

ALONG THE TOWPATH

A quarterly publication of the

Chesapeake & Ohio Canal Association

An independent, non-profit, all-volunteer citizens association established in 1954 supporting the conservation of the natural and historical environment of the C&O Canal and the Potomac River Basin.

VOLUME L June 2018 Number 2

Heavy Rainstorms Impact C&O Canal

By Steve Dean

Beginning on May 14th, heavy rains started throughout the region from Ohio to the Virginia Tidewater. The rains continued on and off for several days over the entire canal area, causing high water conditions at many areas throughout the park. Boat ramps were closed and the towpath was covered with water or eroded in many places. The National Park Service promptly enacted plans to monitor and protect visitors and park resources, including structures, historic sites and the towpath.

The impact of the flooding was especially severe in the Frederick County area. Many access roads, towpath sections and bridges were damaged. The most significant damage was at Culvert 82, which carries the towpath over the Little Catoctin Creek. This culvert was previously weakened by earlier floods, and since 1987 only the river side arch remained with a footbridge in place over top of the culvert to maintain towpath integrity. During the flooding much of the remaining culvert structure and the foot bridge were washed away.

(Continued on page 2)



The towpath breach at Culvert 82 – Photo courtesy of the Chesapeake and Ohio Canal NHP, National Park Service



2018 Annual Douglas Hike

Numerous hikers hit the towpath for hikes of three lengths on April 28. The second group is shown here at Lock 34. The weather was perfect for the hike. After the hike guests congregated in Jefferson, Md. for dinner and a presentation. See page 3 for further details and photos. Photo by Steve Dean. Heavy Rainstorms (Continued)

The loss of Culvert 82 created a towpath breach. The short term solution is closure of the towpath between the Brunswick Family Campground (Mile Marker 54) and 0.5 miles upstream of the Catoctin Aqueduct (Mile Marker 51). Through hikers and bikers are instructed to exit the towpath at Lander Lock (Mile 50.9) or Brunswick (Mile 55). A longer term plan will be developed as conditions are stabilized.

Many other areas were impacted and closed by flooding. These include Billy Goat Trail Sections A and B, Snyders Landing and Taylors Landing. Sandbags were installed at the Great Falls Tavern to protect the structure as flood waters arose. A breach at Dargan Bend already has a bridge in place.

Flood conditions can create a number of issues on the park, and visitors are urged to take great care in the time after



Another view of the towpath breach at Culvert 82 – All photos courtesy of the Chesapeake and Ohio Canal NHP, National Park Service



A rare view of Lock 33 filled with water

this and any future floods. Towpath instability is often not immediately apparent and sink holes or collapses can occur in the period after flood conditions. The areas around culverts and bridges can be unstable, and often streams undermine the soil around their edges. The National Park Service responds as quickly as they can to assess and repair conditions, as well as to prepare alternate trails and markers, but this effort can take a significant amount of time.

When planning a trip on the canal, visitors should visit the park web site www.nps.gov/choh/index.htm or visit the park Facebook site @chesapeakeandohiocanal for the most up-to-date information. The park responds quickly to questions posted on Facebook. Safety hazards can be reported by calling 866-677-6677 or by using the hazard reporting system www.nps.gov/choh/safetyhazardsreportingsystem.htm.



Flood preparations at the Great Falls Tavern



Towpath washout near Mile Marker 64

2018 Douglas Memorial Hike and Dinner

By Steve Dean

The C&O Canal Association's annual Douglas Memorial Hike and Dinner was held on April 28. The event commemorated the 64th anniversary of the original hike. Both the hike and dinner were well attended. Participants met in Brunswick and embarked on their choice of three hikes.

Dinner was held at the Jefferson Ruritan Center. Both the happy hour and dinner featured camaraderie and lively conversation. Some new friends were welcomed into the canal community. Chad Crumrine, a budget analyst for the C&O Canal National Historical Park, provided an excellent overview of the Great Allegheny Passage. Chad formerly served as an intern at the GAP, and shared his knowledge of the industrial and cultural features of the trail. His talk sparked many interesting questions and comments.

Tentative plans for 2019 are to celebrate the 65th anniversary of the Douglas Hike with a weekend-long event in Williamsport. Similar weekends were held in 2014 and 2016, and were well received. Participants can attend the full weekend or individual events. Follow *Along the Towpath* for details as they become available, or contact Steve Dean at programs@candocanal.org.



Everyone's favorite ice cream man, Norm Liebow, once again greeted hikers near the end of the trail. Norm's smiles, stories, sweet treats and cold drinks are always a greatly appreciated feature. Photo by Steve Dean



Steve Dean and Jonnie Lefebure on the towpath downstream of Lock 31. Jonnie was no doubt hearing stories about canal culverts in the area. Photo by Jim Heins



We forgot to tell Tom Crouch, grandchildren Alex and Emma, and daughter Abigail that they could take the day off from level walking! They took the opportunity to clean along Levels 21 and 22. Photo by Steve Dean

2021 World Canals Conference Proposal

By Bill Holdsworth

It is time to remind the world about the significance and the wonders of the C&O Canal. To help celebrate the 50th anniversary of the creation of the C&O Canal National Historical Park, the Association will submit a bid to host the 2021 World Canals Conference in Hagerstown.

