including the Conococheague Aqueduct, Lock 44, and a lift bridge. The NPS also hoped to restore the old town square near the Cushwa Basin coal storage area, either through a land exchange with the Town of Williamsport or through a Cooperative Agreement. No Federal funds were yet available but it was hoped that advanced planning could aid in receipt of potential Congressional funds allocation.⁸³

A restoration of Lockhouse 44 was completed in 2012 and boat tours began along this section of the canal. Lock 44 was still in the process of being transformed into a working lock. It was hoped that by the end of the year, boats would be able to enter and use the lock.⁸⁴

The park opened two kid-friendly, self-guided hiking trails in Williamsport in 2013 as part of the NPS Track Trails Program.⁸⁵ Later that year, the NPS announced plans to move forward with at least three canal projects that would recreate canal features and enhance the visitor experience in and around Williamsport. The proposed work included raising the lift bridge, which increased the length of ongoing boat rides on the canal from 0.33 miles to 0.45 miles, and allowed boats to pass beneath the lift bridge and enter the Cushwa

⁷⁷ "Visitor center opens in canal warehouse," *The Baltimore Sun*, May 28, 1995, 34.

⁷⁸ "Canal project to be completed in one year."

⁷⁹ Charles W. Mitchell, "R&R on the C&O," *The Baltimore Sun*, June 6, 1999, 188.

⁸⁰ Dave McMillion and Tamela Baker, "Restoration of the Conococheague Aqueduct Took Tenacity: Williamsport groundbreaking" (Annapolis: Maryland Department of Natural Resources, republished with permission from *Herald-Mail Media*, June 21, 2017, accessed March 30, 2020, <https://news.maryland.gov/dnr/2017/06/21/conococheague-aqueduct/>).

⁸¹ "Park service plans C&O upgrade," *The Star-Democrat*, June 16, 2011, 4.

⁸² Schotz, "Williamsport bridge project gets a lift."

⁸³ Dishneau, "Park service proposes C&O Canal upgrades," *The Star-Democrat*, June 14, 2011, 2.

⁸⁴ Sherry Greenfield, "Western Maryland Railroad lift bridge now open to canal boats in Williamsport," *Herald-Mail Media*, July 2, 2016, accessed March 30, 2020, https://www.heraldmillmedia.com/news/local/western-maryland-railroad-lift-bridge-now-open-to-canal-boats/article_a9be4786-40ab-11e6-8663-b3be6c996a2d.html.

⁸⁵ "TRACK Trails for Children," *The Baltimore Sun*, May 19, 2013, R4.

Basin for the first time.⁸⁶ A ceremonial ground-breaking event was held in October 2015 to mark the start of the project to raise the lift bridge.⁸⁷ The following June, the \$285,000 project was completed (Figure 4.7).⁸⁸ Eventually, by raising the bridge and repairing the Conococheague Aqueduct, the boat rides would be increased by 0.25 miles.⁸⁹



FIGURE 4.7: Western Maryland Railroad Lift Bridge at Williamsport

As the park added new attractions to the Williamsport section of the canal, the annual number of visitors to the Williamsport section increased from 159,444 to 433,484 between 2005 and 2016.⁹⁰

4.3.2 Rebuilding the Conococheague Aqueduct

The Conococheague Aqueduct was stabilized in 2000, holding the structure in place until it could be restored.⁹¹ James G. McCleaf II, Williamsport's mayor from 2005 to 2017, wanted to see the aqueduct restored, and although the restoration project received some funding early on, money was diverted to repair the Big Slackwater section of the canal. In 2015, Maryland Governor Larry Hogan announced \$14.9 million for 63 grants from the Maryland Department of Transportation for bicycle, pedestrian, and multi-use trails. Almost half of that amount, approximately \$6.24 million, was directed to the NPS to fund the restoration of the Conococheague Aqueduct, the final major element in restoring full canal boat operations in Williamsport.⁹² Additional funding sources included \$3.1 million in NPS recreation fees, \$722,904 from the

⁸⁶ Dave McMillion, "Old ways of life on C&O coming back," *The Star-Democrat*, December 23, 2013, 6.

⁸⁷ "Event marks progress on C&O Canal at Williamsport," *The Baltimore Sun*, October 17, 2015, A3.

⁸⁸ Greenfield.

⁸⁹ Helwig, interview.

⁹⁰ McMillion and Baker, "Restoration of the Conococheague Aqueduct Took Tenacity: Williamsport groundbreaking."

⁹¹ Spencer, "From Ruin to Restoration: The Conococheague Aqueduct," *Along the Towpath* (C&O Canal Association) LI no. 2 (June 2019), 6.

⁹² "Hogan: \$14.9M in grants for trail projects," *The Daily Times*, October 1, 2015, A8.

Maryland Bikeways Grant, and other minor donations.⁹³ It was announced in early 2016 that the NPS would provide \$1.3 million to help restore the aqueduct; these Federal funds were matched with nearly \$7.6 million from the State of Maryland.⁹⁴ The ground-breaking ceremony took place on May 5, 2017.⁹⁵

Corman Construction, Inc. of Annapolis Junction was awarded the restoration project in June 2017.⁹⁶ The stated purpose of the project was to “rehabilitate the Conococheague Aqueduct to a functioning, sustainable condition using a combination of historic and modern materials and methods.”⁹⁷ Visitors were directed to take a 1.1-mile detour around the aqueduct between mile markers 99.75 and 99.60 throughout the duration of the project.⁹⁸

Starting in September 2017, a dive team was sent into the Conococheague Creek to prepare to lift the stones from the aqueduct out of the water. Once the stones were removed, coffer dams were built at the base of the aqueduct’s three 60-foot spans.⁹⁹ In 2017 and 2018, the contractor stabilized the two piers and two abutments by adding stainless steel rebar reinforcement covered with concrete. This was tied into the surrounding bedrock to protect the aqueduct from scouring caused by the creek. Although most of the coping stones (flat stones along the top of the downstream towpath wall) were replaced with new stones in 2018, as many of the original stones as possible were salvaged and reused. Completed in April 2019, concrete was used to form the walls and bottom of the aqueduct for its entire length, forming essentially a U shape in cross section. The concrete only reached half the height of the masonry towpath parapet but formed the entire berm side wall, which was missing. The historic masonry of the entire structure was repointed where necessary. On the collapsed berm side, the piers and trunk of the aqueduct were stabilized and repointed. There was minimal rebuilding of the berm side because the damaged appearance was retained. The towpath side of the aqueduct’s prism was also reinforced with stainless steel, and the concrete stamped to resemble stone. An additive was added to the concrete mixture to make the concrete more watertight. A bond breaker was placed between the historic stone wall and the modern concrete wall to protect the historic wall. Metal railings were installed along the towpath parapet wall, and the berm side wall was installed. The latter wall was made of waterproof concrete stamped and stained to resemble the wood surface of the 1920s repairs.¹⁰⁰ A canal section approximately 450 feet long at the northern end of the aqueduct was reconditioned, which involved the installation of a synthetic liner on the bottom. This allowed boats to turn around after crossing the aqueduct so they could cross back over. As more stones were pulled from the creek than could be used in the restoration, the remaining stones were buried northeast of the aqueduct in the event the NPS wanted to reconstruct the original stone wall along the aqueduct.¹⁰¹ At the southern end of the aqueduct, the prism was lined with clay and a small dam was installed below the water surface to maintain minimal water levels in the basin. The aqueduct and upstream prism are drained during the winter, and this dam maintains a water level sufficient to not cause fish kills and to freeze at the surface in the Cushwa Basin for ice skating. The air compressor building was relocated further from the aqueduct and closer to the comfort station and picnic area to open the viewshed from the

⁹³ McMillion and Baker.

⁹⁴ “Feds award \$1.3M toward C&O Canal restoration,” *The Baltimore Sun*, February 9, 2016, A3.

⁹⁵ McMillion and Baker.

⁹⁶ Spencer, 6-8; Dave McMillion, “Divers take to the Conococheague Creek as Aqueduct restoration gets underway,” *Herald-Mail Media*, November 11, 2017, accessed March 30, 2020, https://www.heraldmillmedia.com/news/local/divers-take-to-the-conococheague-creek-as-aqueduct-restoration-gets/article_09d908e4-c71b-11e7-9eca-17585b96e326.html.

⁹⁷ Spencer, 6.

⁹⁸ Tamela Baker, “Towpath detour planned for Conococheague Aqueduct project,” *Herald-Mail Media*, June 30, 2017, accessed March 30, 2020, at https://www.heraldmillmedia.com/news/local/towpath-detour-planned-for-conococheague-aqueduct-project/article_a5aabf3c-f15f-5dd2-9bcd-e26bb9268c0e.html.

⁹⁹ McMillion, “Divers take to the Conococheague Creek as Aqueduct restoration gets underway.”

¹⁰⁰ Spencer, 6-8.

¹⁰¹ McMillion, “Divers take to the Conococheague Creek as Aqueduct restoration gets underway.”

parking lot to the aqueduct. Following the project, the canal crossing at the aqueduct was removed, and a new temporary crossing was built at the railroad lift bridge.¹⁰²

The project took two years and \$10.2 million to complete. A ribbon-cutting event celebrating the opening of the aqueduct was held on August 8, 2019.¹⁰³

4.3.3 2016 C&O Canal National Historical Park Williamsport Interpretive Site Plan

Operations in Williamsport emerged as an interpretation and educational programming priority during the development of the 2010 LRIP and remained so in the 2013 Foundation Document. Following the publication of the Williamsport EA in 2012, an interpretive development plan for Williamsport was cited as a priority in the 2013 Foundation Document. The park completed this plan in 2016 as efforts to restore the Conococheague Aqueduct were beginning.¹⁰⁴ In anticipation of the restored aqueduct and new launch boat programming in Williamsport, an interpretive site plan would serve as a guide for developing new programming around these new visitor experiences.

Park and regional staff, partners, stakeholders, historians, HFC staff, and Mather Training Center (MTC) specialists designed the site plan to assist the park in creating a compelling interpretive program for visitors. The plan intended to help shape the development of programs and facilities needed to support the visitor experience as the Williamsport section of the canal was restored to its 1920-1924 appearance and to guide park staff and partners as they implemented changes to its interpretive program. It outlined cost-effective recommendations to guide the planning and delivery of the park visitor experience and to assist with resource preservation and stewardship. The plan provided recommendations for interpretive facilities, personal services, media, and partnerships that assisted with the delivery of the interpretive program. The plan listed interpretive facilities, including the Cushwa Warehouse, Bollman Bridge, and Lock 44, as well as a list of non-extant structures that require interpretation, which included the ice house, the Steffey & Findlay Warehouse, and the Darby Mill.¹⁰⁵

The Town of Williamsport actively participated in and supported the CTP program by promoting self-guided tours along the canal and in town as well as promoting overnight lodging and dining experiences. Around 2016 the town intended to restore a tenant house at their museum property and build a new town visitor center near the Cushwa Warehouse; however, a new visitor center has not been built as of the writing of this report.

The Williamsport Interpretive Site Plan (2016) follows the same six interpretive themes established in the 2010 LRIP placed under the context of Williamsport in the early 1920s. Interpretive concepts identified in the plan to highlight at Williamsport included canal construction and operation, the people of Williamsport, Williamsport as a transportation hub, canal workers in the town, other Williamsport industries in the 1920s, the B&O Railroad, biological diversity, the unique location at the confluence of the Potomac River and Conococheague Creek, and recreation.¹⁰⁶

¹⁰² Spencer, 7-8.

¹⁰³ Stephanie Duprey, "Williamsport celebrates the completed Conococheague Aqueduct," WDVM, August 8, 2019, accessed March 30, 2020, <https://www.localdvm.com/news/maryland/williamsport-celebrates-the-completed-conococheague-aqueduct/>.

¹⁰⁴ NPS, Strategic Plan 2019-2023, 43; NPS, Chesapeake & Ohio Canal National Historical Park, Williamsport Interpretive Site Plan (Washington, DC: U.S. Department of the Interior, National Park Service, 2016).

¹⁰⁵ NPS, Williamsport Interpretive Site Plan, 5-6, 25-28.

¹⁰⁶ NPS, Williamsport Interpretive Site Plan, 12-17.

The overall interpretive goals for programming at Williamsport, as established in 2016, were to provide a safe, enjoyable, and meaningful experience for visitors, ensure accessibility for all visitors and staff, easily identify activities available in the area, and adhere to annual park budgets and work plans.

The following items have since been implemented in accordance with the interpretive plan:

- Assessment of the Trolley Barn for future rehabilitation needed prior to the creation of new exhibits; funding pursued from Great American Outdoors Act for rehabilitation
- Revised social media strategy; updated in 2021
- Transition to NPS application, which replaced OnCell in 2021
- Furnishing of Lockhouse 44 with period pieces for school programming and public tours; 2015-2017
- Lifted railroad lift bridge and expanded launch boat programs from the Cushwa Basin to Lock 44; 2016
- Restored Conococheague Aqueduct with associated infrastructure projects and implemented launch boat programs across aqueduct; 2019-2020 cessation because of COVID-19 pandemic

The following items from the interpretive plan have not yet been implemented; however, the development and restoration of the Williamsport area is ongoing.

- Williamsport wayfinding plan
- Installation of bike racks and drinking water access at visitor support facilities
- Remove parking lot at Cushwa Basin to restore historic setting
- Conduct physical accessibility assessment of site for future restoration and rehabilitation
- Revise Williamsport site bulletin to reflect 1920-1924 appearance as an outdoor living history museum
- Restoration of Trolley Barn using completed assessment
- Assessment and restoration of Cushwa Warehouse
- Assessment and restoration of Cushwa Basin, Coal Yard, and surviving railroad lines
- Educational programming, including living history program and curriculum-based education
- Williamsport training program

Ultimately, the park decided to establish Williamsport as the new location for park headquarters, an ongoing effort highlighted in the 2019-2023 Strategic Plan that only bolsters the interpretive potential at Williamsport as a central location of park operations.¹⁰⁷

4.3.4 New Park Headquarters

On May 1, 2021, the park relocated its headquarters from a leased office space in Hagerstown to the former Miller Lumber property in Williamsport. The purposes of the relocation were to consolidate park staff to improve collaboration and move the offices closer to the park. Previously, offices were approximately 10 miles from the closest area of the park, park staff were located in several buildings throughout the park, and the Hagerstown lease expires in 2022.¹⁰⁸

Understanding the importance of the Williamsport area to the park, former Superintendent Brandt and Williamsport Town Manager Donnie Stottlemeyer began discussing possible options to relocate the park

¹⁰⁷ NPS, *Strategic Plan 2019-2023*, 10.

¹⁰⁸ NPS, *Relocation of Park Headquarters, Chesapeake & Ohio Canal National Historical Park* (Hagerstown, MD to Williamsport, MD), Environmental Assessment (Washington, DC: U.S. Department of the Interior, National Park Service, July 2019), 1.

headquarters to Williamsport. Upon closure of the Miller Lumber business, located adjacent to the Cushwa Basin, the park and town worked with MEDCO and Washington County to acquire the tract. On September 26, 2018, the NPS and MEDCO, with the support of Washington County, Maryland, entered into a CMA. As outlined in the CMA, MEDCO would be responsible for putting together a financial package and building the structures on the county-owned Miller Lumber property. The CMA allowed the NPS to make base use payments for the use of the facilities in quarterly installments. Over the life of the CMA, these installments would equal the annual debt service on the MEDCO financing for construction. The NPS was responsible for furnishing the building's interior.¹⁰⁹

A July 2019 EA for the headquarters relocation named two alternatives: a no-action alternative and the preferred-action alternative involving the relocation of the headquarters to a new site.¹¹⁰ The new site contained several historic buildings. Miller Lumber's workshop and store included a stone house built in the 1790s, wood storefront structures built in the early twentieth century, a frame planing mill built in the 1920s, and a large metal building built in the 1970s. Also on the property were two nineteenth-century houses, the Cline House and the Malott House, and wood storage sheds. The proposed alternative involved the removal of some of these structures and the stabilization of others for the purpose of adaptive reuse.¹¹¹ Structures removed included the planing mill, wooden sheds, metal warehouse, Malott House, and a cinder-block garage behind the Cline House. The storefront buildings and the Cline House were planned to be stabilized.¹¹² A new, two-story, 20,500-square-foot building to house the new office space was constructed to the rear of the historic storefront structures (Figure 4.8). Its orientation and placement were intended to be consistent with the former planing mill and wooden sheds. The building would contain office space for permanent and seasonal park staff, interns, and the C&O Canal Trust, as well as public meeting space. The surrounding property would be landscaped with trees, pavers, and landscape furniture.¹¹³

The ceremonial ground-breaking for the new park headquarters was held immediately following the ribbon-cutting event at the Conococheague Aqueduct on August 8, 2019. The Malott House and its attached metal shed, planing mill, wooden sheds, and metal warehouse were demolished in March 2020. The cinder-block garage behind the Cline House was also removed around that time.