World Canals Conferences have been an annual event since 1988. The Association and C&O Canal NHP sponsored the event in 1992. Every year the WCC brings together canal enthusiasts, professionals, and scholars from around the world to discuss a variety of topics related to canals. Conferences have focused strongly on efforts to restore, revitalize and revamp historic canals.

Past conferences have highlighted the Canal du Midi in France, the Grand Canal in China, and the Rideau Canal in Canada. The C&O Canal NHP is worthy of similar global attention. The Association has been well represented at recent conferences. The C&O Canal contingent topped 20 at the 2017 WCC in Syracuse. A dozen members attended the 2016 WCC in Inverness and nine members enjoyed Flemish hospitality at the 2015 conference.

Our committee has been exploring this topic for months. The board of directors had a vigorous debate. The Association is ready to make a commitment. The $50^{\rm th}$ anniversary of the park and the restoration work at Williamsport make the timing right.

We have a strong set of partners. Visit Hagerstown, the Washington County Convention and Visitors Bureau, is a particularly enthusiastic and experienced partner. They have embraced the project by identifying suitable venues and potential funding sources.



Erie Canal trip during 2017 World Canals Conference in Syracuse, N.Y. – Photo by Bill Holdsworth

Visit Hagerstown has also offered to pay the application fee for the bid. They have experience with similar events, such as the 2018 USA Cycling Amateur Road National Championships.

Visit Hagerstown helped us form a local organizing committee to plan the conference. Other partners represented on the committee:

- C&O Canal Trust
- C&O Canal National Historical Park
- Friends of Historic Great Falls Tavern
- Heart of the Civil War Heritage Area
- Allegany County Economic/Community Development

Inland Waterways International (IWI) sponsors the World Canals Conference. Attendance ranges from 150 to 350. In recent years most conferences have lasted four days, Monday through Thursday. Our dates would be Aug. 30-Sept. 3, 2021. The typical format:

- Sunday: IWI meeting, registration, perhaps a public event, possibly an evening reception
- Monday-Wednesday mornings: Presentations on canal-related topics, about 20-30 minutes each
- Monday-Wednesday afternoons: Study trips to visit canal sites or local history sites
- Monday evening: Reception or dinner
- Tuesday evening: Free time to explore the area
- Wednesday evening: A celebration dinner (In 2017, Syracuse hosted a barbecue along the Erie canal)
- Thursday morning: Closing session

(Continued on next page)



Loch Ness during 2016 World Canals Conference in Inverness, Scotland – Photo by Bill Holdsworth

President's Report

By Bill Holdsworth

The Association is making a \$22,000 donation to the C&O Canal National Historical Park to fund a seasonal ranger position in Cumberland this summer.

Last year we made a similar donation to fund the position from May to Labor Day. The donation was effective. Seasonal employee Stephanie Siemek worked well with Ranger Rita Knox, Allegany Tourism staff, park partners and park volunteers. This year we increased the donation to extend the position through October.

The Association funded \$1,400 to print 12,000 copies of the 2018 Park Planner. This large foldout pamphlet gives park visitors a treasure trove of useful data, listing visitor center hours and locations, hiker-biker campsites, ranger programs, hiking trails and other park information. The Association has been printing this document for many years.

This year the Association has again voiced its support of the park's application for two grants from the Maryland Department of Transportation. Those grants, funded by the Transportation Alternatives Program, would continue work started this year. One grant would focus on the towpath rehabilitation recommended by the Allegheny Trail Alliance's safety assessment. The second grant is a rewatering project that will restore the canal to its historic appearance from Lock 5 to Lock 22 and make the prism more navigable for canoes and kayaks.

Those of us in Montgomery County won't be able to enjoy the canal as much as usual this year, as much it is drained for maintenance work. But we look forward to the dividends that work will pay in future years.

I am looking forward to my trip to September's World Canals Conference in Ireland. I am scheduled to talk about the restoration of the Conococheague Aqueduct in Williamsport, sharing our local success with an international audience.

World Canal Conference (Continued)

Optional pre- and post-conference tours are offered. These typically draw a small subset of attendees, a busload.

Our area offers a wealth of destinations for conference study trips, and pre- and post-conference tours: Williamsport, Paw Paw Tunnel, Cumberland's Canal Place, Monocacy Aqueduct, Great Falls Tavern, Georgetown, Harpers Ferry, Antietam and Gettysburg battlefields, and the Allegheny Portage National Historic Site among others. Hagerstown provides a central location along the canal. The city offers over 2,000 hotel rooms. The historic Maryland Theatre is under consideration as a conference venue.

Attendees typically pay a registration fee in the \$400-600 range, which covers less than half of the costs. The Association will seek sponsorships and grants to help defray the cost. The Association will need to cover a portion of the cost from its treasury. The board of directors has established a WCC 2021 fund so that donors can target their support for the conference.

Hosting the conference will be a challenge for the Association. We will need volunteers to help with the many logistical tasks.



Flanders during 2015 World Canals Conference in Ghent, Belgium – Photo by Chris Holdsworth



Canal du Midi during 2013 World Canals Conference in Toulouse, France – Photo by Bill Holdsworth

Swains Lockhouse Rehabilitation Groundbreaking

By Steve Dean

A groundbreaking celebration for the rehabilitation of Swains Lockhouse was held on Saturday, March 3. The lockhouse was named for the family who lived at Lock 21 for more than a century. In recent years conditions have degraded to the point where it is uninhabitable and at risk for further decline.

The lockhouse will be rehabilitated, furnished and interpreted to reflect the year 1916 when the C&O Canal was transitioning from a commercial entity to a recreational resource. Once the work is completed, Swains will become the seventh lockhouse in the C&O Canal Trust's Canal Quarters program. This project is a partnership between the C&O Canal National Historical Park, the National Park Service, the C&O Canal Trust, the Friends of the Historic Great Falls Tavern (FHGFT), and the C&O Canal Association. The Association and the FHGFT jointly donated \$25,000 to the project.



Kevin Brandt, superintendent of the C&O Canal National Historical Park, speaks to attendees at the Swains groundbreaking – Photo by Nancy Benco



Bill Holdsworth, C&OCA president; and Don Harrison, Friends of Historic Great Falls Tavern president, present a \$25,000 donation to Kevin Brandt for the Swains Lockhouse project – Photo by Doug Zveare



An overview of the Swains Lockhouse project shows the revised ground landscaping and the first and second floor plans – Photo by Nancy Benco



(l-r) Don Harrison; Bill Holdsworth; Bert Swain, Swains family and C&O Canal Trust board member; Kevin Brandt; Meshelle' Johnson, representing Senator Chris Van Hollen; Kevin Mack, representing Congressman John Delaney; and Mike Mitchell, Chair of the C&O Canal Trust – Photo by Doug Zveare

Donors to Association Funds

February 1 to April 30, 2018

Hagerstown Convention &

Funds are identified as follows:

Ken Rollins C&O Canal Fund - R

– a revolving fund to support current projects and programs in and for the C&O Canal National Historical Park

Davies Legal Fund – D

- supports the Association's involvement in activities such as opposition to the transfer of public land to any individual or enterprise for private use.

Rachel Stewart Swains Lock Area Fund – S

 funds improvements to the area around Swains Lock, as they are identified in conjunction with the National Park Service.

General Donations

Thomas L. Aitken II – SJames Alden – R, D, S Andrew & Sue Austin − **R** Tim & Kathryn Banfield – **R** Dennis M. Barry - S Charles & Robin Beall - R, D Dorothy Boerner – **R** John Bogdan Jr. – R, D Marguerite A. Bradley – R Nathaniel Breed $-\mathbf{R}, \mathbf{D}$ Arthur Bruestle – R Ed & Kathy Bury – **R** Richard P. Cember – **D** C.L. & J.L. Clark - R Jerome A. Conlon $- \mathbf{R}$ D. Kirk Davidson – R Lynn DeForge – **R** Raymond & Jean Downs – R Charles & Susan Edson – R Sharon G. Elliott - R, D John E. Ferguson – **D** K.S. Fisher - **S** Steve & Jan Fowler – **D** Anne W. Gale $-\mathbf{R}$

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In Memory of Dr. Jack H. Colwell

David Lide Jr. – **R** Jan V. Sengers – **R**

In Memory of Warren F. Gardner, Original 1954 hikers on 54th Anniversary

Margaret Skinner – **R**

In Memory of Chris Hahn

Anonymous $-\mathbf{R}$

In Memory of Tom Kozar

John & Bonnie Collier – R

In Memory of Rachel Stewart

Adrian R. Stewart – **S**

In Memory of Frances & Jack Stickles

Robert A. Mertz – **S**

William E. Gerber – R, D

A Balloon to Spy out the Land: Recreating Union Army Balloon Observations at Edwards Ferry

Tom D. Crouch, Ph.D. James Green, Ph.D. Curt Westergard

The Westergard balloon from the Virginia side the Potomac – Photo by Marion Constante

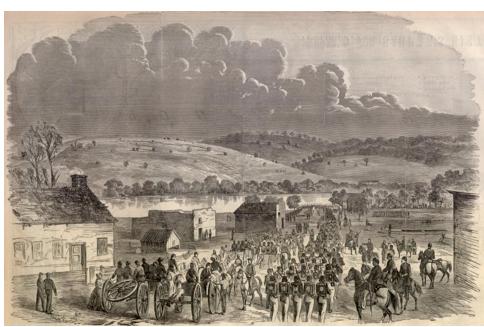
On Saturday, Dec. 14, 1861, Virginia Miller, a young Southern patriot living in Leesburg, Virginia, saw a strange object rising above the trees across the Potomac. The Federals, she noted in her diary, had sent up a balloon "...to spy out the land." Indeed, Thaddeus Sobieski Constantine Lowe, the head of the newly created Union Army Aeronautic Corps, was operating the tethered reconnaissance balloon *Intrepid* from a spot near Edwards Ferry on the Chesapeake and Ohio Canal that day. ¹