Washington County owned the land and leased it to MEDCO through a 45-year ground lease. Now that construction is complete, any remaining buildings on the site and within the CMA will be operated by MEDCO and the NPS for the life of the CMA. Upon the expiration of the CMA, the NPS will evaluate whether the facilities and county land directly associated with the headquarters can be donated to the NPS.¹¹⁴

4.4 2019-2023 STRATEGIC PLAN

Among several important park planning documents, including the 1976 General Plan, the 2013 Foundation Document, and the 2017 Resource Stewardship Strategy, the C&O Canal NHP Strategic Plan 2019-2023 set out to incorporate decades of gained knowledge to guide park managers faced with reduced budgets and staffing. Developed under Superintendent Brandt and implemented by current Superintendent Cappetta, the Strategic Plan identified a five-year operational work plan in consideration of advancing technology, newly restored resources, and environmental threats such as flooding. The overall purpose of the Strategic

¹⁰⁹ NPS, Relocation of Park Headquarters, 1.

¹¹⁰ NPS, Relocation of Park Headquarters, 4.

¹¹¹ NPS, Relocation of Park Headquarters, 2.

¹¹² NPS, Relocation of Park Headquarters, 5.

¹¹³ NPS, Relocation of Park Headquarters, 4-6.

¹¹⁴ NPS, Relocation of Park Headquarters, 4.

Plan was to identify the highest priority goals, strategies, and actions to streamline park management practices and operations.

The Strategic Plan expressed a refreshed focus on creating and sustaining an enhanced visitor experience with access to a continuous towpath and functional canal in a historic setting.¹¹⁵ Effective use of funding, working with partners, volunteers, and visitors, and preparedness for disaster response in the park are highlighted as the most important factors in achieving that principal goal. Specific strategies and actions are outlined in the plan to put the goals into operation and act as measurable benchmarks.



FIGURE 4.8: New C&O Canal NHP Headquarters Building, Williamsport, Maryland (Turner Photography Studio 2021)

One principal strategy is the stabilization of cultural resources to prevent further deterioration so that future restorations can take place. This strategy was first implemented at the C&O Canal by Superintendent Faris following the 1996 floods when the concept of sustainability governed many of the decisions around reconstruction and restoration of damaged resources. Steps were taken at the time to stabilize Lock 33 at Harpers Ferry by filling the lock in for protection until it could be restored in the future. In a similar way, the restored Monocacy, Catoctin, and Conococheague aqueducts represent a version of this sustainable practice: all were considered viable restoration projects in the late 1990s and 2000s because they had been previously stabilized decades before. There was not, however, an expressed intent at the time of their stabilization to do so for their future restoration.

Georgetown, Great Falls, and Williamsport are highlighted in the plan as the three interpretive focus areas in the park. These three areas are considered major opportunities for historic restoration at a functioning canal in a historic setting and therefore an optimal visitor experience. Factors such as accessibility options, availability of parkland, and the compatibility of the surrounding area make these three locations the most complementary to park interpretive goals. The Strategic Plan recommends that strategic facility and visitor experience and use plans be developed and implemented at each location. These plans should center on creating “inspirational opportunities,” maintaining a continuous towpath, and developing and supporting canal boat experiences.¹¹⁶ Since 2019, the development of Georgetown has dramatically progressed with the Georgetown Canal Plan and addresses many of the goals laid out in the Strategic Plan for the Georgetown Interpretive Zone (see Section 4.5).

Throughout its history, the park has leveraged formal and informal partnerships to accomplish projects and programs. With diminished in-house capacity, the park continues to rely heavily on these partnerships. As outlined in the Strategic Plan, the park intends to focus the park’s Canal Classrooms Program in

¹¹⁵ NPS, Strategic Plan 2019-2023, 1.

¹¹⁶ NPS, Strategic Plan 2019-2023, 7-10.

Williamsport with the help of partner programming, collaborate with Philanthropic Partners to achieve shared priorities, assess volunteer programs to ensure alignment with park goals, and work with public and local and State jurisdictions to meet aligned goals. The renewal of the three formal park partnerships in 2019 and 2020 (the C&O Canal Trust now based in Williamsport, Georgetown Heritage, and Friends of Historic Great Falls Tavern) places a philanthropic organization dedicated to the park in each of the three interpretive zones.

As of November 2021, the park has implemented the following action items in addition to those mentioned above.

- Developed a comprehensive approach to flood emergency preparation and post-flood assessment
- Completed the establishment of an effective and identifiable C&O Canal Headquarters in Williamsport in cooperation with the Town of Williamsport and the State of Maryland
- Focused the park’s curriculum-based education program in Williamsport using distance learning
- Developed sustainable support to provide canal boat experiences in Georgetown
- Developed and implemented relevant interpretive content using contemporary technology and techniques

As the implementation of the Strategic Plan is ongoing, the following items, in addition to those mentioned in the narrative above, are planned for the near future.

- Develop and implement a comprehensive plan to maintain towpath continuity and ensure safe conditions
- Develop and implement a plan for the long-term stabilization of the cultural resources outside the three interpretive zones and not required for towpath continuity
- Develop and implement a resource management plan that prioritizes critical natural areas and species of special concern
- Inventory and map the park’s boundary
- Improve the gateway experience at park access points.

4.5 GEORGETOWN CANAL PLAN

In partnership with Georgetown Heritage, the District Office of Planning, and the Georgetown Business Improvement District, the NPS plans to revitalize a one-mile section of the canal in Georgetown, extending from Mile Marker 0 to the Alexandria Aqueduct, and a 0.33-mile section of the Rock Creek and Potomac Parkway between the canal and the Potomac River, which ends at the Tide Lock.¹¹⁷ The Georgetown Canal Plan focuses on addressing deferred maintenance issues and related safety and accessibility concerns associated with the towpath, the improvement of connections between the towpath and Georgetown, the enhancement of the visitor experience, and the optimization of underused areas. The plan was intended to guide short-term, long-term, and ongoing maintenance as well as future rehabilitation along this particular area of the canal.

Like many park planning projects, the main challenge in executing the Georgetown Canal Plan is balancing the desired improvements to park visitor functions and programming with preservation of the historic character and cultural significance of the C&O Canal NHP and adjacent Georgetown Historic District. In developing the plan, the partners therefore recognized that different sections of the Georgetown portion

¹¹⁷ “C&O Canal National Historical Park–Georgetown Canal Plan” (Washington, DC: PEPC Planning, Environment & Public Comment, National Park Service, accessed October 2020, <https://parkplanning.nps.gov/projectHome.cfm?projectId=70176>).

of the canal merited different levels of intervention or treatment.¹¹⁸ For example, aqueducts, bridges, the towpath, and locks generally require a greater level of preservation. These types of planning decisions were guided by the CLI that was completed in 2018 and the park's knowledge of the canal's historically and culturally significant features.

Initial stages of planning began around 2010 with a community planning effort for the entirety of Georgetown, eventually leading to the formation of Georgetown Heritage in 2014. Over the next several years, consultation with stakeholders, SHPO, and other authorized agencies, in addition to the public release of an EA, culminated in the approval of the Georgetown Canal Plan design by the NPS in March 2020.

The NPS initiated consultation on the project with the DC SHPO on May 25, 2017, the Virginia Department of Historic Resources (DHR) on October 9, 2017, and the Advisory Council on Historic Preservation on May 25, 2017. Under Public Law 231-71, the U.S. Commission of Fine Arts (CFA) has authority over the design of government projects in the National Capital and regulates the height, exterior design, and construction of buildings in certain areas. Given the location in the Old Georgetown Historic District, the project is also subject to review by the Old Georgetown Board (OGB). The CFA and OGB were included as Consulting Parties in the Section 106 process pursuant to 36 CFR 800. The NPS became the lead Federal agency fulfilling the collective consulting responsibilities with the National Capital Planning Commission (NCPC), which was a Signatory in the Section 106 process given its authority to approve Federal projects located within the District of Columbia.¹¹⁹

The DC SHPO issued a letter on April 24, 2019, suggesting that the project should limit intrusions into or over the canal prism, avoid paving the towpath, and consider adverse effects to the Wisconsin Avenue Cutout. Options for the level of intervention were proposed at five key development locations: Mile Marker 0, Rock Creek Confluence, the Locks, Market Plaza, and the Alexandria Aqueduct (Figure 4.9). Option A at each location offered minimal changes to the area, and Option B offered more significant interventions. In the April 2019 letter, the SHPO provided recommendations for three of the locations: Option B at Mile Marker 0, Option A at Market Plaza, and Option A at the Aqueduct.¹²⁰

The NCPC held a public meeting to review the plan concept on June 6, 2019. OGB reviewed the plan on July 3, 2019, and the CFA reviewed the plan on July 18, 2019. The DHR determined that the project would have No Adverse Effect on historic properties in Virginia, as stated in a letter dated October 29, 2019. Potential impacts to D.C. historic properties, including the canal and the Georgetown Historic District, would yet need to be taken into account under the NEPA and Section 106 processes.

As described in an EA, published October 16, 2019, as part of the NPS's NEPA compliance, the NPS selected their preferred alternative because it would result in fewer resource impacts while meeting the project purpose and need. As described above, the concept designs to be implemented were selected through extensive public involvement and consultation with agencies and stakeholders in an attempt to develop the plan in a way that would be beneficial to all those using the project area while preserving the integrity, historic character, and cultural significance of the canal and Georgetown Historic District. Mitigation measures to be implemented by the NPS to avoid or minimize impacts include providing and marking detour routes or phasing construction to maintain access and limiting construction to the daytime.

¹¹⁸ National Capital Planning Commission, "Executive Director's Recommendation, NCPC File No. 8078" (Washington, DC, NCP Commission Meeting, June 6, 2019), 8.

¹¹⁹ NPS, Programmatic Agreement, Georgetown Canal Plan, 2020, 2-4.

¹²⁰ National Capital Planning Commission, "Executive Director's Recommendation, NCPC File No. 8078, 2.



FIGURE 4.9: Page from Georgetown Canal Plan Showing Five Key Development Locations Along the Canal (US Department of the Interior, National Capital Planning Commission)

A FONSI was signed in February 2020 for the selected alternative (see the EA for detailed description of alternative). The following design concepts are included in the selected alternative.¹²¹

- Towpath and Pathway Enhancements
- Riparian Planting and Stream Bank Restoration
- Increased Interpretive and Education Opportunities
- Additional Park Amenities for Visitors

Although the selected alternative could potentially have both adverse and beneficial impacts on visitor use and experience, cultural landscapes, historic structures and districts, and archeological resources, the NPS determined that it could be implemented without significant adverse effects, although adverse effects nonetheless. Prior to implementing any design concept, the NPS will consult the DC SHPO and other consulting parties in the Programmatic Agreement described below to avoid, minimize, or mitigate adverse effects to cultural landscapes, historic districts, and historic properties.¹²²

As stipulated in a 2020 Programmatic Agreement among the NPS, DC SHPO, and the NCPC, specific components of the plan are to be developed and carried out in phases, and implemented, designed, and constructed over an approximately eight-year period. The phases are subject to Federal appropriations and identified project priorities.¹²³ Actions planned for the entire 1-mile section of the park include canal

¹²¹ NPS, *Finding of No Significant Impact: Georgetown Canal Plan, Washington, District of Columbia* (Washington, DC: U.S. Department of the Interior, National Park Service, February 2020).

¹²² NPS, *Finding of No Significant Impact: Georgetown Canal Plan*.

¹²³ NPS, Programmatic Agreement Among the National Park Service, The District of Columbia State Historic Preservation Office, and National Capital Planning Commission Regarding the Georgetown Canal Plan in Washington, D.C. (Washington, DC: U.S. Department of the Interior, National Park Service, February 3, 2020).

infrastructure repairs and rehabilitation, riparian planting and stream bank restoration, towpath and pathway enhancements, and interpretive and wayfinding signage. Specific actions are planned for pedestrian bridges, new parking lots, green space and seating areas, additional boating facilities, sculpture garden, restrooms, bike racks, new visitor and education center, and accessible infrastructure.¹²⁴ The design of each phase will undergo individual Section 106 review and consultation, and the phased identification and evaluation of archeological resources will occur in accordance with the Georgetown Canal Plan Phase IA Archeological Assessment Report (December 2019).¹²⁵

The Programmatic Agreement clearly states that the NPS wants to expand opportunities for interpretation, education, and cultural programming in Georgetown; however, the park has limited facilities and amenities to provide visitors with the level of comfort expected when participating in such activities, such as available seating, drinking fountains, and restrooms. The agreement reveals the potential in underused plazas along the canal that could be developed to provide those amenities.¹²⁶ To date, the Georgetown Canal Plan has not been implemented by the park given some concerns regarding its potential effects to resources despite the FONSI.¹²⁷

¹²⁴ NPS, *Georgetown Canal Plan Environmental Assessment* (Washington, DC: U.S. Department of the Interior, National Park Service, October 2019).

¹²⁵ NPS, Programmatic Agreement, Georgetown Canal Plan, 2020, 6.

¹²⁶ NPS, Programmatic Agreement, Georgetown Canal Plan, 2020, 2.

¹²⁷ Tina Cappetta, Interview.

5.0 CONCLUSION

The C&O Canal NHP preserves a historic canal which extends 184.5 miles along the Potomac River, preserving not only a canal but its scenic natural surroundings and the history of people who have lived there since pre-contact times. As one of the 20 most visited units in the national park system, the NPS works to balance accommodating approximately 5 million visitors each year while preserving the natural and historic environment.

The C&O Canal National Historical Park General Plan was approved in January 1976. It defined the park's management objectives and divided the park into 32 sections, each assigned to one of five zones: Zone A (the National Interpretive Zone), Zone B (Cultural Interpretive Zone), Zone C (Short-Term Recreation Zone), Zone D (Short-Term Remote Zone), and Zone E (Long-Term Remote Zone). By the end of 1977, the NPS had spent the \$20.4 million authorized for land acquisition in the 1971 bill and acquired most of the lands and interests that it had planned to acquire under the act. A total of 12,640 acres were held in fee, and scenic easements were held on another 1,164 acres, totaling 13,804 acres. By the end of 1990, the park included 19,237 acres.

From 1991 to the present, the park's mission has remained constant. Beginning in 1991, the park expanded on the management objectives from 1976 to focus on the preservation of historic resources. Several improvements have been made to the park since 1991, such as the dredging and rewatering of dry sections of the canal in Brunswick, Hancock, and Williamsport. Additional changes came with the development of a Foundation Document in 2013, which placed an increased value on the distinctive features of the park that best represent its overall significance and efforts to improve interpretation and educational programming available to visitors. Some of these changes include the establishment of Georgetown Heritage, significant investments by park partners, and implementation of award-winning park educational and volunteer programs, like the Canal Quarters Program and Canal Classrooms.

Despite the burden of maintaining over 1,300 historic resources as well as the ongoing threat of climate change, the park's focus on cultural resources throughout its history has resulted in a parkwide archeological study and the listing of 341 contributing resources to the 1979 Canal NRHP listings, all within the last 30 years. Listing these resources and providing for their protection involved years of research to produce HABS/HAER documentation of threatened buildings, numerous HSRs to guide the restoration and rehabilitation of the nineteenth-century canal structures, and EAs evaluating the potential adverse impacts to resources and strategies to avoid or minimize those results.

Although the cultural resources at C&O Canal NHP have consistently been at the forefront of management practices in the last 30 years, natural resource management became a more pressing park objective around 2000 with the establishment of the NPS I&M Program. The implementation of studies and monitoring programs drove the development of new interpretation and exhibits for visitors and protection for the diverse natural features of the park. Natural resource management continues to be a priority in the implementation of the 2019-2023 Strategic Plan.

The superintendent reported an increasing budget and staff prior to 2010, which contributed to the completion or partial completion of several major park projects in line with the park vision and management objectives. These projects included improvements in park interpretation and educational programs, the completion of Canal Place in Cumberland, the rebuilding and rewatering of portions of the canal in Cumberland, and restoration of the Catoctin, Monocacy, and Conococheague aqueducts. As a result of these improvements, visitor numbers grew and the significant cultural resources of the park were enhanced.

The administrative challenge that has resonated most since 2010 is the rising operational costs paired with a budget plateau which has resulted in a net reduction of staff. This administrative issue has put stress on

park staff and resources, particularly in the current economic climate. An increase in visitors and budget attrition, in addition to cuts from the 2013 sequester, has made funding a much more limiting factor. Along with staff reductions and vacancies, the result is more work for staff and less money for building maintenance and repair and special programs. The physical infrastructure of the park is also threatened by encroachment and growing environmental challenges.

Facing these challenges and rooted in its legacy as a nineteenth-century operational canal and ambitious engineering feat, the C&O Canal NHP continues its mission of offering valued recreational opportunities while preserving, protecting, and interpreting its diverse array of natural and cultural resources.