It was a critically important spot on the Potomac. Edwards Ferry had been a general crossing point for secessionists from Maryland, and for the transfer of military supplies and provisions. Following the fighting at Edwards Ferry and nearby Ball's Bluff Oct. 22, the hostilities along this section of the Potomac were reduced to rival pickets shouting catcalls back and forth across the river. Still, General Charles P. Stone, the local Union commander, needed to keep an eye on the Confederates in Leesburg. The General himself was in the air with Lowe on the afternoon of Dec. 14, and, according to a reporter, "...appended some valuable remarks to a very good map which he had with him in the balloon." 2

The Project

What could a Civil War aeronaut see from the basket of a balloon a thousand feet in the air? Early in 2018, Dr. James Green, NASA's Chief Scientist; Dr. Tom Crouch, Senior Curator of Aeronautics with the Smithsonian's National

Air and Space Museum; and Curt Westergard, head of Digital Design & Imaging Service of Falls Church, Virginia, set out to answer that question. Green and Crouch have both written on Civil War ballooning; lectured on the subject, individually and together; and spent hours tramping through the marshy lowlands along the Chickahominy River on the Virginia Peninsula identifying the sites where T.S.C. Lowe and his aeronauts inflated their balloons and operated during the campaign against Richmond in the spring



Edwards Ferry - Harper's Weekly, November 9, 1861, pg. 708

of 1862. Curt Westergard, a landscape architect by training, has developed a unique system of tethered, instrumented balloons which he manufactured and operates as part of his business. Fascinated by history, and willing to try new applications for his balloon system, Westergard has worked with

the Smithsonian's National Air and Space Museum on several occasions, participating in the Museum's award-winning *STEM in 30* educational media programs.

The three researchers recognized the potential of Westergard's balloon system, with its ability to provide detailed,

high resolution, 360-degree images, to answer the question of just what a Civil War aeronaut could see from the basket of a tethered balloon. The best place to conduct this experiment would be at spots where Lowe had ascended. The locations on the Virginia Peninsula are wet; inaccessible for the trailer from which Westergard's balloon operates. Other tether sites used during the campaigns of 1862 and 1863 also presented difficulties. However, Edwards Ferry, Maryland, on the C&O Canal, where two tethered balloons flew sequentially from December 1861 to March 1862, offered a combination of ease of access and views across the Potomac to the historic Loudoun County landscape.

Solid research was the foundation of the experiment. Jim Green drew on his existing research to establish a complete time-line for the operation of the balloons at Edwards Ferry. Tom Crouch searched the Library of Congress, the National Archive and

Leesburg's Thomas Balch Library of history and genealogy for relevant maps, reports, manuscript materials and other items documenting the terrain and Confederate emplacements around Leesburg. The time line and knowledge of the historic terrain provided the context for understanding the images produced by Westergard's balloon cameras.



The Intrepid, a reconstructed view. The balloon featured the word Intrepid on one side and the image of General George B. McClellan on the other. Image courtesy Dr. Jim Green

Federal Balloon Operations at Edward's Ferry

T.S.C. Lowe made several demonstration flights in the nation's capital in June 1861, convincing President Lincoln of the value of reconnaissance ballooning. Between 1861 and 1863, he organized and led the Aeronautic Corps of the Union Army. He managed a program that included seven balloons and nine aeronauts operating with Army of the Potomac in Northern Virginia, along the Potomac, during the Peninsula Campaign of 1862 and at the battles of Fredericksburg and Chancellorsville. Lowe dispatched his men and balloons to points as far distant as Port Royal, South Carolina, and Island Number 10 in the Mississippi River. The tethered balloons operated from land, and, when possible, from the deck of a specially modified balloon barge prepared at the Washington Navy Yard, the G.W. Parke Custis.





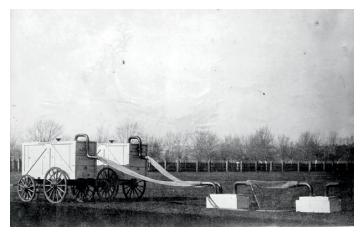


(Left to right) Dr. Tom Crouch with balloon truck and trailer in background, Dr. Jim Green in Civil War costume and Westergard balloon in background, and Curt Westergard. Photos courtesy of Dr. Tom Crouch

General George McClellan ordered Thaddeus Lowe to dispatch one of the new balloons under production in Philadelphia to support General Stone at Edwards Ferry Nov. 16, 1861. The chief aeronaut was completing arrangements to begin operations, spending time at the Washington Navy Yard where the gas generator tanks were under construction. Sized to fit on the running gear of an Army wagon, the airtight tanks would be filled with oil of vitriol (dilute sulfuric acid) and iron filings to generate the hydrogen gas with which to inflate the balloons in a remote location such as Edwards Ferry.

During the first week in December Lowe loaded the balloon *Intrepi*d and one or two inflation wagons on the canal boat *Eliza Ann* and traveled up the C&O to Edwards Ferry, where he made his first ascent on the morning of Sunday, Dec. 7. Over the next few weeks the aeronauts would identify many Confederate fortifications between Point of Rocks, Maryland, and Leesburg and a variety of other military positions. The most prominent fortifications noted in their reports were Forts Evans, Beauregard and Johnston.

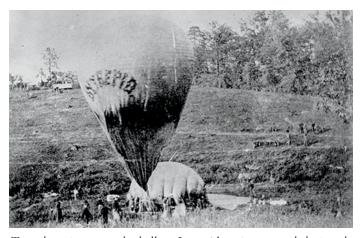
Lowe and his aeronauts continued operations in the area of Edwards Ferry/Poolesville until early March 1862, moving the balloon from place to place in the immediate area. By mid-December the balloon camp was connected to the outside world by a telegraph line. Lowe himself was constantly on the move between Edwards Ferry, Washington, and his other balloon station at Buds Ferry on the lower Potomac in Charles County, Maryland. He assigned aeronauts Ebenezer Seaver (mid-December 1861 – Jan. 2, 1862) and John Steiner (Jan. 2, 1862 – mid-February) to manage the balloon and make observations at Edwards Ferry. When Steiner was re-assigned, aeronauts Jacob Freno and John Starkweather took command of the operation.



A pair of Lowe inflation wagons. Dilute sulfuric acid and iron fillings are mixed in the two tanks to generate hydrogen, which is cooled and washed in to two short white boxes before being introduced into the balloon.

In addition to the intelligence he could gather from on high, Lowe knew that the mere presence of the balloon would have an impact on the Confederates. Rather than brown or gray, his balloons ranged in color from dull orange to yellow, insuring that the enemy would see him in the air. As Confederate General Edward Porter Alexander noted, "... the very knowledge by the enemy of one's use of balloons is demoralizing, & leads them, in all their movements, to roundabout roads & night marches which are often very hampering."³





Two above images – the balloon Intrepid as it appeared during the Peninsula Campaign of 1862.

At Edwards Ferry the balloon did indeed attract Confederate attention. At the outset, General Stone detailed a group of sharpshooters to return the fire of Confederate pickets targeting the balloon from across the Potomac. Confederate artillery fired at the balloon as well, one shell passing within 20 feet of the basket, or so it seemed to the aeronaut. The balloonists operating at Edwards Ferry do not seem to have called in Federal artillery fire on Confederate positions during these early months, but they did observe the effect of such fire. One news account reported on the effectiveness of Union counter fire following a shelling of the balloon position.

"The Rebels were taken by surprise when our guns opened upon them, and rode about on their horses in consternation. For a half-hour our shells fell a little short, dropping in a wooded ravine in the front. The range was soon attained, and such a scampering and tearing down of tents I never saw before. The shells dropped in among them with great precision ..."

The winter weather took a toll on the balloon *Intrepid*, the first aircraft stationed at Edwards Ferry. Snow and ice weighed the balloon down and damaged the coating of varnish that sealed the envelope. On Feb. 18, Lowe ordered *Intrepid* back to his workshop at the District of Columbia armory, situated on today's Washington, D.C., mall, for repair and re-varnishing. He dispatched the balloon *Union* to Edwards Ferry in its place that shortly afterward became

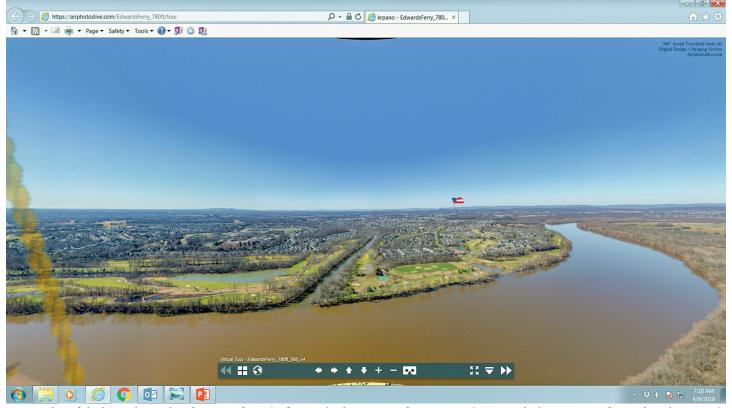
operational. The balloon operations came to an end March 4, 1862, when, after receiving his orders from McClellan, Lowe ordered aeronauts Starkweather and Freno to return to Washington with the balloon and equipment in preparation for the coming spring campaign on the Virginia Peninsula.

Recreating Lowe's View

Jim Green and Tom Crouch, several journalists and NPS volunteers met Curt Westergard, his crew and the unmanned balloon in the National Park Service parking lot at Edwards Ferry on the morning of Feb. 27, 2018. Marion Constante,



The balloon as it arose from Edwards Ferry



A screenshot of the basic photo taken from 780 feet. The flag marks the position of Ft. Evans. The view is looking up-river from Edwards Ferry. The water-course entering the river in the center is Goose Creek and the houses on the left bank are in Leesburg.

a Loudon County archaeologist and mapping expert, was on the other side of the Potomac to provide pictures of the balloon as the Confederates would have seen it, and to provide us with an opportunity to see if human figures could be identified from the air. For most of the next hour and a half, the balloon was at 500 feet, the ceiling that the FAA asked us to maintain in view of the proximity of the Leesburg and Dulles airports. For a short period, we did receive permission to allow the balloon to climb to 780 feet. As a result of the experiment, we now know what Lowe and his balloonists could see from their aerial perch above Edwards Ferry. While the view is of 21st century Loudoun County, Virginia, the traces of a war fought a century and a half ago are still visible in the landscape. Modern technology has enabled us to look back in time and imagine what T.S.C. Lowe and his aeronauts could see across the Potomac.