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APPENDIX A: LIST OF ACRONYMS

ADA	Americans with Disabilities Act of 1990
AIP	Annual Implementation Plans
ARPA	Archaeological Resources Protection Act of 1979
ARRA	American Recovery and Reinvestment Act
ASCE	American Society of Civil Engineers
B&O	Baltimore & Ohio
BPR	Bureau of Public Roads
BRMD	Biological Resource Management Division
C&O	Chesapeake & Ohio
CA	Cooperative Agreement
CBCMA	Cushwa Basin Cooperative Management Area
CCC	Civilian Conservation Corps
CEQ	Council of Environmental Quality
CFA	Commission of Fine Arts
CIP	Comprehensive Interpretive Planning
CLI	Cultural Landscapes Inventory
CLR	Cultural Landscape Reports
CMA	Cooperative Management Agreement
CPPDA	Canal Place Preservation and Development Authority
CRGIS	Cultural Resources Geographic Information Systems
CTP	Canal Towns Partnership
[V]DHR	[Virginia] Department of Historic Resources
DNR	Department of Natural Resources
EA	Environmental Assessment
EIV	Education, Interpretation, and Volunteers
EMS	Emergency medical services
EMT	Emergency Medical Technicians
FAC	Federal Advisory Commission
FMSS	Facility Management Software System
FMU	Fire management unit
FONSI	Finding of No Significant Impact
FTE	Full-Time Employees
GAO	Government Accountability Office
GHG	Greenhouse gas
GIS	Geographic information systems
GSA	General Services Administration
HABS	Historic American Buildings Survey
HAER	Historic American Engineering Record
HALS	Historic American Landscapes Survey
HCMA	Hancock Cooperative Management Area
HDP	Heritage Documentation Programs
HFC	Harpers Ferry Center
HPTC	Historic Preservation Training Center
HRS	Historic Resource Study
HSR	Historic Structures Report
I&M	Inventory and Monitoring
ICS	Incident Command System

ID	Interpretive Database
IEV	Interpretation, Education and Volunteers
IRMA	Integrated Resource Management Application
LCA	Land and Community Associates
LCS	List of Classified Structures
LPP	Land Protection Plan
LRIP	Long-Range Interpretive Plan
MEDCO	Maryland Economic Development Corporation
MTC	Mather Training Center
NCA	National Capital Area
NCPC	National Capital Planning Commission
NCR	National Capital Region (now NCA)
NEF	National Environmental Education Foundation
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NHP	National Historical Park
NPS	National Park Service
NRHP	National Register of Historic Places
OGB	Old Georgetown Board
PMIS	Project Management Information System
RSS	Resource Stewardship Strategy
RTE	Rare, threatened, and endangered
SCP	Site conservation planning
SHPO	State Historic Preservation Office
SOI	Secretary of the Interior
SOP	Standard operating procedure
TAP	Transportation Alternatives Program
TNC	The Nature Conservancy
USACE	US Army Corps of Engineers
USFWS	US Fish and Wildlife Service
VAP	Volunteer Program Action Plan
VIP	Volunteers-in-Parks
VRP	Visitor and Resource Protection
WBFC	Washington Biologists' Field Club, Inc.
WCC	Washington Canoe Club
WCMA	Williamsport Cooperative Management Area
WRAP	Wetland Restoration Action Plan
WSSC	Washington Suburban Sanitary Commission

APPENDIX B: CHRONOLOGY, 1938-2021

CHRONOLOGY, 1991-2021

- 1938** First CCC Camp opened, prior to the sale of the Canal. Federal Project 712 involved the rehabilitation of the canal and recreational areas between Georgetown, Washington, D.C. and Seneca Creek in Montgomery County, Maryland.
Federal government purchased C&O Canal Company and handed management of the Canal to NPS.
- 1941** Lower rewatered 22 miles of the Canal administratively designated as the Chesapeake and Ohio Canal Recreational Waterway.
Canal Clipper began operation between Georgetown and Lock 5 – the first living history program under the auspices of the NPS.
CCC programs ended at start of WWII.
- 1942** Major flooding destroyed Canal restoration work completed in 1939-1940.
- 1946** Bill passed to legitimize future appropriations for the C&O Canal.
- 1948** Public Law 618 authorized the Secretary of the Interior, for a sum of \$40,000, to make a joint reconnaissance survey between the Public Roads Administration and NPS of the C&O Canal between Great Falls, MD and Cumberland, MD to determine the feasibility of constructing a parkway along the route.
- 1950** Public Law 811 authorized the Secretary of the Interior to accept land donations as additions to the parkway lands along the C&O Canal in Maryland.
- 1953** Public Law 184 authorized the Secretary of the Interior to grant easements for rights-of-way through, over, and under C&O parkway land as well as to exchange lands with other federal departments and agencies for the protection of Federal interests.
- 1954** NPS Director, Conrad Wirth, appoints a committee to restudy the development of the Canal from Great Falls to Cumberland.
C&O Canal Association established.
- 1956** Canal parkway plan abandoned for the national historical park proposal and divided the canal into two administrative sections.
- 1957** Edwin M Dale appointed superintendent of the C&O Canal NHP Project establishing headquarters in Hagerstown.
- 1958** NPS completes repairs along entire Canal by 1957 and reopens towpath (without detours) to visitors in September 1958.
- 1961** Under the American Antiquities Act of 1906, President Dwight D. Eisenhower proclaimed the C&O Canal lands between Seneca and Cumberland a National Monument (Presidential Proclamation 3391, *Establishing the Chesapeake and Ohio Canal National Monument, Maryland*).
- 1964** Master Plan approved.
- 1966** W. Dean McClanahan appointed superintendent of the C&O Canal National Monument. Administration of the National Monument section of the park transferred to the National Capital Region of the National Park Service.

- 1967** C&O National Monument combined with Antietam National Battlefield Site under the name Antietam-C&O Canal Group.
Headquarters moved to Antietam Visitor Center.
- 1971** Public Law 91-664, the *Chesapeake and Ohio Canal Development Act*, established the C&O Canal National Historical Park. This law also established the Chesapeake and Ohio Canal National Historical Park Commission.
- 1972** Hurricane Agnes causes significant damage to the Canal from Hancock to Georgetown.
- 1973** C&O Canal Restoration Team established.
- 1974** NPS acquired Ferry Hill in Sharpsburg, MD.
Antietam-C&O Canal Group disbanded, and park managed for the first time under one superintendent – William R. Failor.
- 1976** C&O National Historical Park General Plan approved.
- 1977** Under Public Law 95-11, the C&O Canal National Historical Park was dedicated to Justice William O. Douglas and the Secretary of the Interior authorized to erect signage informing as such and a memorial to Justice Douglas.
- 1978** Public Law 95-625, National Parks and Recreation Act, revised the boundaries of the park to include 600 additional acres and authorized another \$8 million for land acquisition.
- 1979** C&O Canal listed on the National Register of Historic Places.
- 1980** Park Headquarters established at Ferry Hill.
Congress authorized NPS to lease Historic properties to private parties.
- 1985** Major flooding caused significant damage in upper portion of the Canal.
- 1986** Under Public Law 99-456, the Cumberland Terminus of the C&O Canal National Historical Park was dedicated to J. Glenn Beall, Sr. and the Secretary of the Interior authorized to erect signage informing as such and a memorial to J. Glenn Beall, Sr.
- 1991** First Administrative History of C&O Canal NHP written.
- 1992** Hancock section of the Canal rewatered.
- 1993** The Canal Place Preservation and Development Authority formed along with the Canal Place Historic Preservation District (the District was redesignated as the Canal Place Heritage Area in 2001).
- 1994** Station Square completed.
- 1995** Visitor Center opened in Cushwa Warehouse.
- 1996** Major floods of 1996.
Volunteer In Parks (VIP) Program begins at C&O Canal NHP.
- 1997** C&O Canal NHP Flood Recovery Plan issued.
- 1998** Monocacy Aqueduct placed on NHP list of the nation's Most Endangered Historic Places.
Eight underground pits discovered during archaeological investigation at Fletcher's Cove.
Historic Leasing Program - NPS authorized under the NHPA of 1966 and the National Parks Omnibus Management Act of 1998 to lease historic buildings and structures.

- 2001** Opens Cumberland Visitor Center and Museum.
- 2002** 9-year archaeological identification and evaluation program initiated at C&O Canal NHP in implementation the NPS's Systemwide Archaeological Inventory Program (SAIP).
Park HQs moved from Ferry Hill to Hagerstown.
- 2003** Land Protection Plan updated.
- 2005** Monocacy Aqueduct restored, dedicated in May.
- 2006** Cumberland re-watering completed.
- 2007** C&O Canal Trust founded.
- 2008** Canal Quarters Pilot Program launched.
- 2009** Canal Towns created.
Canal Pride created.
- 2010** C&O Canal NHP Long-Range Interpretive Plan issued.
Agreement between NPS, U.S. Fish and Wildlife Service and the Maryland SHPO signed to govern the construction of eel ladders at C&O Canal NHP dams.
- 2011** Catoctin Aqueduct restored and re-opened October 15.
Big Slackwater Towpath re-opened.
Georgetown canal boat operation abandoned.
- 2013** Foundation Document.
- 2016** C&O National Historical Park Williamsport Interpretive Site Plan developed.
- 2018** NPS entered into a Cooperative Management Agreement with MEDCO for developing a financial package for and construction of a new Park HQ.
- 2019** Conococheague Aqueduct restored and re-opened on August 8.
NPS began relocation process of its HQs from Hagerstown to Williamsport.
2019-2023 Strategic Plan produced.
- 2020** Georgetown Canal Plan approved by NPS.
- 2021** Park Headquarters relocated from Hagerstown to Williamsport (May 1).

APPENDIX C: PRINCIPAL PARK OFFICIALS, 1991 TO 2021

Year	Superintendent	Deputy Superintendent	Chief of Law Enforcement (Visitor and Resources Protection)	Chief of Resources Management (Combined Cultural and Natural in 2002)	Chief of Interpretation (and Education and Partnerships Beginning in 2012)	Chief of Business Management (Created in 2016; Formerly Administrative Officer)	Chief of Maintenance
1991	Thomas O. Hobbs	James D. Young --> Terrie Savering	Mike Mastrangelo --> Keith Whisenant	Lee Struble (Curator) Walter McMann (Resources Manager), Susan Frye (Cultural Resources Manager)	Gordon Gay	Christine Streng	Sam Kenneth May
1992	Thomas O. Hobbs	Terrie Savering	Keith Whisenant	Susan Winter/Trail (Cultural), Patrick Toops (Natural)	Gordon Gay	Christine Streng	Sam Kenneth May
1993	Thomas O. Hobbs	Terrie Savering	Keith Whisenant	Susan Winter/Trail (Cultural), Patrick Toops (Natural)	Gordon Gay	Christine Streng	Sam Kenneth May Sam Kenneth May, Don Foster (Acting Chief) --> Robert Hartman
1994	Thomas O. Hobbs --> Doug Faris	Terrie Savering	Keith Whisenant	Susan Winter/Trail (Cultural), Patrick Toops (Natural)	Gordon Gay	Christine Streng	Robert Hartman
1995	Doug Faris	Terrie Savering	Keith Whisenant	Susan Winter/Trail (Cultural), Patrick Toops (Natural)	Gordon Gay	Christine Streng --> Ken Brodie	Robert Hartman
1996	Doug Faris	Terrie Savering --> Kevin Brandt	Keith Whisenant	Susan Winter/Trail (Cultural), Patrick Toops (Natural)	Gordon Gay	Ken Brodie	Robert Hartman
1997	Doug Faris	Kevin Brandt	Keith Whisenant, Kevin FitzGerald	Doug Stover (Cultural), Patrick Toops (Natural)	Gordon Gay	Ken Brodie	Robert Hartman
1998	Doug Faris	Kevin Brandt	Keith Whisenant	Doug Stover (Cultural), Patrick Toops (Natural)	Debbie Conway	Ken Brodie	Robert Hartman
1999	Doug Faris	Kevin Brandt	Keith Whisenant	Doug Stover (Cultural)	Debbie Conway	Pat Clark	Robert Hartman
2000	Doug Faris	Kevin Brandt	Keith Whisenant	Doug Stover (Cultural)	Debbie Conway	Pat Clark	Robert Hartman
2001	Doug Faris	Kevin Brandt	Keith Whisenant	Vacant	Debbie Conway --> Bill Justice	Pat Clark --> Jeanine Bolden	Robert Hartman
2002	Doug Faris	Kevin Brandt	Keith Whisenant	Tina M. Orcutt (Cappetta)	Bill Justice	Jeanine Bolden	Robert Hartman
2003	Doug Faris --> Kevin Brandt	Kevin Brandt --> Robert Hartman	Rob Danno	Tina M. Orcutt (Cappetta)	Bill Justice	Jeannie L. Denk	Robert Hartman
2004	Kevin Brandt	Robert Hartman	Rob Danno	Tina M. Orcutt (Cappetta), Dianne Ingram (Acting Chief), James Perry (Acting Chief)	Bill Justice	Jeannie L. Denk	Robert Hartman
2005	Kevin Brandt	Robert Hartman	Rob Danno	Vacant	Bill Justice	Jeannie L. Denk	Robert Hartman
2006	Kevin Brandt	Robert Hartman	Ryan Peabody (Acting)	Bill Justice (Acting)	Bill Justice	Jeannie L. Denk	James Bradley Hofe

Year	Superintendent	Deputy Superintendent	Chief of Law Enforcement (Visitor and Resources Protection)	Chief of Resources Management (Combined Cultural and Natural in 2002)	Chief of Interpretation (and Education and Partnerships Beginning in 2012)	Chief of Business Management (Created in 2016; Formerly Administrative Officer)	Chief of Maintenance
2007	Kevin Brandt	Robert Hartman	Bradley Clawson (Acting)	Brian Carlstrom	Bill Justice	Jeannie L. Denk	James Bradley Hofe
2008	Kevin Brandt	Robert Hartman --> Brian Carlstrom	Bradley Clawson	Brian Carlstrom	Bill Justice	Jeannie L. Denk	James Bradley Hofe
2009	Kevin Brandt	Brian Carlstrom	Bradley Clawson	Brian Carlstrom	Bill Justice	Jeannie L. Denk --> Tom Houdershelt (Administrative Technician)	James Bradley Hofe
2010	Kevin Brandt	Brian Carlstrom	Bradley Clawson	Christopher Stubbs	Bill Justice	Tom Houdershelt (Administrative Technician)	Mike Seibert
2011	Kevin Brandt	Brian Carlstrom	Bradley Clawson	Christopher Stubbs	Bill Justice	Connie Huffard	Mike Seibert
2012	Kevin Brandt	Brian Carlstrom	Bradley Clawson	Christopher Stubbs	John Noel	Connie Huffard	Mike Seibert
2013	Kevin Brandt	Brian Carlstrom ->Brad Clawson (Acting)	Bradley Clawson	Christopher Stubbs	John Noel	Connie Huffard	Daniel Copenhaver (Acting) -->John Adams (Acting)
2014	Kevin Brandt	Brad Clawson ng) --> Ed Wenschhof (Acting) --> John Noel	Bradley Clawson	Christopher Stubbs	John Noel	Connie Huffard	Greg Kniesler
2015	Kevin Brandt	John Noel	Ed Wenschhof	Christopher Stubbs --> Jeri DeYoung	Catherine Bragaw	Connie Huffard --> Danny Filer	Greg Kniesler
2016	Kevin Brandt	John Noel	Ed Wenschhof	Jeri DeYoung	Catherine Bragaw	Danny Filer	Greg Kniesler
2017	Kevin Brandt	John Noel	Ed Wenschhof	Jeri DeYoung	Catherine Bragaw	Kristofer Butcher	Greg Kniesler
2018	Kevin Brandt	John Noel	Ed Wenschhof	Jeri DeYoung	Catherine Bragaw	Kristofer Butcher	Greg Kniesler
2019	Kevin Brandt	John Noel	Ed Wenschhof	Jeri DeYoung	Catherine Bragaw	Kristofer Butcher	Greg Kniesler
2020	Tina M. Cappetta	John Noel	Ed Wenschhof	Jeri DeYoung	Christiana Hanson	Ben Helwig	Curtis Rintz (Acting) --> Jim Yelton (Acting)
2021	Tina M. Cappetta	John Noel	Ed Wenschhof	Jeri DeYoung	Christiana Hanson	Ben Helwig	Jim Yelton (Acting)

NOTES:

- Tina Cappetta (nee Orcutt) was the first Resource Chief. Before her, natural and Cultural Resources had branch chiefs and fell under the Chief Ranger.

- Up until a certain point, the Chief Ranger was responsible for Visitor and Resources Protection, Interpretation, and Resources management often called IRRM (with the second R-Recreation). C&O Canal NHP's Chief Ranger Keith Whisenant was the last person to serve as chief of these consolidated functional areas.

Compiled by C&O Canal NHP Curatorial Program Manager Blyth McManus with the help of Mackensie Henn, Tina M. Cappetta, Ed Wenschhof, Robert Hartman, Brian Carlstrom, and Catherine Bragaw.

APPENDIX D: PROJECT MANAGEMENT INFORMATION SYSTEM
(PMIS) PROJECT LIST, 1991 TO 2021

Appendix D supplied upon request to the National Park Service.