You can now put yourself in the basket of a Civil War balloon and enjoy a 360 degree view of the area around Edwards Ferry.

airphotoslive.com/EdwardsFerry_780ft/tour

Notes:

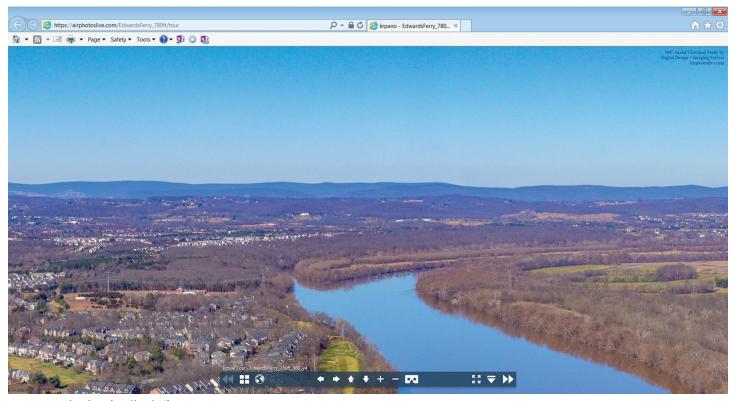
- 1. *Diary of Virginia Miller*, January 1, 1862, referencing December 14, 1861), Thomas Balch Library
- 2. Philadelphia *Inquirer*, December 16, 1861.
- 3. Edward Porter Alexander, *Fighting for the Confederacy* (Chapel Hill, N.C.: UNC Press, 1989), p. 115.
- 4. Philadelphia *Inquirer*, December 16, 1861.



The balloon over Edwards Ferry - Photo by Marion Constante



The location of Ft. Johnston



Harrisons Island and Balls Bluff

Accompanied by the Past By Karen Gray

History is the witness that testifies to the passing of time; it illumines reality, vitalizes memory, provides guidance in daily life, and brings us tidings of antiquity. Marcus Tullius Cicero (106–43 BCE), Pro Publio Sestio

The Sources of C&O Canal and National Historical Park History

I wish that someone had told me what I was going to write in this column when I began to study the history of the C&O Canal in 1977. But the simple fact is that no one knew what I'm now passing on to today's researchers. That is largely due to the fact many our current sources of information on the canal and related areas of study were not known of by researchers or were essentially beyond their ability to study. While it would seem that the explosion of new or newly-available source material on the canal's history would make it easier now to gain a good knowledge of it, the truth is that it actually makes it more difficult. It is simply no longer possible for any one person to claim a comprehensive, highly accurate understanding of the canal and the park's history—including myself.

In this edition of my column I'll provide information on the most important current sources of C&O Canal history according to the two categories generally emphasized by historians: (1) original and (2) secondary sources. In a future column I'll discuss critical research and revisions of older materials that needs to be done to correct and clarify the problematic areas and flawed information that currently plagues the common understanding and most accessible resources for our history.

C&O Canal Original Materials

Original C&O Canal archives include both materials concerning the historic canal (primarily 1828–1938) and materials concerning the C&O Canal under the National Park Service (primarily 1938 to the present). Examples of this material are: Legal documents ranging from the canal charter to the trusteeship era court documents, C&O Canal Company archives ranging from letter books to administrative materials, and the National Park Service documents, some of which go back to before the 1938 purchase of canal lands by the government. Much of this kind of material is handwritten or fragile and needs to be transcribed or copied if it is to be made readily available to researchers.

Although we'd like to think that original information is always correct, such is far from the truth and historians who work regularly in such material are well aware of the kind of errors they contain and the weaknesses that characterize them. In the case of C&O Canal Company records,

for example, what is documented in those materials does not always accord with what we find in the physical remains or other original materials. And of course, when working with official reports or company documents one must always be alert to political or social influences on what is—and is not—included and how it is presented.

The major depositories of **C&O Canal Company original material** are at the National Archives and Records Administration (NARA) in College Park, Maryland, records group 79.12,2. NPS material is largely stored at the National Washington Records Center in Suitland, Maryland, south of D.C. Other archival material is in the Maryland State Archives in Annapolis (especially legal material) and libraries in the region such as George Washington University's Gelman library in D.C. (that has the C&O Canal Association's archives), and the Western Maryland Room in the Washington County Free Library in Hagerstown. Also, there are materials in historical organizations such as the Maryland Historical Society.