APPENDIX E: PLANNING, ENVIRONMENT, AND PUBLIC COMMENT
(PEPC) PROJECT LIST, 1991 TO 2021

PROJECT ID	PROJECT TITLE	COMPLIANCE COMPLETION DATE	DISTRICT	NEPA SIGNED DATE	NHPA ASSESSMENT OF EFFECT	PMIS ID	PROJECT CLOSE DATE
13224	Carderock Siphon Cleaning - Fairfax County	8/31/2005	Palisades	8/31/2005	No Historic Properties Affected	-	11/14/2005
13250	Marlowe-Boonsboro Transmission Line Rebuild	9/15/2005	Conococheague Maintenance District	9/14/2005	To Be Determined	-	9/22/2005
13325	Install "Mule Power" wayside exhibit	9/10/2005	Palisades	8/31/2005	No Adverse Effect	-	10/2/2005
13326	Install "Switching Time" wayside exhibit	10/18/2005	Palisades	10/18/2005	No Adverse Effect	-	5/17/2006
13346	Discovery Creek General Agreement		Palisades		To Be Determined	-	1/8/2013
13366	Carderock Climbing Area Maintenance Project	9/21/2005	Palisades	9/21/2005	To Be Determined	-	9/24/2005
13437	James Rumsey Bridge Demolition Special Use Permit	10/13/2005	Conococheague		To Be Determined	-	10/13/2005
13540	Restoration and Recovery of Federally Endangered Harperella	10/18/2005	Four Locks District	10/18/2005	No Historic Properties Affected	-	2/24/2009
13549	Assess Impacts of Deer/Invasive Plant Interactions on Native Vegetation at Potomac Gorge	10/20/2005	Mile 12 -15	10/19/2005	No Adverse Effect	110361	6/8/2006
13589	Installation of New Potomac River Safety Signs	10/18/2005	Palisades, Palisades	10/18/2005	No Adverse Effect	-	11/1/2005
13604	Great Falls River Trail Maintenance	10/18/2005	Palisades		To Be Determined	-	11/3/2005
13610	Replacement Park Bench- Marsden Tract Area	11/2/2005	MD08	11/2/2005	To Be Determined	-	1/20/2006
13782	Install Little Falls Fish Ladder wayside	11/2/2005	MD08	11/2/2005	To Be Determined	-	5/17/2006
13833	Reconstruct and Stabilize Big Slackwater Historic Stone Wall and Towpath	2/17/2010	MD06	2/17/2010	No Adverse Effect	60110 (deleted), 149742	9/27/2012
13870	SHA Culvert Repairs	10/27/2005	-	-	To Be Determined	-	11/24/2009
13873	Land Survey Work for Catoctin Power Plant Project	11/2/2005	MD06	11/2/2005	To Be Determined	-	5/9/2006
13887	Site Prep for Modular Office Building Pal. Maint. Yard	11/16/2005	MD08	11/16/2005	To Be Determined	-	3/1/2006

PROJECT ID	PROJECT TITLE	COMPLIANCE COMPLETION DATE	DISTRICT	NEPA SIGNED DATE	NHPA ASSESSMENT OF EFFECT	PMIS ID	PROJECT CLOSE DATE
13914	Power Plant Water Line Right-of-Way Request near Point of Rocks, Maryland	2/7/2008	MD06	2/7/2008	To Be Determined	-	8/21/2018
13979	Bear Island Wayside Exhibits	11/30/2005	MD08	-	To Be Determined	-	1/15/2013
13983	Mule Paddock Shed - Great Falls	11/30/2005	MD08	-	To Be Determined	-	11/7/2009
14273	New Sewer Line Great Falls Maintenance Facility	4/7/2006	MD 08	4/7/2006	No Adverse Effect	98461	10/4/2006
14362	Frederick County Water Intake Tree Removal Project	3/1/2006	MD06	-	To Be Determined	-	5/18/2006
14368	Frederick County Water Intake Sediment Removal Project	3/8/2006	MD06	3/8/2006	To Be Determined	-	8/22/2006
14594	Split Swing Gates Installation (Parkwide)	8/7/2007	MD06, MD06, MD06, MD08, MD06, DCAL, MD08, MD06	8/7/2007	No Adverse Effect	-	3/9/2012
14720	Preservation Repairs to Wasteweir # 3 at Flethers	3/20/2006	DCAL	3/20/2006	No Adverse Effect	-	12/31/2007
14789	Preservation of Ferry Hill Place	3/8/2006	MD06	3/8/2006	No Adverse Effect	-	6/26/2012
14794	Billy Goat C Trail Maintenance	2/23/2006	MD08	2/23/2006	To Be Determined	-	4/2/2006
14808	Burnside Property		MD06		To Be Determined	-	9/30/2006
14837	Western Maryland Rail Trail: Pearre Station to Paw Paw	9/11/2012	MD06	9/11/2012	No Adverse Effect	-	8/21/2018
14840	Motion Picture Filming - Permit Request	2/23/2006	MD06	2/23/2006	To Be Determined	-	3/3/2006
14911	Quantico Orienteering Club 2006 Orienteering Event - Special Use Permit Request (REVISED EVENT)	2/15/2006	MD08	-	To Be Determined	-	2/15/2006
15128	Proposed Offshore Submerged Channel Intake for WSSC Potomac Water Plant	1/29/2018	MD08	1/29/2018	Adverse Effect	-	8/15/2018
15234	Repairs to Canal Prism and Canal Berm at Chain Bridge	9/18/2008	MD08	9/18/2008	No Adverse Effect	-	3/11/2009
15267	Lockhouse 8 Electric	10/18/2006	MD08	10/18/2006	No Adverse Effect	-	3/10/2010

PROJECT ID	PROJECT TITLE	COMPLIANCE COMPLETION DATE	DISTRICT	NEPA SIGNED DATE	NHPA ASSESSMENT OF EFFECT	PMIS ID	PROJECT CLOSE DATE
15268	New Site signs at Fletchers Cove	4/12/2006	DCAL		To Be Determined	-	4/25/2006
15279	Catoctin Aqueduct	7/22/2009	MD06	7/22/2009	No Adverse Effect	125585	11/1/2011
15368	Cushwa Basin Wall Repair	5/17/2006	MD06	5/17/2006	No Adverse Effect	-	5/26/2006
15516	Historic Dams 4&5 Eelway Passage Project - Potomac River	1/24/2011	MD06, MD06	1/24/2011	No Adverse Effect	-	8/15/2018
15645	Georgetown University Boathouse/Land Transfer Environmental Impact Statement	-	DCAL	-	To Be Determined	-	11/28/2011
15722	Summit Hall Turf Farm Water Access Project	1/9/2012	MD08	1/9/2012	No Adverse Effect	-	11/16/2012
15862	City of Brunswick Wastewater Treatment Facility (Access Permit Request)	6/27/2006	MD06	6/27/2006	To Be Determined	-	5/22/2007
15891	Emergency Repairs to Canal - Best Management Practice	-	MD06, MD06, MD06, MD06, MD08, DCAL, MD08, MD06	-	To Be Determined	-	8/3/2018
16153	Informational Signs - Williamsport	10/18/2006	MD06	-	To Be Determined	-	11/1/2007
16172	Footbridge construction within Great Falls Hiking Trail Network	6/27/2006	MD08, Palisades Maint. District	6/27/2006	To Be Determined	-	10/13/2006
16174	Carderock Access Pathway to Billy Goat Trail Section C	8/31/2006	MD08, Palisades Maint. District	8/31/2006	To Be Determined	-	10/13/2006
16175	Stairway Rehab for Carderock and Gold Mine Loop	8/31/2006	MD08, Palisades Maint. District	8/31/2006	To Be Determined	-	10/13/2006
16270	Install new signage on hiking trails - Parkwide	1/12/2009	MD08, MD06	1/12/2009	No Adverse Effect	-	1/14/2009
16271	Programmatic Categorical Exclusion for Routine Trail Maintenance	8/16/2012	MD06, MD06, MD06, DCAL, MD08	8/16/2012	No Adverse Effect	-	8/20/2012
16580	Replace Stairway at Stopgate Milepost 13.7	9/13/2006	MD08	9/13/2006	No Adverse Effect	-	9/25/2006
16592	Mulberry Tree Removal at the Georgetown Visitor Center	8/31/2006	DCAL	8/31/2006	No Adverse Effect	-	9/26/2006

PROJECT ID	PROJECT TITLE	COMPLIANCE COMPLETION DATE	DISTRICT	NEPA SIGNED DATE	NHPA ASSESSMENT OF EFFECT	PMIS ID	PROJECT CLOSE DATE
16768	Appalachian Trail Signage on C&O Canal	3/6/2007	MD06	3/6/2007	To Be Determined	-	3/24/2008
16772	New Design Raw Water Main and McKinney Treated Effluent Outfall	8/27/2007	MD06	8/27/2007	To Be Determined	-	1/19/2011
16786	Carderock Climbing Area Maintenance	8/31/2006	MD08	8/31/2006	To Be Determined	-	9/9/2006
16792	Pennyfield Fence Replacement-in-Kind	10/18/2006	MD08	10/18/2006	No Adverse Effect	-	3/15/2009
16803	SHA Bridge Painting SUP - I-495	3/6/2007	MD08	3/6/2007	To Be Determined	-	3/23/2007
16899	Stabilize Paw Paw Tunnel and Boardwalk	3/27/2007	MD06	3/27/2007	No Adverse Effect	25574	12/1/2008
16962	Lock 20 Preservation	11/13/2006	MD08	11/13/2006	No Adverse Effect	-	8/29/2007
17115	Antietam Aqueduct Structural Investigation	6/28/2007	Conococheague	6/28/2007	No Adverse Effect	118774	12/31/2007
17358	Private Water Line Right-of-Way, Whites Ferry	-	MD08	-	To Be Determined	-	5/23/2012
17377	Quantico Orienteering 2007 Event	-	MD08	-	To Be Determined	-	2/2/2007
17660	29th Street Bridge Water Main	1/25/2007	DCAL	1/25/2007	To Be Determined	-	3/15/2007
17697	Sierra Club's MWROP Day Hike, April 28, 2007	1/25/2007	MD06, MD08, DCAL, MD08	1/25/2007	To Be Determined	-	4/28/2007
17699	Bassett Hound Walk for Charity, May 27, 2007	1/11/2007	MD06	-	To Be Determined	-	5/27/2007
17779	Parking Lot Repairs, Dargan Bend Boatramp	1/25/2007	MD06	1/25/2007	To Be Determined	-	12/1/2007
17896	Quantico Orienteering REVISED Event, February 4, 2007	-	MD08	-	To Be Determined	-	2/6/2007
18079	Capital Crescent Trail Erosion Repairs	9/17/2007	DCAL	9/17/2007	To Be Determined	-	8/30/2008
18136	Lock 20 Bypass Flume Stabilization	3/6/2007	MD08	3/6/2007	No Adverse Effect	-	3/21/2008
18190	SHA Bridge Painting SUP - Route 522	3/6/2007	MD06	3/6/2007	To Be Determined	-	6/4/2007
18192	Temporary Canal Loading Dock-Great Falls	3/16/2007	MD08	3/16/2007	To Be Determined	-	4/16/2007
18488	Mary's Wall Vegetation Removal	6/28/2007	MD08	6/28/2007	No Adverse Effect	-	11/15/2007

PROJECT ID	PROJECT TITLE	COMPLIANCE COMPLETION DATE	DISTRICT	NEPA SIGNED DATE	NHPA ASSESSMENT OF EFFECT	PMIS ID	PROJECT CLOSE DATE
18493	Evitts Creek CSO - City of Cumberland	9/14/2009	MD06	9/14/2009	To Be Determined	-	8/21/2018
18512	Liberty Tree	4/24/2007	MD06	4/24/2007	No Adverse Effect	-	5/11/2007
18543	Vegetation Management at Lock 38/Bridgeport Area	5/2/2007	MD06	5/2/2007	To Be Determined	-	6/15/2007
18554	Retaining Wall, 11900 River Road, Potomac, MD	-	MD08	-	To Be Determined	-	8/2/2011
18644	Restoration of Canal Operations at Williamsport Mile 98.6 to Mile 99.95	1/18/2012	MD06	1/18/2012	No Adverse Effect	150685 (deleted)	7/11/2018
18758	Stabilize Kretzer-Knode House and Outbuildings	6/8/2007	MD06	6/8/2007	No Adverse Effect	75392	6/9/2011
18761	Install Towpath Direction Signs at the 34th Street Bridge	8/28/2007	DCAL	8/28/2007	To Be Determined	-	3/6/2009
18975	Fishing Fun Contest	5/14/2007	MD06	5/14/2007	To Be Determined	-	6/4/2007
19074	Vegetation Management at Dams # 4 and 5	6/8/2007	MD06, MD06	6/8/2007	No Adverse Effect	-	6/15/2007
19348	Install Potomac Heritage Trail signs	6/21/2007	MD06, MD06	-	To Be Determined	-	6/30/2007
19587	Septic system repair, Mellott House, Four Locks, Mile 108.4	8/28/2007	MD06	8/28/2007	No Adverse Effect	-	8/29/2007
19761	Storage Shed Removal, Swain's Lock, Mile 16.6	8/7/2007	MD08	8/7/2007	To Be Determined	-	9/24/2007
19887	Chain Bridge Repair and Repainting	5/6/2008	DCAL	5/6/2008	To Be Determined	-	10/12/2011
19960	Right-of-Way Application, Bretton Woods Recreation Center	10/7/2008	MD06	-	To Be Determined	-	-
20013	Right-of-Way Application Fiber Optic Line	1/15/2008	MD 06	1/15/2008	To Be Determined	-	4/23/2013
20112	Mary's Wall Vegetation Removal, Part II	9/19/2007	MD08	-	To Be Determined	-	11/15/2007
20145	Preservation for Lockhouse 6, 16, and 21	11/13/2007	MD08	-	To Be Determined	-	-
20164	Flagpole Installation at Williamsport Visitor Center	12/6/2007	MD06	12/6/2007	To Be Determined	-	2/9/2008
20653	Reconstruction of Historic Stop Gate Winch House - Mile 13.74	7/1/2008	MD06	7/1/2008	No Adverse Effect	-	12/23/2009

PROJECT ID	PROJECT TITLE	COMPLIANCE COMPLETION DATE	DISTRICT	NEPA SIGNED DATE	NHPA ASSESSMENT OF EFFECT	PMIS ID	PROJECT CLOSE DATE
20696	Install Potomac Heritage National Scenic Trail Wayside Exhibits	1/24/2008	MD06, MD06, MD08	-	To Be Determined	-	3/18/2008
20710	Boatrap Restroom Facilities	7/1/2008	MD06, MD06, MD06, MD06, MD06, MD06, MD06, MD06, MD06, MD06, MD08, MD08, MD06	7/1/2008	No Adverse Effect	-	12/15/2011
20767	Traffic Counters	4/8/2008	MD08, MD08, MD08, MD08, MD08	4/8/2008	No Adverse Effect	-	2/3/2009
21060	Canal Museum Exhibit, Cushwa Basin, Trolley Barn	2/26/2008	MD06	2/26/2008	No Adverse Effect	-	12/1/2008
21168	Remove Concession Stand at Lock 21	2/12/2009	MD08	2/12/2009	No Adverse Effect	-	9/29/2009
21170	Removal of Non-contributing resource - Midriver Canoe Club Shed	10/22/2008	MD08	10/22/2008	No Adverse Effect	-	12/3/2008
21184	Lock 25 Radius Wall Repair (Edward's Ferry)	4/8/2008	MD08	4/8/2008	No Adverse Effect	-	-
21238	VIP Project - Parking Lots	4/8/2008	MD 08, MD 08, MD 08, MD 08, MD 08	4/8/2008	To Be Determined	-	5/11/2009
21263	VIP Project - Trail Repairs	4/17/2008	MD 08, MD 08, MD 08, MD 08	4/17/2008	To Be Determined	-	5/3/2008
21297	VIP Project - Routine Maintenance - Non-Historic Structures	4/17/2008	MD 08, MD 08, MD 08, MD 08, MD 08, MD 08	4/17/2008	To Be Determined	-	5/14/2008
21323	VIP Project - Vegetation Removal	4/8/2008	DCAL, DCAL, MD 08, MD 08, MD 08, MD 08, MD 08, MD 08, MD 08, MD 08, MD 08, MD 08	4/8/2008	To Be Determined	-	1/1/2014

PROJECT ID	PROJECT TITLE	COMPLIANCE COMPLETION DATE	DISTRICT	NEPA SIGNED DATE	NHPA ASSESSMENT OF EFFECT	PMIS ID	PROJECT CLOSE DATE
21543	Install Potomac Gorge Wayside exhibits	4/29/2008	DCAL, DCAL, MD08, MD08	4/29/2008	To Be Determined	-	10/2/2010
21558	Install benches and sign for campfire program area - McCoy's Ferry	6/11/2008	MD06	6/11/2008	To Be Determined	-	11/13/2008
21906	Washington Canoe Club Perimeter Fence Removal	1/30/2009	DCAL	1/30/2009	No Adverse Effect	-	2/9/2009
21934	Visitor Trail Counters on Bear Island Billy Goat Trail	4/21/2008	MD08	4/21/2008	To Be Determined	-	10/28/2008
22258	Replace roof at Hancock Maintenance Facility	6/11/2008	MD06	6/11/2008	To Be Determined	-	11/30/2009
22394	2008 SCA Summer Trail Projects	7/10/2008	Palisades District	7/10/2008	No Historic Properties Affected	-	5/11/2009
22483	Repair Of Ferry Hill Trail	7/1/2008	MD06	-	To Be Determined	-	8/15/2008
22489	2008 YCC Work Projects: Vegetation and Debris Removal	7/10/2008	MD06, MD	7/10/2008	No Adverse Effect	-	9/9/2008
22521	Safety Improvements to Lock 34 Parking Lot	6/18/2008	MD06	6/18/2008	To Be Determined	-	9/20/2008
22594	Pennyfield/Muddy Run Boatramp Replacement	12/1/2008	MD08	12/1/2008	No Historic Properties Affected	-	9/30/2009
22823	Palisades Maintenance Facility Improvements	9/18/2008	Palisades	9/18/2008	No Adverse Effect	150499	1/4/2010
23204	Fiber Optic Line -Great Falls Maintenance and Fee Booth	8/29/2008	MD08	-	To Be Determined	-	1/15/2014
23205	Stone Steps - Lock 24 (Riley's Lock)	9/18/2008	MD-08	9/18/2008	No Adverse Effect	-	4/18/2009
23208	National Public Lands Day - Adopt-A-Crag Volunteer Project - Carderock Rehab	9/18/2008	MD08	9/18/2008	No Historic Properties Affected	-	9/27/2008
23278	Standard Operating Procedure for Bench Placement - Parkwide	9/30/2008	MD06, MD06, MD08, MD06, DCAL, MD08, MD06	9/30/2008	No Historic Properties Affected	-	10/1/2008
23289	Weatherizing Chick Farmhouse	10/27/2008	MD06	10/27/2008	No Adverse Effect	146053 (deleted)	10/17/2011

PROJECT ID	PROJECT TITLE	COMPLIANCE COMPLETION DATE	DISTRICT	NEPA SIGNED DATE	NHPA ASSESSMENT OF EFFECT	PMIS ID	PROJECT CLOSE DATE
23312	Visitation Counters – New Installation Locations	9/15/2008	DC06, MD06, MD06, MD06, MD06, MD06, MD08, MD08, DCAL, MD06	-	To Be Determined	-	4/11/2009
23415	Jarboe Store Stabilization	2/17/2010	MD08	2/17/2010	No Adverse Effect	-	5/14/2010
23572	Traffic Counters - Brunswick, Gift Road, Lock 75	10/27/2008	MD06, MD06, MD06	-	To Be Determined	-	4/11/2009
23619	Culvert #182 Preservation	12/3/2009	MD06	12/3/2009	No Adverse Effect	151930	10/14/2011
23730	Installation of Park ID Signs	2/26/2010	MD06, MD06, MD06, MD08, DCAL, MD08, MD08, MD08, MD08, MD08, MD08, MD08, MD08, MD06, MD06	2/26/2010	No Adverse Effect	-	10/5/2011
23767	Preservation - Lockhouses 49, 37, 28, 22, and 6	2/19/2009	MD06, MD06, MD08	2/19/2009	No Adverse Effect	-	5/4/2011
23885	CSX Bridge Replacement North Branch	11/27/2013	MD06	11/27/2013	No Adverse Effect	-	-
23947	Lock 6 Feeder Lock Trail Improvements	1/30/2009	MD08	1/30/2009	No Adverse Effect	-	9/10/2009
24098	Cleaning and Painting of Maryland State Highway Bridges - Routes 17, 340, Interstate 81	4/13/2009	MD06, MD06	4/13/2009	No Historic Properties Affected	-	3/30/2012
24419	Historic Towpath Repairs - Parkwide	7/29/2009	MD06, MD06, MD06, DCAL, MD08	7/29/2009	No Adverse Effect	67417,73 870 (deleted), 116608,1 46475 (deleted)	9/30/2010
24429	Repair of Towpath Breach, Mile 12.5	6/29/2011	MD08	6/29/2011	No Adverse Effect	146533	10/13/2012

PROJECT ID	PROJECT TITLE	COMPLIANCE COMPLETION DATE	DISTRICT	NEPA SIGNED DATE	NHPA ASSESSMENT OF EFFECT	PMIS ID	PROJECT CLOSE DATE
24599	Vegetation Removal from Historic Structures -Tidelock to Key Bridge	3/11/2009	DCAL	3/11/2009	No Adverse Effect	-	3/14/2009
24738	Preservation of Locks Mile 1 - 23.	7/29/2009	MD08	7/29/2009	No Adverse Effect	74900,50 492,1508 19	5/15/2013
24739	Programmatic Categorical Exclusion - Desiltation of Restored Watered Sections	3/4/2011	MD08	3/4/2011	No Adverse Effect	-	3/15/2011
24741	Removal of Non-historic pedestrian bridges	4/2/2009	MD06, MD06	4/2/2009	No Historic Properties Affected	-	1/5/2010
24933	Washington County - Sharpsburg Water Intake Upgrades	6/25/2012	MD06	6/25/2012	No Adverse Effect	-	8/21/2018
24980	Relocate Pole Light at Antietam Campground	5/20/2009	MD06	5/20/2009	No Adverse Effect	-	7/13/2009
25240	Canal Pride Days 2009	4/13/2009	MD06, MD06, MD06, MD06, MD08	4/13/2009	No Adverse Effect	-	5/2/2009
25488	Historic Prather (Weber) House Rehabilitation	12/14/2009	MD06	12/14/2009	No Adverse Effect	155672	5/2/2011
25536	Provide Exotic Vegetation Management Control with SCA Partner	5/13/2009	DCAL, MD08, MD06	5/13/2009	No Adverse Effect	109863	9/30/2010
26084	Brunswick and Point of Rocks Boat Ramps	8/1/2005	MD06, MD06	8/1/2005	No Adverse Effect	153007,1 53008	4/3/2012
26169	SHA Bridge Repairs I-495	6/9/2009	MD08		To Be Determined	-	11/8/2011
26516	Enhancing Visitor Experience at Hancock, MD, Mile 122.12-124.59	6/3/2015	MD06	6/3/2015	No Adverse Effect	-	8/21/2018
26598	Lock 34 River Access Trail Restoration	6/15/2009	MD06	-	To Be Determined	-	8/13/2012
27447	Mothball Knight House and Staub House	9/3/2009	MD06	9/3/2009	No Adverse Effect	147805	8/14/2009
27530	Mitigation of Beaver Dam at Culvert	9/24/2009	MD08	9/24/2009	No Historic Properties Affected	-	9/29/2009
27906	Ford Mine Loop Trail Completion	4/7/2010	MD08	4/7/2010	No Adverse Effect	-	1/26/2012
27958	Lock 8 - Modification of Canoe Access to Potomac River	9/10/2009	MD08	9/10/2009	No Historic Properties Affected	-	9/18/2009

PROJECT ID	PROJECT TITLE	COMPLIANCE COMPLETION DATE	DISTRICT	NEPA SIGNED DATE	NHPA ASSESSMENT OF EFFECT	PMIS ID	PROJECT CLOSE DATE
28254	2009 Revision of Park Fire Management Plan	12/3/2009	MD06, MD06, MD06, DC, MD08	12/3/2009	No Adverse Effect	-	12/17/2009
28657	Refurbishment of the Paw Paw Tunnel Campground	2/17/2010	MD06	2/17/2010	No Adverse Effect	-	5/8/2010
28719	Four Locks Maintenance Complex Septic System Upgrades	4/7/2010	MD06	4/7/2010	No Adverse Effect	156645 (deleted)	5/5/2010
28793	Hancock Visitor Center at the Little House	2/4/2010	MD06	2/4/2010	No Adverse Effect	156676	6/30/2010
29028	Historic Moore House Rehabilitation	12/3/2009	MD06	12/3/2009	No Adverse Effect	155671	6/7/2010
29158	Fairfax County Carderock Odor Abatement Project	10/6/2015	MD08	10/6/2015	No Adverse Effect	-	-
29432	Tree removal at Historic Structures Palisades		MD08	-	To Be Determined	-	8/20/2018
29888	Columbia Gas Line, City of Cumberland Waste Water Treatment Plant	2/4/2010	MD06	2/4/2010	No Historic Properties Affected	-	4/20/2010
30015	Lock 44 Area Boundary Delineation	4/7/2010	MD06	4/7/2010	No Adverse Effect	-	5/1/2010
30048	Preservation- Lockhouse10	2/24/2010	MD08		No Adverse Effect	-	10/17/2011
30133	Lock 22- Monolithic Concrete Slab	4/15/2010	MD08		To Be Determined	-	4/15/2010
30524	Lock 75 Parking Area Closure	7/22/2010	MD06	7/22/2010	No Adverse Effect	-	8/19/2010
30541	Temporary Antietam Iron Works Connector Trail	5/7/2010	MD06	5/7/2010	No Adverse Effect	-	6/1/2010
30789	Fish Recovery - parkwide - Flood 2010	4/7/2010	MD06, MD06, MD06, DCAL, MD08	4/7/2010	No Historic Properties Affected	-	6/1/2010
30821	Inlet Lock #1 - Emergency Repairs - Flood 2010	4/23/2010	MD08		To Be Determined	-	11/10/2011
30849	Campground, Picnic areas, Roadway, Parking Lot Repairs - Parkwide - Winter Storm and Flood 2010	4/7/2010	MD06, MD06, MD06, MD08	4/7/2010	No Adverse Effect	-	11/15/2011
31161	Indigo Tunnel Bat Habitat - Installation of Bat Gates, Interim Closure	9/30/2010	MD06	9/30/2010	No Adverse Effect	-	7/20/2011

PROJECT ID	PROJECT TITLE	COMPLIANCE COMPLETION DATE	DISTRICT	NEPA SIGNED DATE	NHPA ASSESSMENT OF EFFECT	PMIS ID	PROJECT CLOSE DATE
31847	Canal Quarters Interpretive Program Environmental Assessment/Assessment of Effects		MD06, MD06, MD06, MD08		To Be Determined	-	8/3/2018
32317	Special Use Permit Programmatic Categorical Exclusion	9/30/2010	-	9/30/2010	No Historic Properties Affected	-	9/30/2010
32374	Mothball and Secure Uninhabited Historic Adams Buildings	9/28/2010	MD06, MD06	9/28/2010	No Adverse Effect	-	10/20/2011
32406	Washington Canoe Club	1/16/2013	DCAL	1/16/2013	No Adverse Effect	165314	2/12/2013
32408	Mountain Lock Stock Pile Site	9/28/2010	MD06	9/28/2010	No Historic Properties Affected	-	1/10/2011
32409	Dam 4 Winch House - Replacement of Roof, Exterior Painting, Selective Repairs In-kind	3/4/2011	MD06	3/4/2011	No Adverse Effect	-	-
32410	Great Falls Entrance Station - Replacement in Kind	3/4/2011	MD08	3/4/2011	No Adverse Effect	118984	7/26/2011
32417	Lock House 37 Parking Lot Boundary Security	10/5/2010	MD06	10/5/2010	No Adverse Effect	-	-
32512	McMahons Mill Electric Service	9/30/2010	MD06	9/30/2010	No Adverse Effect	-	-
32644	Preservation Lockhouse 25	3/4/2011	MD08		No Adverse Effect	-	10/18/2011
32862	Rehabilitate Lift Lock 3 in Georgetown	6/21/2016	DCAL	6/21/2016	No Adverse Effect	150696	-
33127	Billy Goat A Trail - Wooden Bridge Deck Replacement	9/23/2010	MD08	9/23/2010	No Historic Properties Affected	-	11/2/2010
33433	Programmatic Categorical Exclusion for Bicycle Rack Placements	3/4/2011	DCAL, MD08, MD06	3/4/2011	No Adverse Effect	-	3/11/2011
33867	Fiber Optic Right-of-Way, Route 15	11/23/2010	MD06	11/23/2010	No Historic Properties Affected	-	5/4/2011
34407	Billy Goat Trail Section B Trail Improvements	12/21/2010		12/21/2010	No Historic Properties Affected	-	1/16/2013
34988	Sycamore Island Bridge - Repair and Repaint Project - Mile 6.46	12/21/2011	MD08	12/21/2011	No Adverse Effect	-	3/9/2012
34989	Conversion of CCC Comfort Station to Storage, Great Falls	7/25/2013	MD08	7/25/2013	No Adverse Effect	-	1/1/2014
35058	Paw Paw Tunnel Hill Trail Project	3/4/2011	MD06	3/4/2011	No Adverse Effect	-	8/30/2011

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35147	2011 Canal Pride Days - Lock 10 Vegetation Removal Project	3/4/2011	MD08	-	No Adverse Effect	-	4/10/2011
35377	2011 Canal Pride Days - Fletchers Cove Vegetation Removal Project	3/17/2011	DCAL	-	No Adverse Effect	-	4/21/2012
35534	Prescribed Fire Activity and Warm Season Grass Planting, Pleasantville, MD	3/31/2011	MD06	3/31/2011	No Adverse Effect	-	-
35740	Refurbishment of McCoy's Ferry Campground - 2011 C&O Canal Pride Days	3/31/2011	MD06	3/31/2011	No Adverse Effect	-	4/16/2011
35824	Level 19 Pedestrian Pathway	8/17/2011	MD08	8/17/2011	No Adverse Effect	-	4/21/2012
35972	Palisades District Hiking Trail Markers - New Locations	6/29/2011	MD08	6/29/2011	No Adverse Effect	-	12/28/2012
36024	USGS Potomac River Gauge Station - Edwards Ferry	6/29/2011	MD06	6/29/2011	No Adverse Effect	-	9/1/2011
36307	Billy Goat A Upstream Trailhead Re-route	6/22/2011	MD08	6/22/2011	No Adverse Effect	-	7/20/2011
36987	Formalization of Rockwood loop and VFW spur	6/22/2011	MD08	6/22/2011	No Adverse Effect	-	1/26/2012
36991	Ford Mine loop extension	6/22/2011	MD08	-	No Adverse Effect	-	1/26/2012
37125	VIP Project - Painting of Historic Buildings at Great Falls Tavern Area	6/29/2011	MD08	6/29/2011	No Adverse Effect	-	4/21/2012
37196	Route 11 Bridge Painting Project, MD State Highway Administration	6/29/2011	MD06	-	No Adverse Effect	-	-
37226	Lock 22 (Pennyfield) Visitor Access Bridge	6/29/2011	MD08	6/29/2011	No Adverse Effect	-	7/26/2011
37434	Carpendale WV Rail Trail Connection to Park Towpath at Mile 182.97	10/4/2011	MD06	10/4/2011	No Adverse Effect	-	4/25/2012
37803	Catoctin Aqueduct Overlook Trail	9/15/2011	MD06	9/15/2011	No Adverse Effect	-	2/13/2012
38222	Hazard Tree Removal/Replacement - Four Locks Cultural Landscape	10/4/2011	MD06	10/4/2011	No Adverse Effect	-	4/29/2011
38398	Children's Garden at the Canal Farm	4/12/2012	MD06	4/12/2012	No Adverse Effect	-	9/14/2012

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38452	US Park Police - Bear Island Horse Paddock, Mile 13	10/4/2011	MD08	10/4/2011	No Adverse Effect	-	7/24/2012
38657	Removal of Whitehurst Freeway Wooden Bypass Staircase - Mile 1.08	2/10/2012	DCAL	2/10/2012	No Historic Properties Affected	-	8/17/2012
38764	AboveNet Fiber Optic Line Installation - Capital Crescent Trail	12/21/2011	DCAL	12/21/2011	No Historic Properties Affected	-	2/12/2013
39121	Clear Vegetation from Historic Lockhouse 52 Foundation	10/4/2011	MD06	10/4/2011	No Adverse Effect	-	10/15/2011
39345	PEPCO Powerline Hazard Vegetation Removal, Violette's Lock - Mile 22	12/21/2011	MD08	12/21/2011	No Adverse Effect	-	12/30/2011
39527	Maryland DNR Bulletin Boards at Brunswick and Point of Rocks Boat Ramps	1/17/2013	MD06	1/17/2013	No Adverse Effect	-	1/22/2013
39660	Canal Town Partnership Wayside Installation	2/10/2012	MD06, MD06, MD06, MD06, MD06, MD06	2/10/2012	No Adverse Effect	-	6/12/2013
39986	Canal Pride Days 2012	2/10/2012	MD08, MD08, DCAL, MD08, MD06	2/10/2012	No Adverse Effect	-	5/31/2012
40230	Preservation Maintenance to Ferry Hill	2/23/2012	MD06	2/23/2012	No Adverse Effect	-	5/15/2012
40840	Potomac Interceptor Long-Term Odor Abatement Program	9/1/2004	MD06, DCAL	9/1/2004	To Be Determined	-	7/1/2013
40999	Canal Place Heritage Area Management Plan Update and Chesapeake and Ohio Canal NHP Cumberland Boatyard and Rewatering EA	-	MD06	-	To Be Determined	-	3/19/2014
41134	Great Falls Entrance Gate Replacement	7/2/2012	MD08		No Historic Properties Affected	-	2/20/2013
41440	Carderock Pavilion Roof Repair	5/16/2012	MD08	5/16/2012	No Adverse Effect	-	9/13/2012
41667	Arizona Avenue Bridge Damage Repair Project	5/16/2012	DCAL	5/16/2012	No Adverse Effect	-	11/13/2013