Troubling for many historians are the **collections of** material in the hands of individuals or minor organizations where the long-term preservation is uncertain and use by researchers is usually impossible or not appropriately controlled to prevent pilfering or damage by careless handling. At least one such collection has come to our attention and possible disposition of it has been discussed with the owner. An appropriate recipient for such collections should be able to: (1) restore, stabilize, and protect the original; (2) document provenance and catalog the contents of the collection, putting them online so researchers find the collection; and (3) make high quality copies and/or transcriptions of the material in the collection available to researchers, or—better yet—post them on a well-designed internet website.

Recently it became known that archives of the Canal Towage Company and Chesapeake and Ohio Canal Transportation Company (both companies associated with the canal during the Trusteeship, 1890 to 1938) are available to researchers at the B&O Railroad Museum's research library in Baltimore. To my knowledge, no C&O Canal historian has done substantive research in these archives.

The **University of Maryland archives** contain a collection with partial records of several lawsuits filed against the Chesapeake and Ohio Canal Company between 1880 and 1939. These documents date from 1880 to 1945 with the bulk of the material from 1920 to 1943.

The C&O Canal Company bankruptcy **court equity documents** constitute a major archive, not well cataloged but containing significant information that is changing our understanding of the trusteeship years. The originals are in Annapolis, but several years ago William Bauman purchased copies that fill five DVDs that he has donated to the park.

I am currently creating a catalogue and making transcriptions of the most important documents as my time allows (a slow process).

Other new source material of great importance, which has necessitated changes in our past understandings, is that collected and transcribed by William Bauman and includes boat registries, boat mortgages, and extensive newspaper articles relevant to the canal from operating years. Most of this material is on the C&O Canal Association website and William has also made it available to the Western Maryland Free Library and to the park. With regard to the newspaper materials, however, it is critical to recognize that many of the articles contain significant factual errors and misunderstandings. Despite that, the collection overall provides information on the canal's people and operations such as shipping records that are available nowhere else.

Also in the category of original materials are such personal sources as diaries, letters, anonymous manuscripts and oral histories, etc. These materials are often highly problematic due to their idiosyncratic nature and extensive errors of memory and fact. Despite that they frequently provide documentation for people, events or places not available elsewhere, and they are especially rich in social and cultural information and perspectives.

Secondary Sources of C&O Canal History

Secondary sources are sources by writers using original materials and/or other secondary sources to create a presentation, article or book. Thus, while secondary material is sometimes an important source of original material and may reflect significant research in original sources, it is highly selective and always represents the author's interpretations and perspectives of his/her sources. My "Accompanied by the Past" columns and other authors' popular books on the canal are a good example of secondary writing.

One of the earliest and most interesting secondary sources on the C&O Canal is the 1899 *The Early Development of the Chesapeake and Ohio Canal Project* by George Washington Ward, a professor of history. This work contains some errors of fact and understanding, but it provides an invaluable perspective on the canal's history and significance from the point of view of one historian writing at the turn of the 19th/20th centuries and looking back at the canal's creation and difficulties

Walter S. Sanderlin's *The Great National Project: A History of the Chesapeake and Ohio Canal* was published by the Johns Hopkins Press in 1946 but was out of print and thus hard to get (though not impossible) until reprinted in 2005 by Eastern National. It is sold in our visitor centers as well as through bookstores in the region. Its strengths are in

the excellent research done by Sanderlin in the original C&O Canal Company records at NARA. Its limitations lie in the fact that it is largely a history of the canal's administration and closely related topics, and it is therefore weak in information on canal engineering and structures as well as boat operation or lockhouse life, etc.

In 1982 Thomas Hahn issued the first edition of his Towpath Guide to the C&O Canal based on Orville Crowder's towpath walks in the late 1950s. Using a surveyor's wheel, Crowder established mileages for canal structures and important points along the canal that he also described and commented on in his notes. Hahn continued to expand on Crowder's work and both towpath users and the National Park Service adopted the Crowder/Hahn mileages. Ultimately Hahn published some 15 Towpath Guide editions between 1982 and 1999. While invaluable for identifying canal structures, these older editions are problematic in two ways: (1) He often failed to correct errors and (2) much of the information he added was gained from anecdotal sources. Unfortunately, those sources were largely elderly people who had known the canal in their youth and they contain extensive errors of fact and misunderstandings. As a result the 1999 and earlier versions contain a great deal of lore, factual errors and obsolete information.

Fortunately, the **2015 edition of the** *Towpath Guide* was systematically **revised and improved** with the help of many experts and published by the Harpers Ferry Historical Association (to which Hahn assigned the copyrights). In that edition, known errors were corrected and information throughout was updated using the best historical sources at the time.

Hahn's subsequent publications in the monograph series of the West Virginia University Institute for the History of Technology and Industrial Archaeology are more professionally researched and written. They include *The Chesapeake and Ohio Canal Lock-Houses and Lock-Keepers*; and, co-authored with Emory Kemp: *Canal Terminology of the United States, Cement Mills Along the Potomac River*; and *The Alexandria Canal*. Additionally, the booklets *Canal Boat Children* (a 1923 Labor Department report); and *Life on the Chesapeake & Ohio Canal: 1859* (a memoir of a trip down the canal in that year) are extremely valuable editions of documents he found and published.