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41887	Long Farm Culvert Replacement (Oldtown, Maryland)	9/13/2016	Paw Paw	9/13/2016	No Adverse Effect	-	9/23/2016
42119	Repair of Modern Roadway Culvert Mile 9.76	3/17/2015	MD08	3/17/2015	No Adverse Effect	-	--
42244	Canal Launch Boat Docks - Temporary Locations 2012	5/15/2012	MD06, MD06	5/15/2012	No Adverse Effect	-	5/21/2012
42601	Launch Boat Power Station - Williamsport	7/2/2012	MD06	7/2/2012	No Adverse Effect	-	7/19/2012
42604	Mothball Stottlemeyer Property buildings	8/16/2012	MD06	8/16/2012	No Adverse Effect	-	4/9/2013
42612	Dragonfly and Damselfly Survey and Evaluation - Mile 68-184.5	7/2/2012	MD06, MD06	7/2/2012	No Historic Properties Affected	-	
42949	Lock 20 Rub Rails	8/23/2012	MD08	8/23/2012	No Adverse Effect	-	1/16/2013
43438	Billy Goat C Minor Trail Reroute	9/11/2012	MD08	9/11/2012	No Adverse Effect	-	9/23/2012
43676	Lock 34 River Access Trail Upgrades	10/16/2012	MD06	10/16/2012	No Adverse Effect	-	10/20/2012
43778	Capella Hotel Landscaping Special Use Permit	10/5/2012	DCAL	10/5/2012	No Adverse Effect	-	1/22/2013
43863	Wayside Exhibits and Towpath Signs - Big Slackwater (Mile 84.4 - 90)	10/5/2012	DC06	10/5/2012	No Adverse Effect	-	10/13/2012
43897	Wayside Exhibit - Pierce Mill Site (Mile 3.21)	9/11/2012	DCAL	9/11/2012	No Adverse Effect	-	5/25/2013
44125	Lockhouse 8 Back Porch Enclosure	1/23/2013	MD08	1/23/2013	No Adverse Effect	-	1/24/2013
44134	Flood Protection Measures & Cultural Landscape Improvements for Great Falls Tavern	-	DCAL	-	To Be Determined	-	9/23/2016
44280	Fiber Optic Right-of-Way, Hancock, MD	2/25/2013		2/25/2013	No Historic Properties Affected	-	4/9/2013
44572	Riparian Buffer Enhancement Along the C&O Canal	11/20/2013	MD08, MD08, MD08, MD08, MD08, MD08, MD06, MD06, MD06, MD08, MD08	11/20/2013	No Adverse Effect	-	-

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44838	Canal Pride Days 2013	1/23/2013	MD06	1/23/2013	No Historic Properties Affected	-	5/18/2013
44952	Brunswick CSX Contamination Monitoring Well Permit	12/17/2012	MD06	12/17/2012	No Adverse Effect	-	-
45262	Dam No. 4 Sink Hole	1/17/2013	06	1/17/2013	No Adverse Effect	-	4/9/2013
45340	Install TrackTrail Kiosks	4/16/2013	Palisades	4/16/2013	No Adverse Effect	-	4/24/2013
45742	Culvert Repair at Whites Ferry (Montgomery County)	2/25/2013	Monocacy	2/25/2013	No Historic Properties Affected	-	4/9/2013
45798	Paw Paw Rock Scaling and Hazard Mitigation	2/14/2017	Paw Paw	2/14/2017	No Adverse Effect	194108	-
46278	Safety and Accessibility Improvements - Great Falls Entrance Road (MacArthur Blvd)	4/29/2013	Palisades	4/29/2013	No Adverse Effect	42973,42973	2/29/2016
46359	Canal Steward and Calling Canal Discoveries Interpretive Signage	2/20/2014	multiple	2/12/2014	No Adverse Effect	-	-
46407	Install New HVAC System at the Great Falls Ranger Station	4/16/2013	Palisades	4/16/2013	No Historic Properties Affected	-	-
46418	Rehabilitate Williamsport Water Intake	10/21/2013	-	10/21/2013	No Adverse Effect	169320	-
46677	Short Term Rockslide Mitigation (Paw Paw Rockslide)	4/4/2013	Paw Paw	4/4/2013	No Adverse Effect	-	4/23/2013
46853	Installation of Traffic Barriers at Alexandria Canal Aqueduct	4/16/2013	Water Street	4/16/2013	No Historic Properties Affected	-	7/23/2013
46894	Wayside Installation (civil war) Spring Gap	8/28/2013	MD06	8/28/2013	No Adverse Effect	-	5/3/2014
46914	Lock 44 supplemental planting	4/23/2013	MD06		To Be Determined	-	4/27/2013
47009	Great Falls Mule Fence Repairs	7/24/2013	MD 06	7/24/2013	No Adverse Effect	-	8/15/2013
47263	Repair Canal Structures, Watered Areas, Lock 5 to Lock 22	3/26/2014	08	3/25/2014	No Adverse Effect	-	-
47297	Mule Pasture Interim Solution	7/23/2013	-	7/23/2013	No Historic Properties Affected	-	7/27/2013
48084	Install Railroad Crossing Gates at Point of Rocks and Lander Crossings	8/28/2013	-	8/28/2013	No Adverse Effect	-	10/15/2013

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48191	Ferry Hill Plantation Exterior Preservation Maintenance	10/21/2013	MD-06	10/21/2013	No Adverse Effect	-	10/3/2016
48351	Comprehensive Evaluation of Health Status of resident white-tailed deer within portions of the Chesapeake and Ohio Canal National Historical Park located within Allegany and Washington Counties of Maryland (CESU).	7/30/2014	-	5/13/2014	No Potential to Cause Effects	-	3/1/2016
48358	Construct Pedestrian Stair from Arizona Avenue Bridge to Park Towpath	11/12/2013	08	11/12/2013	No Adverse Effect	-	3/1/2014
48361	Towpath bypass through canal prism at Culvert 97	11/12/2013	06	11/12/2013	No Adverse Effect	-	11/30/2013
48387	Replace Vehicle Road Bridge at Big Slackwater Boat Ramp	8/28/2013	-	8/28/2013	No Historic Properties Affected	-	11/10/2013
48453	Rehabilitate Lift Lock 44	11/20/2013	-	11/20/2013	No Adverse Effect	-	11/20/2013
48565	Dam 4 and 5 Warning Signs	10/21/2013	MD08, MD08	10/21/2013	No Historic Properties Affected	-	
48629	Install Potomac Heritage National Scenic Trail Waysides	10/22/2013	Palisades, Monocacy, Monocacy	10/22/2013	No Adverse Effect	-	10/30/2013
48668	Conversion of CCC Comfort Station into Bike Repair/Storage Building, Great Falls	1/24/2014	MD08	1/24/2014	No Adverse Effect	-	5/30/2014
48886	Four Locks Boat Ramp Rehabilitation	7/27/2020	-	7/27/2020	No Adverse Effect	-	-
48929	Preservation Lockhouse 44	12/12/2013	-	12/12/2013	No Adverse Effect	-	10/1/2014
49042	Resurface the Capital Crescent Trail	7/30/2014	-	7/30/2014	No Historic Properties Affected	-	9/10/2015
49356	CSX Drop Culvert Installation and Erosion Control	2/25/2014	PAW PAW	2/14/2014	No Adverse Effect	-	-
49656	Route 51 Bike Lane	1/24/2014	-		No Adverse Effect	-	-
49680	Improvements to Emergency Rescue Squad River Access Locations	1/24/2014	-	1/24/2014	No Adverse Effect	-	-

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49925	Launch Boat Storage in Barns	1/14/2014	-	1/14/2014	No Adverse Effect	-	1/30/2014
51152	Great Falls Tavern Area Directional Signs	10/14/2014	-	10/14/2014	No Adverse Effect	-	10/30/2014
51208	Drinking Fountain Installation at Cushwa Basin	6/24/2014	-	7/30/2014	No Historic Properties Affected	-	10/1/2014
51215	Inlet Lock 2 Repairs	4/11/2014	MD08	4/11/2014	No Adverse Effect	-	-
51395	Install Garden by Lock House 44	4/11/2014	-	4/11/2014	No Adverse Effect	-	5/3/2014
51418	Install Five Wayside Interpretive Signs at C&O Canal NHP	4/11/2014	-	4/1/2014	No Adverse Effect	-	
51514	Install Security Camera System at the Cushwa Warehouse	4/3/2014	MD09	4/3/2014	No Adverse Effect	-	4/15/2014
51907	Renovate and Repair Great Falls Ranger Station	4/3/2014	MD08	4/3/2014	No Historic Properties Affected	-	-
52270	Replace downstream snubbing post to secure Charles F. Mercer canal boat	12/16/2014	Palisades, Palisades	12/16/2014	No Adverse Effect	-	5/15/2015
52271	Invasive and Exotic Vegetation Management	7/30/2014	MD06, MD08, MD06, MD08, MD06, MD08, MD06, MD08, MD06, MD08	7/30/2014	No Adverse Effect	-	12/31/2015
52588	Ferry Hill Plantation Exterior Preservation Maintenance - Window Sill Repair	4/30/2014	MD-06	-	To Be Determined	-	-
53880	Unmanned Aircraft Closure	8/26/2014	MD08, MD08, MD08, MD08, MD08, MD08, MD08, MD08, MD08, MD08, MD08	8/26/2014	No Potential to Cause Effects	-	8/26/2015
54098	Great Falls Tavern kitchen and bathroom floor replacement	12/5/2014	-	12/5/2014	No Adverse Effect	-	9/10/2015
54782	Remove non-historic tree line adjacent to utility ROW	12/5/2014	4 Locks	12/5/2014	No Adverse Effect	-	9/10/2015

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54857	Sign Installation @ Cabin John Access	5/8/2015	-	5/8/2015	No Adverse Effect	-	9/21/2015
54858	Interior Painting of Staff Area @ Great Falls Tavern	5/8/2015	-	5/8/2015	No Adverse Effect	-	-
55136	Install tow path Gates Dam 4 and Weaverton	9/11/2015	MD 06	9/11/2015	No Adverse Effect	-	-
55218	Olmsted Bridges Railing Improvements	3/2/2017	-	3/2/2017	No Adverse Effect	169342	-
55389	Georgetown Floating Kayak and Canoe Launch	4/28/2021	Palisades	4/28/2021	No Adverse Effect	-	-
55605	Installation of Pedestrian Crossing on Canal Road at Abner Cloud House	4/16/2015	-	4/16/2015	No Adverse Effect	-	-
55715	C&O Canal NHP and Harpers Ferry NHP Deer Management Plan and EA	6/22/2018	-	6/22/2018	No Adverse Effect	-	6/22/2018
55857	Historic Lease Agreement for the grounds of the Washington Canoe Club	6/20/2019	-	6/20/2019	No Adverse Effect	-	-
56359	Invasive and Exotic Vegetation Management FY15	9/11/2015	MD06, MD08, MD06, MD08, MD06, MD08, MD06, MD08	9/11/2015	No Adverse Effect	-	12/31/2015
57141	DC Water Repairs to UPI Sewer Line and Associated Structures - Capital Crescent Trail	5/8/2015	-	5/8/2015	No Adverse Effect	-	-
57190	Install Wayside at 15 Mile Creek, C&O Canal NHP	5/8/2015	-	5/8/2015	No Adverse Effect	-	9/11/2015
57192	Upgrades to C&O Signage at the Byron Bridge	5/8/2015	-	5/8/2015	No Historic Properties Affected	-	9/11/2015
57330	Great Falls Overlook Trail Re-route	5/8/2015	-	5/8/2015	No Adverse Effect	-	7/15/2015
57497	Oyster Shell Landscaping at Great Falls Tavern	5/8/2015	-	5/8/2015	No Adverse Effect	-	5/9/2015
57736	Williamsport Canal Pride Improvements	5/8/2015	-	5/8/2015	No Adverse Effect	-	8/15/2015

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58309	Spring Gap Campground Improvements	6/15/2015	-	6/15/2015	No Adverse Effect	-	7/15/2015
58487	Installation of Towpath Closure Gates (2) at McMahons Mill	6/15/2015	-	6/15/2015	No Adverse Effect	-	-
58488	Installation of Boat Ramp Below Dam #5	6/15/2015	-	6/15/2015	No Adverse Effect	-	6/1/2015
58609	Preservation Maintenance for the roof and gutter systems of the Engineers House	6/15/2015	Palisades	6/15/2015	No Adverse Effect	-	-
58754	Rehabilitate Swains Lockhouse to Include in the Canal Quarters Program	3/6/2017	-	3/6/2017	No Adverse Effect	-	-
58826	Mule Barn Roof Repairs	6/15/2015	Palisades	6/15/2015	No Adverse Effect	-	7/30/2015
58887	Demolish Anthony House, Clay House, Feidt Building, and Ferry Hill Cottage	3/8/2016	-	3/8/2016	No Adverse Effect	165235,168580	-
59010	Kessler & Stickpile Tunnel Bat Habitat - Installation of Bat Gates, Interim Closure	11/10/2015	MD06	11/10/2015	No Adverse Effect	-	11/18/2016
59137	Conduct Emergency Repairs of the Northeast Parapet of Great Falls Tavern	7/10/2015	MD08	7/10/2015	No Adverse Effect	-	9/8/2015
59361	Install satellite internet dish at park housing	7/10/2015	Four Locks	7/10/2015	No Adverse Effect	-	7/15/2015
59474	Destructive Analysis for Interior of Swains Lockhouse (Lockhouse 21)	7/30/2015	Palisades	7/30/2015	No Adverse Effect	-	8/5/2015
59682	Conversion of Day Use Area to Campsites at Marsden Tract	10/6/2015	-	10/6/2015	No Adverse Effect	-	1/1/2016
59684	C&O Canal Trust Donation Bench at Violettes Lock	7/20/2015	-	7/20/2015	To Be Determined	-	10/29/2015
60072	118th Pennsylvania 'Corn Regiment' Interpretive Event	11/10/2015	-	11/10/2015	No Potential to Cause Effects	-	11/11/2015
60934	Fiber Optic Network under the Potomac at MP 27	10/12/2016	-	10/12/2016	No Adverse Effect	-	-
61518	Marsden Tract Footbridge	3/22/2016	-	3/22/2016	No Adverse Effect	196433	-

PROJECT ID	PROJECT TITLE	COMPLIANCE COMPLETION DATE	DISTRICT	NEPA SIGNED DATE	NHPA ASSESSMENT OF EFFECT	PMIS ID	PROJECT CLOSE DATE
61528	Rehabilitate Lift Lock #4 to Improve Resource Condition	6/21/2016	Palisades	6/21/2016	No Adverse Effect	150699	-
61567	Collaborative Management of Invasive Snakehead Fish	4/27/2016	-	4/27/2016	No Potential to Cause Effects	-	-
62149	Invasive and Exotic Vegetation Management 2016	4/5/2016	MD06, MD08, MD06, MD08, MD06, MD08	3/22/2016	No Adverse Effect	-	12/31/2016
62329	Improve Accessibility at the Byron Bridge		Monocacy		To Be Determined	221851	-
62626	Riverbottom Park Gate Post Installation	11/22/2016	Conococheague	11/22/2016	No Adverse Effect	-	-
62879	Lock 75 Area Improvements	10/12/2016	-	3/30/2016	No Adverse Effect	-	5/7/2016
62890	Lighttower Fiber Optic Line Under the Potomac at MP 35.53	10/12/2016	Monocacy	10/12/2016	No Adverse Effect	-	-
63003	Mule Fence at Great Falls Tavern for Education Programs		Palisades		To Be Determined	-	8/23/2016
64854	Formalize Existing Traverse Bypass Trail on Billy Goat Trail A	1/23/2018		1/23/2018	No Adverse Effect	-	-
64855	Billy Goat A Stairs	9/29/2017	Palisades	9/29/2017	No Adverse Effect		-
64869	Raise Movable Span of Railroad Lift Bridge, Williamsport, MD	5/10/2016	Conococheague	5/10/2016	No Adverse Effect	203260	8/1/2016
65252	Reconstruct/Stabilize Historic Stone Wall & Towpath McMahan's Mill to Lock 42	4/15/2019	-	4/15/2019	Adverse Effect	151201	-
65653	Rehabilitate Historic Conococheague Aqueduct	11/8/2016	MD06	11/8/2016	No Adverse Effect	150685 (deleted)	-
65925	Construction of Bypass Trail at Paw Paw Tunnel	2/14/2017	Paw Paw	2/14/2017	No Adverse Effect	-	-
66745	Mule paddock renovations at Great Falls MD	2/14/2017	Palisades	2/14/2017	No Adverse Effect	-	-
67447	Columbia Gas/TransCanada - ROW Permit Application (8' Natural Gas Line)	9/23/2019	Hancock	9/23/2019	No Adverse Effect	-	9/24/2019

PROJECT ID	PROJECT TITLE	COMPLIANCE COMPLETION DATE	DISTRICT	NEPA SIGNED DATE	NHPA ASSESSMENT OF EFFECT	PMIS ID	PROJECT CLOSE DATE
67939	Install Temporary Pedestrian Access Across the Canal Using the C&O Canal Lift Bridge at Cushwa Basin	3/28/2019	-	3/28/2019	No Adverse Effect	-	-
68290	Mold mitigation within historic structures	1/10/2017	-	1/10/2017	No Adverse Effect	-	-
68306	Geotechnical Testing for McMahon's Mill to Lock 42 Wall and Towpath Reconstruction and Stabilization	1/5/2017	-	1/5/2017	No Adverse Effect	-	1/25/2017
68310	Install Gutters & Snow Birds on Burnside Barn and Snow Birds on 4 Locks School	2/23/2018	Conococheague	2/23/2018	No Adverse Effect	-	-
68709	Install Interpretive Wayside at Lock 74	1/10/2017	Paw Paw	1/10/2017	No Adverse Effect	-	-
68842	Rehab Work on Upper Potomac Interceptor Sewage Line	3/2/2017	-	3/2/2017	No Adverse Effect	-	-
68872	RENEWAL Programmatic CE - Desiltation of Restored Watered Sections	3/13/2018	MD08, Cumberland, Hancock, Oldtown, Williamsport	3/13/2018	No Adverse Effect	-	-
69231	Installation of Bike Repair Station at Cushwa Basin	11/14/2017	-	11/14/2017	No Adverse Effect	-	-
69609	Trail Improvements to Billy Goat Trail A	10/23/2018	-	10/23/2018	No Adverse Effect	-	-
70101	Replace worn garage doors on the mule barn.	9/25/2017	-	9/25/2017	No Adverse Effect	-	-
70114	Integrated Pest Management throughout park 2017	3/13/2017	MD06, MD08, MD06, MD08, MD06, MD08, MD06, MD08	3/13/2017	No Adverse Effect	-	-
70176	C&O Canal National Historical Park - Georgetown Canal Plan	2/19/2020	-	2/19/2020	Adverse Effect	-	2/20/2020
70344	Paint staff offices in Cushwa Warehouse	7/11/2017	-	7/11/2017	No Adverse Effect	-	-
70373	Replacement of the 31st Street, NW Bridge over the C&O Canal	11/17/2017	-	11/14/2017	No Adverse Effect	-	-

PROJECT ID	PROJECT TITLE	COMPLIANCE COMPLETION DATE	DISTRICT	NEPA SIGNED DATE	NHPA ASSESSMENT OF EFFECT	PMIS ID	PROJECT CLOSE DATE
70491	Trolley Barn - Life Safety Code Improvements	2/8/2018	Conococheague	2/8/2018	No Adverse Effect	-	-
70836	Columbia Gas/TransCanada Survey Permits	3/6/2017	Hancock	3/6/2017	No Historic Properties Affected	-	-
70862	Replace & Install New Non-Lift Lock Signage at C&O Canal NHP	7/11/2017	-	7/11/2017	No Adverse Effect	-	-
72041	Seneca Towpath Bridge	9/4/2019	Palisades	9/4/2019	No Adverse Effect	241453	-
72061	Olmstead Boardwalk	1/28/2020	Palisades	1/28/2020	No Adverse Effect	-	-
72068	Resurface 23 Miles of Towpath	8/30/2018	MD06, MD06, MD08	8/30/2018	No Adverse Effect	241451	-
72076	Desilting Canal between Locks 20 - 22	4/26/2018	Palisades	4/26/2018	To Be Determined	-	-
73015	Rehab Work on Upper Potomac Interceptor Sewage Line - Phase 3	9/11/2017	-	9/11/2017	No Adverse Effect	-	-
73164	Billy Goat Trail C - Reroute Around River Erosion	8/30/2018	-	8/30/2018	No Adverse Effect	-	-
73178	RENEWAL - Programmatic Categorical Exclusion for Routine Trail Maintenance	11/14/2017	MD06, MD06, MD06, DCAL, MD08	11/14/2017	No Adverse Effect	-	-
73457	Abner Cloud House Electrical Work	7/11/2017	-	7/11/2017	No Adverse Effect	-	-
73769	Geotechnical Testing for the Foundation of the Washington Canoe Club	9/26/2017	-	9/26/2017	No Adverse Effect	-	-
73868	Emergency Rock Fall Mitigation at the Chesapeake & Ohio Canal (Paw Paw)	6/30/2017	Paw Paw	6/30/2017	Adverse Effect	-	8/15/2018
73892	Davis House 'Private Residence' Sign	11/14/2017	-	11/14/2017	No Adverse Effect	-	-
73952	Install upgraded internet service at Cushwa Visitor Center	3/13/2018	Williamsport	3/13/2018	No Adverse Effect	-	6/30/2020
73953	City of Brunswick-Yourtee Water Line Replacement	7/21/2017	Monocacy	7/21/2017	No Adverse Effect	-	-
74527	Painting the Tavern Classroom	11/14/2017	Palisades	11/14/2017	No Adverse Effect	-	-
74628	Relocation of Cushwa Basin Air Compressor Building	9/21/2017	MD06/Conococheague	9/21/2017	No Adverse Effect	-	10/6/2017

PROJECT ID	PROJECT TITLE	COMPLIANCE COMPLETION DATE	DISTRICT	NEPA SIGNED DATE	NHPA ASSESSMENT OF EFFECT	PMIS ID	PROJECT CLOSE DATE
75196	Lockhouse 27 Roof Repair	5/7/2018	Monocacy	5/7/2018	No Adverse Effect	-	-
75718	Repair Sinkhole at Big Pool	2/4/2019	-	2/4/2019	No Adverse Effect	-	-
75754	Geoprobe core extraction at Capital Crescent Trail between Washington Canoe Club and Alexandria Aqueduct	8/30/2018	-	8/30/2018	No Adverse Effect	-	-
77048	Memo To File - Programmatic Categorical Exclusion for Routine Trail Maintenance	12/12/2017	MD06, MD06, MD06, DCAL, MD08	12/12/2017	To Be Determined	-	-
77070	Davis House Kitchen Sink Repair	12/22/2017	-	12/22/2017	No Adverse Effect	-	-
77315	Oil Spill Cleanup Near Little Pool, MM 119.5	12/22/2017	-	12/22/2017	No Adverse Effect	-	-
77755	C&O Canal Culvert Assessment		-		No Historic Properties Affected	245008	-
77889	2018 Canal Quarters Maintenance Projects	6/19/2018	-	6/19/2018	No Adverse Effect	-	-
77950	RENEWAL-Standard Operating Procedure for Bench Placement - Parkwide	3/30/2020	MD06, MD06, MD08, MD06, DCAL, MD08, MD06	3/30/2020	No Adverse Effect	-	-
78369	Integrated Pest Management throughout park 2018	3/13/2018	MD06, MD08, MD06, MD08, MD06, MD08, MD06, MD08	3/13/2018	No Adverse Effect	-	-
78403	Install Vehicle Access Gates at Great Falls Tavern	8/30/2018	-	8/30/2018	No Adverse Effect	-	-
78453	Install Anti Skid Plates on Tavern Steps	6/19/2018	-	6/19/2018	No Adverse Effect	-	-
78873	DoEE Sampling Sediment in Fletchers Cove	9/13/2018	-	9/13/2018	No Adverse Effect	-	-
79239	Canal Boat Access Ramp	8/30/2018	Palisades	8/30/2018	No Adverse Effect	-	-
79410	McCoy's Ferry Port-a-John Privacy Fencing	8/30/2018	Clear Spring	8/30/2018	No Adverse Effect	-	-
79461	Replace modern flooring in Cushwa Warehouse office spaces	5/2/2018	-	5/2/2018	No Adverse Effect	-	-

PROJECT ID	PROJECT TITLE	COMPLIANCE COMPLETION DATE	DISTRICT	NEPA SIGNED DATE	NHPA ASSESSMENT OF EFFECT	PMIS ID	PROJECT CLOSE DATE
79493	Carriage House Repainting	5/23/2018	Hancock	5/23/2018	No Adverse Effect	-	-
79789	Temporary seeding of wildflowers in canal prism in Georgetown	4/13/2018	-	4/13/2018	No Adverse Effect	-	4/28/2018
79825	Temporary detour for pedestrian safety at Conococheague Aqueduct	4/11/2018	Williamsport	4/11/2018	No Adverse Effect	-	-
79961	Repair Existing Sewer Line and Install Clean Out - Carderock East Picnic area		MD08	5/2/2018	No Adverse Effect	-	6/5/2019
80505	Repair AT&T ROW at Seneca	6/18/2019	-	6/18/2019	No Adverse Effect	-	-
80508	Replace WSSC Water Meter Vault at Great Falls	10/19/2018	-	10/19/2018	No Adverse Effect	-	-
80856	Resurface Towpath Miles 36-53	3/28/2019	-	3/28/2019	No Adverse Effect	250544	-
80888	Abandoned Mine Lands Remediation Gold Mine	10/19/2018	-	10/19/2018	No Adverse Effect	-	-
80905	Abandoned Mine Lands Remediation Round Top	10/19/2018	-	10/19/2018	No Adverse Effect	-	-
81148	Stabilize 184.5 Mile Canal Towpath by Maintaining Historic Stone Culverts Parkwide	2/4/2019	-	2/4/2019	No Adverse Effect	241457	-
81411	Reduce mowing frequency to enhance wildlife habitat	10/19/2018	-	10/19/2018	No Adverse Effect	-	-
81587	Installation of Fence at Potomac Aqueduct	7/18/2018	-	7/18/2018	No Adverse Effect	-	-
81625	Low Water Crossing at Little Catocin Creek due to Culvert 82 failure & Towpath Breach	7/31/2018	-	7/31/2018	No Adverse Effect	227524	-
81826	Survey and Assessment Work - Rebuilding/Repair of Potomac River Dam #5 Left Abutment	8/6/2018	-	8/6/2018	No Adverse Effect	-	-
82040	Restore habitat with native grasses near Lock 44	10/19/2018	Williamsport	10/19/2018	No Adverse Effect	-	-
82569	Realign portions of Billy Goat Trail B for flooding/erosion resilience	2/5/2019	Palisades	2/5/2019	No Adverse Effect	-	-
82672	Install CCC Waysides at Carderock	9/22/2020	-	9/22/2020	No Adverse Effect	-	-

PROJECT ID	PROJECT TITLE	COMPLIANCE COMPLETION DATE	DISTRICT	NEPA SIGNED DATE	NHPA ASSESSMENT OF EFFECT	PMIS ID	PROJECT CLOSE DATE
83057	Abner Cloud House Window Re-glazing and Sill Repair	4/9/2019	-	4/9/2019	No Adverse Effect	185107	-
83147	Issuance of 10 Year Leases for Historic Agricultural Fields	3/28/2019	Western MD, Western MD, Western MD, Western MD	3/28/2019	No Adverse Effect	-	-
83587	Trolley Barn - Ground Floor Exit	7/13/2020	-	7/13/2020	No Adverse Effect	-	-
83913	Tuscarora Trail Signs (4 Posts)	8/13/2019	-	8/13/2019	No Adverse Effect	-	-
83914	Mid-Point Towpath Mile Marker	4/9/2019	-	4/9/2019	No Adverse Effect	-	-
83917	Frederick County Maryland - Noland's Ferry water intake upgrade	7/23/2019	Monocacy	7/23/2019	No Adverse Effect	-	-
84043	DC Water Potomac Interceptor Rehab - LZ09	12/13/2019	-	12/13/2019	No Adverse Effect	-	-
84137	Rebuild/Repair Dam 5 Left Abutment	12/2/2021	-	12/2/2021	No Adverse Effect	196437	-
84319	Carderock Retaining Wall - Short Term Maintenance	3/13/2019	Palisades	3/13/2019	No Adverse Effect	-	-
84535	Integrated Pest Management throughout park 2019	3/13/2019	MD06, MD08, MD06, MD08, MD06, MD08, MD06, MD08	3/13/2019	No Adverse Effect	-	-
84782	C&O Canal NHP Park Headquarters Relocation	11/22/2019	-	11/22/2019	Adverse Effect	-	-
85365	Replace and repair roofs on Lockhouses 8, 16, 22, 24, and 25, and Abner Cloud House	8/13/2019	Monocacy, Palisades	8/13/2019	No Adverse Effect	185161,1 85167,26 9013	-
85525	Install benches for visitor use throughout park	8/13/2019	MD06, MD06, MD08, MD06, DCAL, MD08, MD06	8/13/2019	No Adverse Effect	-	-
85986	Fletcher's Cove Floating Dock	5/14/2019	-	5/14/2019	No Adverse Effect	-	-
86037	2020 Permitted Non-Destructive Research Activities	12/9/2019	-	12/9/2019	No Adverse Effect	-	-

PROJECT ID	PROJECT TITLE	COMPLIANCE COMPLETION DATE	DISTRICT	NEPA SIGNED DATE	NHPA ASSESSMENT OF EFFECT	PMIS ID	PROJECT CLOSE DATE
86301	Install Boat Utility Hook-Ups & Restore Brick Plaza Area by Georgetown Visitor Center	4/5/2021	-	4/5/2021	No Adverse Effect	257473 (deleted)	-
86304	Resurface Ramps at Two Pedestrian Bridges in Georgetown	8/13/2019	-	8/13/2019	No Adverse Effect	257469 (deleted)	-
86305	Interim Stabilization of South Canal Wall by 3207 Grace Street, Georgetown	6/12/2020	-	6/12/2020	No Adverse Effect	93748 (deleted)	-
86482	City of Cumberland Mill Race CSO	1/19/2021	Cumberland	1/19/2021	No Adverse Effect	-	-
86491	Redesign Entrance and Intersection at Fletcher's Cove	2/6/2020	-	2/6/2020	Adverse Effect	-	3/9/2020
86522	Cooperator/Volunteer Events and Canal Pride 2019	4/23/2019	Palisades, Palisades, Palisades, Western, Palisades, Western	4/23/2019	No Adverse Effect	-	-
86579	Temporary Detour for Lock #19 Repairs	4/23/2019	-	4/23/2019	No Adverse Effect	-	-
86941	Improve Access to Pleasantville Ag Fields and Myers Property	10/8/2019	Pleasantville	10/8/2019	No Adverse Effect	-	-
87880	Town Creek Farm Access Gate Replacement	8/28/2019	Oldtown	8/28/2019	No Adverse Effect	-	-
88566	SHA Bridge repainting SUP - I-495	5/31/2019	MD08	5/31/2019	No Adverse Effect	-	-
88685	Mold mitigation within Great Falls Tavern	6/18/2019	Palisades	6/18/2019	To Be Determined	-	-
88989	SHA Signage at Little Tonoloway Day Use Area	11/12/2019	-	11/12/2019	No Adverse Effect	-	-
89114	Short Term Historic Lease Agreement for the grounds of the Washington Canoe Club	6/25/2019	-	6/25/2019	No Adverse Effect	-	-
89246	Deck Replacement for Bridge no. 0104800 on MD 51 Over C&O	8/13/2019	Western Maryland	8/13/2019	No Adverse Effect	-	-
89255	Clean and Repoint Exterior Brick Facade, Repair / Replace Windows and Doors at the Georgetown Visitor Center	3/11/2021	-	3/11/2021	No Adverse Effect	254946	-

PROJECT ID	PROJECT TITLE	COMPLIANCE COMPLETION DATE	DISTRICT	NEPA SIGNED DATE	NHPA ASSESSMENT OF EFFECT	PMIS ID	PROJECT CLOSE DATE
89425	Repair to tree boxes and replace bricks at Fishmarket Square, Georgetown	11/8/2019	-	11/8/2019	No Adverse Effect	-	-
89672	Repair Leak in 30 Inch Diameter Sewer Line, Cabin John	11/12/2019	Palisades	11/12/2019	No Adverse Effect	-	-
89790	Replace First Floor Doorknobs & Locks, Great Falls Tavern	9/24/2019	Palisades	9/24/2019	No Adverse Effect	-	-
89991	Emergency Stabilization of Lock #17	6/23/2020	-	6/23/2020	To Be Determined	-	-
89997	Emergency Stabilization of Lock #19 Retaining Wall	6/23/2020	-	6/23/2020	To Be Determined	-	-
90042	Geotechnical Investigation for Historic Stone Wall Rehabilitation near Mile Marker 11	8/28/2019	-	8/28/2019	No Adverse Effect	-	-
90243	Install safety barrier in the Potomac Aqueduct	9/4/2019	Georgetown	9/4/2019	To Be Determined	-	-
90245	Interim Emergency Stabilization at Logwall	6/23/2020	-	6/23/2020	To Be Determined	-	-
90344	Special Use Permit - DC Water - Manhole 10 Repair	1/14/2020	Palisades	1/14/2020	No Adverse Effect	-	-
90453	Repair Segment of Carderock/Scotts Run 30' Sewer Line	8/19/2021	Palisades	8/19/2021	No Adverse Effect	-	-
90888	Replacement of Hiking Trail Bridges in the Great Falls Area	10/8/2019	MD08, Palisades Maint. District	10/8/2019	To Be Determined	-	-
91139	Install Monitoring Wells for Leaking Underground Storage Tank Case # 201818	11/8/2019	-	11/8/2019	No Adverse Effect	-	-
91253	July 2019 Flood Repairs - Locks 5 - 22 Construction Project	11/7/2019	-	11/7/2019	No Adverse Effect	-	-
91313	Geotechnical Investigation to Support PI Sewer Repairs at LZ03B & LZ03C	11/26/2019	Palisades, Palisades, Palisades, Palisades	11/26/2019	No Adverse Effect	-	-
91464	Integrated Pest Management throughout park 2020	1/28/2020	DCAL, MD06, MD06, MD06, MD08	1/28/2020	No Adverse Effect	-	-
91583	2020 Hazard Tree Management	1/14/2020	-	1/14/2020	No Adverse Effect	251233	-

PROJECT ID	PROJECT TITLE	COMPLIANCE COMPLETION DATE	DISTRICT	NEPA SIGNED DATE	NHPA ASSESSMENT OF EFFECT	PMIS ID	PROJECT CLOSE DATE
91605	Seneca Stone Mill Property Acquisition	2/25/2020	-	2/25/2020	No Adverse Effect	-	-
92061	Replace upper and lower gates at Lock 20, and upper gates of Lock 2.	3/9/2020	Palisades	3/9/2020	No Adverse Effect	299471	-
92094	Geo-technical Investigations CSO NCR-3100-20-017	4/28/2020	-	4/28/2020	No Adverse Effect	-	-
92111	Improve Visitor Safety and Mitigate Rockfall Hazards in the Paw Paw Tunnel Hollow	9/4/2020	-	9/4/2020	Adverse Effect	241450	-
92196	2020 Special Use Permits for non-destructive activities	2/25/2020	-	2/25/2020	No Adverse Effect	-	-
93204	Hancock, MD - Cooperative Management Agreement & Permitted Tasks	9/22/2020	-	9/22/2020	No Adverse Effect	-	-
93377	Washington Canoe Club Temporary Boat Storage	5/21/2020	-	5/21/2020	No Adverse Effect	-	-
93384	Little Tonoloway Bridge Superstructure Replacement	3/26/2020	-	3/26/2020	No Adverse Effect	-	-
93525	Cooperator/Volunteer and Canal Pride 2020	9/22/2020	Western, Palisades, Palisades, Western, Western, Western, Western	9/22/2020	No Adverse Effect	-	-
93748	Geotechnical Investigation for Interim Stabilization of Southside Canal Wall - Grace Street	2/27/2020	-	2/27/2020	No Adverse Effect	310405	-
94103	Back Road Construction	8/31/2020	-	8/31/2020	No Adverse Effect	-	-
94414	Replace and Repair Roofs on Great Falls Maryland Tavern and Great Falls Pump House	3/1/2021	Palisades	3/1/2021	No Adverse Effect	245021,258109	-
94484	Waste Weir Repairs at Swains Lock	6/29/2020	-	6/29/2020	No Adverse Effect	-	-
95292	Monocacy Aqueduct Maintenance	4/8/2021	-	4/8/2021	No Adverse Effect	-	-
95322	City of Rockville Water Treatment Plant Stream Stabilization & Infrastructure Protection	7/13/2020	Palisades	7/13/2020	No Adverse Effect	-	-

PROJECT ID	PROJECT TITLE	COMPLIANCE COMPLETION DATE	DISTRICT	NEPA SIGNED DATE	NHPA ASSESSMENT OF EFFECT	PMIS ID	PROJECT CLOSE DATE
95531	Towpath Detour Around Culvert #97	6/15/2021	-	6/15/2021	No Adverse Effect	-	-
95548	Install benches for visitor use - memo to file 01	6/29/2020	MD06, MD06, MD06, MD06, MD08	6/29/2020	To Be Determined	-	-
95556	Special Use Permits to Support - Potomac River Tunnel	7/13/2020	-	7/13/2020	No Adverse Effect	-	-
95711	Remove vegetation from within, on, and adjacent to historic structures	8/11/2020	-	8/11/2020	No Adverse Effect	-	-
95757	Interim Repairs at the Log Wall	12/8/2020	-	12/8/2020	No Adverse Effect	-	-
95915	Resurface Towpath Miles 16.64-30.84	6/12/2020	-	6/12/2020	No Adverse Effect	-	-
96791	Carport/Service Building for Crane at Palisades Maintenance	10/27/2020	-	10/27/2020	No Adverse Effect	-	-
96988	Cooperative Agreement - Georgetown Boat Operations	10/13/2020	-	10/13/2020	No Adverse Effect	-	-
97202	Abner Cloud House - New Agreement	11/10/2020	-	11/10/2020	No Adverse Effect	-	-
97248	Minor Repairs to Davis House	8/31/2020	-	8/31/2020	No Adverse Effect	-	-
97328	Special Use Permit - DC Water - Manhole 14 Repair	1/5/2021	Palisades	1/5/2021	No Adverse Effect	-	-
97336	2021-2025 Hazard Tree Management	1/25/2021	-	1/25/2021	No Adverse Effect	310631,310632,310635,310629	-
97484	Maintenance of Canal Quarters Interpretive Program (CQIP) Structures	6/15/2021	-	6/15/2021	No Adverse Effect	-	-
97580	Special Use Permit to Support - Potomac River Tunnel - Geotechnical Work - Amendment	9/22/2020	-	9/22/2020	To Be Determined	-	-
97590	American Discovery Trail Signage	10/27/2020	MD06, MD08, MD06, MD08, MD06, MD08, MD06, MD08	10/27/2020	No Adverse Effect	-	-

PROJECT ID	PROJECT TITLE	COMPLIANCE COMPLETION DATE	DISTRICT	NEPA SIGNED DATE	NHPA ASSESSMENT OF EFFECT	PMIS ID	PROJECT CLOSE DATE
97926	Repairs to Interior Ceiling and Side Wall in Abner Cloud House	11/24/2020	-	11/24/2020	No Adverse Effect	-	-
97958	Release of biological control (knotweed psyllid) for Japanese knotweed management	6/6/2021	West of Williamsport, West of Williamsport	6/6/2021	No Adverse Effect	-	-
98068	New Sign Near Harpers Ferry Footbridge	8/5/2021	-	8/5/2021	No Adverse Effect	-	-
98086	Special Use Permit - DDOT-Access Repair Site	12/8/2020	-	12/8/2020	No Adverse Effect	-	-
98101	Repair Great Falls Tavern and Remediate Lead Based Paint	3/9/2021	Palisades	3/9/2021	No Adverse Effect	257947	-
98189	Geotechnical Investigation for Bridge Replacements at Edwards Ferry, Dargan Bend, and 15 Mile Creek	12/8/2020	-	12/8/2020	No Adverse Effect	-	-
98359	Lock 26 Witness Tree Project	2/12/2021	Monocacy	2/12/2021	No Adverse Effect	-	-
98390	Deferred Maintenance on the Hancock Maryland Shop	5/18/2021	MD 06	5/18/2021	No Adverse Effect	312614	-
98395	Replace Roof on Palisades Maintenance Shop	3/1/2021	Great Falls	3/1/2021	No Adverse Effect	312676	-
98397	Replace HVAC at Ferry Hill Law Enforcement Office	3/1/2021	Sharpsburg	3/1/2021	No Adverse Effect	312705	-
98520	Survey Benchmark Installation	12/8/2020	-	12/8/2020	No Adverse Effect	-	-
98524	Violette's Lock - Great Falls Interim Repair of Sinkhole at Potomac Dam No. 5	12/2/2020	-	12/2/2020	No Adverse Effect	-	-
98786	2021-26 Special Use Permits for non-destructive activities	2/12/2021	-	2/12/2021	No Adverse Effect	-	-
98934	Interim Repair to Erosion at Retaining Wall Supporting Capital Crescent Trail (CCT)	3/1/2021	Palisades	3/1/2021	No Adverse Effect	-	-
99006	Temporary Emergency Stabilization of Engineers House Front Porch Ceiling	2/12/2021	Palisades	2/12/2021	No Adverse Effect	-	-

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99263	Integrated Pest Management throughout park 2021-2025	2/12/2021	DCAL, MD06, MD06, MD06, MD08	2/12/2021	No Adverse Effect	-	-
99411	Level 33 Dry Laid Stone Wall Monitoring	1/11/2021	-	1/11/2021	No Adverse Effect	245005	-
99508	Level 33 Dry Laid Stone Wall Geotechnical Investigation	1/25/2021	Monocacy	1/25/2021	No Adverse Effect	-	-
99554	Wastewer #1 Investigations & Survey Benchmarks	1/25/2021	-	1/25/2021	No Adverse Effect	241456	-
99772	Geotechnical investigation - DC Water Potomac Interceptor Rehab - LZ09	2/2/2021	-	2/2/2021	To Be Determined	-	-
99780	Installation of Directional Sign to Poolesville	6/15/2021	-	6/15/2021	No Adverse Effect	-	-
99957	Interim Bridge Replacement at Edwards Ferry	3/1/2021	-	3/1/2021	No Adverse Effect	-	-
100178	Repair Water Line in Swains Parking Lot	3/24/2021	Palisades	3/24/2021	No Adverse Effect	-	-
100475	Expanded Sidewalk and New Crosswalk for Williamsport NPS HQ Location	6/15/2021	Western Maryland	6/15/2021	No Adverse Effect	-	-
100516	Repointing for gates at Lock 2 and 20	3/1/2021	Palisades	3/1/2021	No Adverse Effect	-	-
100517	New access for 98086 DDOT-Access Repair Site	3/4/2021	-	3/4/2021	No Adverse Effect	-	-
100552	Shenandoah Cable Television LLC (Shentel) Fiber Optic Line near Little Tonoloway	4/20/2021	-	4/20/2021	No Adverse Effect	-	-

PROJECT ID	PROJECT TITLE	COMPLIANCE COMPLETION DATE	DISTRICT	NEPA SIGNED DATE	NHPA ASSESSMENT OF EFFECT	PMIS ID	PROJECT CLOSE DATE
100865	Cooperator/Volunteer events and Canal Community Days 2021 - 2025	4/30/2021	Palisades, Carderock, Palisades, Great Falls, Western, Antietam Creek Campground, Western, Brunswick, Western, Dargan Bend, Western, Nolands Ferry, Western, Williamsport	4/30/2021	No Historic Properties Affected	-	-
101099	Graffiti Removal in Foundry Branch Tunnel	6/15/2021	-	6/15/2021	No Adverse Effect	-	-
101215	Carpendale Sewage Line Repair	3/24/2021	-	3/24/2021	No Adverse Effect	-	-
101373	Repairs to Davis House Roof/Chimney Flashing	6/15/2021	-	6/15/2021	No Adverse Effect	-	-
101463	Georgetown Walls and Locks 1,2,5 & Inlet Lock #1 Investigations	4/29/2021	-	4/29/2021	No Adverse Effect	245002,2 87711	-
101488	City of Cumberland Mill Race CSO: Forest Restoration	6/24/2021	Cumberland	6/24/2021	No Adverse Effect	-	-
101502	Resurface Boat Ramp Below Dam #5	4/8/2021	-	4/8/2021	To Be Determined	-	-
101506	Electrical splice box for Georgetown boat utilities	4/20/2021	-	4/20/2021	To Be Determined	-	-
101508	Resurface C&O Towpath Miles 72-87	7/28/2021	-	7/28/2021	No Adverse Effect	254939	-
101853	Special Use Permit to Support - Potomac River Tunnel - Geotechnical Work - Amendment 2	5/27/2021	-	5/27/2021	No Adverse Effect	-	-
101866	Repair Liner at Rehabilitated Conococheague Aqueduct	6/15/2021	MD06	6/15/2021	No Adverse Effect	-	-
102075	Repairs to Landscape and Interior of Great Falls Tavern	8/19/2021	-	8/19/2021	No Adverse Effect	-	-
102100	Remove Debris from Aqueducts	8/5/2021	-	8/5/2021	No Adverse Effect	318177	-

PROJECT ID	PROJECT TITLE	COMPLIANCE COMPLETION DATE	DISTRICT	NEPA SIGNED DATE	NHPA ASSESSMENT OF EFFECT	PMIS ID	PROJECT CLOSE DATE
102443	Install benches for visitor use throughout park project	6/15/2021	MD06, MD06, MD08, MD06, DCAL, MD08, MD06	6/15/2021	To Be Determined	-	-
102564	CCC archeological investigation at Carderock	6/15/2021	Palisades	6/15/2021	No Adverse Effect	-	-
102654	Level 4 Dry Dock Repair	6/15/2021	-	6/15/2021	No Adverse Effect	-	-
102693	Protection and Expansion of Rare Plant Populations	8/5/2021	-	8/5/2021	No Adverse Effect	303792	-
102697	Installation of Permanent Datums for Archaeological Sites	7/28/2021	-	7/28/2021	No Adverse Effect	-	-
102756	DC Water Rehabilitate Potomac Interceptor LZ03B & LZ03C	7/28/2021	-	7/28/2021	No Adverse Effect	-	-
102941	Repair to Lock 4 Upstream Berm Radius Wall	6/22/2021	-	6/22/2021	No Adverse Effect	-	-
102986	Additional Geotechnical Investigations for Stabilization of Historic Dry Stone Wall near Mile Post 11	7/1/2021	-	7/1/2021	To Be Determined	-	-
103075	Repair cobblestones in towpath at Lock 4	7/28/2021	-	7/28/2021	No Historic Properties Affected	-	-
103092	Hickman Cemetery Utility Pole Removal	7/28/2021	-	7/28/2021	No Adverse Effect	-	-
103162	Potomac River Tunnel Utility Construction CSO 028	8/5/2021	-	8/5/2021	No Adverse Effect	-	-
103400	2021-2025 Permitted Non-Destructive Research Activities	8/5/2021	-	8/5/2021	No Potential to Cause Effects	-	-
103617	Reinstall Brass Station Markers on Dam 4 & 5	8/19/2021	-	8/19/2021	No Adverse Effect	-	-
103797	Interim Replacement of Cathodic Protection for 30 inch Diameter Gas Lines	8/5/2021	Palisades	8/5/2021	No Adverse Effect	-	-
103854	Georgetown VC Ring Camera	10/8/2021	-	10/8/2021	No Adverse Effect	-	-
104014	Western MD Rail Trail waysides	10/8/2021	-	10/8/2021	No Adverse Effect	-	-

PROJECT ID	PROJECT TITLE	COMPLIANCE COMPLETION DATE	DISTRICT	NEPA SIGNED DATE	NHPA ASSESSMENT OF EFFECT	PMIS ID	PROJECT CLOSE DATE
104156	Correct drip edge to gutter clearance and improve drainage for gutter outlet	9/23/2021	-	9/23/2021	No Adverse Effect	-	-
104255	Adoption of 36 CFR 4.30 for allowing use of electric bicycles	9/21/2021	-	9/21/2021	No Adverse Effect	-	-
104852	Use of prescribed fire to maintain historic cultural landscapes	2/4/2022	-	2/4/2022	No Adverse Effect	-	-
104859	Hazard Tree Management along Billy Goat and other Palisades-area trails	12/21/2021	Palisades	12/21/2021	No Adverse Effect	-	-
104979	Wildflower Plantings at The Great Falls Tavern	1/13/2022	-	1/13/2022	No Adverse Effect	-	-
105129	Rumsey Bridge Graffiti Removal and Anti Climbing Fence Install	12/7/2021	Western MD	12/7/2021	No Adverse Effect	-	-
105282	Emergency Repairs Potomac Interceptor - Cabin John	11/15/2021	-	11/15/2021	No Adverse Effect	-	-
105323	DC Water - LZ14 - Cabin John Culvert - Field and Site Investigations	12/21/2021	-	12/21/2021	No Adverse Effect	-	-
105420	Installation of Directional Sign to Shepherdstown	2/10/2022	-	2/10/2022	No Adverse Effect	-	-
105484	Repair Porch Railings and Flooring at Great Falls Tavern	2/10/2022	-	2/10/2022	No Adverse Effect	-	-
106018	Jamestown Premier Georgetown Park Corp. West Pedestrian Bridge	2/18/2022	-	2/18/2022	No Adverse Effect	-	-
106021	MDOT-SHA I-495 Pier Repair/Replacement and Drainage install	1/25/2022	-	1/25/2022	No Adverse Effect	-	-
106300	Geotechnical & Masonry Investigations at Potomac Dam No. 5 Left Abutment	12/21/2021	-	12/21/2021	To Be Determined	-	-
106689	Repair leaking water main at Carderock comfort station		-	1/12/2022	No Adverse Effect	-	-
107138	Special Use Permit- SHA US 15 Bridge Structural Repairs (no. 1001700)	4/6/2022	-	4/6/2022	To Be Determined	-	-

PROJECT ID	PROJECT TITLE	COMPLIANCE COMPLETION DATE	DISTRICT	NEPA SIGNED DATE	NHPA ASSESSMENT OF EFFECT	PMIS ID	PROJECT CLOSE DATE
107897	Seneca Lockhouse fence replacement	4/6/2022	-	4/6/2022	To Be Determined	-	-
108209	Interim Stabilization of Lock 1 South Radius Wall	3/9/2022	-	3/9/2022	No Adverse Effect	-	-
108528	Additional geotechnical tests to inform repair of Lock 1 north wall	3/21/2022	-	3/21/2022	To Be Determined	-	-
108530	MM 0.87 Sink Hole Remediation	3/25/2022	-	3/25/2022	No Adverse Effect	-	-
108531	Interim Stabilization of North Wall next to Lock 1	3/21/2022	-	3/21/2022	To Be Determined	-	-

APPENDIX F: 1991 ADMINISTRATIVE HISTORY APPENDICES (LEGIS-
LATION, ADMINISTRATIVE CHRONOLOGY 1955 TO 1990,
PRINCIPAL PARK OFFICIALS 1957 TO 1991)

Appendix F supplied upon request to the National Park Service.