In the case of material from George "Hooper" Wolfe and especially his memoir *I Drove Mules on the C&O Canal*, we have an example of how problematic personal sources can be. For example, Wolfe's section titled "Murder at the East End of the Tunnel" is a complete fiction that incorporates a few details from a significantly later tragedy that was not associated with the C&O Canal at all. Generally Wolfe appears (Continued on next page)

Association Funds Park Planner Printing



The C&O Canal Association is pleased to once again fund the printing costs for the *Chesapeake and Ohio Canal Park Planner*. The colorful four-page park planner is a valuable resource for park visitors, and is kept up-to-date by park staff to ensure that visitors have information on the park's many resources and visitation opportunities. The planner includes:

- Hiking and biking opportunities and advisories
- Park regulations
- Visitor Center hours and locations
- Recreational guide by mileposts
- Camping information
- Canal Quarters program information
- Ranger and recreational program information

Park planners are available in the park's visitor centers. Pick one up on your next visit to the park!

Accompanied by the Past (Continued)

not to have had reliable sources for his more factual material and his stories reflect his skill as a raconteur who modifies and elaborates his core material to create a good tale. Efforts to determine the actual extent of Wolfe's working experience on a canal boat suggest that it may have been extremely limited.

For the general reader of the most popular canal works, 2015 was an extremely important year as it saw the publication not just of the new, heavily reworked Hahn *Towpath Guide* (discussed above), but also the **second edition** of Mike High's excellent *C&O Canal Companion* (Johns Hopkins Press, 2015), and the thoroughly revised edition of *Chesapeake and Ohio Canal National Historical Park Handbook 142*. I highly recommend these three works along with Sanderlin's *Great National Project*, and Elizabeth Kytle's *At Home on the Canal* (Seven Locks Press 1983) for every C&O Canal lover's library.

Government Documents

Government sources constitute a special category of materials. These include NPS official documents such as Historic Resource Studies (HRSs), Historic Structure Reports (HSRs) and Cultural Landscape Inventories (CLIs), etc. as well as engineering studies focusing on a specific structure or section of the canal needing reconstruction or repair, detailed reports

on damage following major floods, and Environmental Impact Studies (EISs). Further material in this category is found in: the National Register of Historic Places (NRHP); the Historic American Engineering Record (HAER); the Historic American Building Survey (HABS) and of course the Library of Congress (LOC).

These materials often contain original information combined with that from secondary sources. I'll write more about these in a future column when I discuss their strengths and weaknesses. At this point, my advice for those wanting to gain a good understanding of the history of the C&O Canal and its park is to begin with the good secondary sources recommended above and then to begin digging into original sources relevant to special interests that will have emerged. Always, however, recognize that all sources are fallible and that history is never as settled or as accurately understood as we imagine it to be. Being willing to change one's understanding when new or better information appears is an essential character trait of the good historian.

Note:

1. Johns Hopkins University *Studies in Historical and Political Science*, Herbert B. Adams, Editor, Series XVII, Nos. 9-10-11, published monthly (September, October, November 1899) by the Johns Hopkins Press, Baltimore.



A Path to Success: The Towpath Master Plan

By Stephanie Spencer

When most people think of the Chesapeake and Ohio Canal (C&O Canal), they envision a long path trailing along the Potomac River and winding through towering trees. They also envision lockhouses, locks, and aqueducts along the towpath that stretches 184.5 miles and provides an avenue of exploration for those traveling its length. The towpath is more than just a path. It is a hiker's playground, a historian's wonderland and a visitor's memory. This is what makes it so important to maintain and preserve the place where many have trodden and where others may find their way.

Three years ago, Greg Kniesler, the park's Chief of Maintenance, determined that the park needed a strategic plan for maintaining one of its most important assets. By teaming up with the Allegheny Trail Alliance (ATA) to do a safety assessment of the towpath surface, the park began its journey of creating a towpath master plan.

This safety assessment did not include structural assessments of culverts, aqueducts, bridges, tunnels or other historic structures, but it focused on the entire length of the towpath, which with the Great Allegheny Passage, is part of a route that stretches from Pittsburgh, Pa., to Wash-



Distribution of towpath miles by assessed condition grade – Courtesy of the Allegheny Trail Alliance

ington, D.C. The assessment assisted with providing trail documentation and a rating for each mile of the towpath, from Mile 2 through Cumberland, Maryland, at Mile 184.5. The rating values included:

Very Good (A)

Good (B)

Fair/Poor (C)

Poor/Very Rough (D)

The assessment ratings of A through D considered trail width, trail surface, mud, center grass strip, ruts/potholes, and drainage. The towpath trail, with its typical green center grass strip straddled by a dirt surface, has weather, bike tires, horse hooves, hiking boots, and general wear and tear continually impacting its condition.

The ATA's ratings are based on a clear set of criteria, according to optimal towpath conditions. The trail width, which varies throughout the park, is at best 8 feet. The surface of this 8-foot-wide pathway ranges from compact organic materials, consisting of leaves, grass, twigs, etc., of various sizes to deep tracks and muddy areas.

The frequent muddy areas had a large impact on the assessments, particularly due to most of the towpath having a good foundation but a very muddy surface during wet condi-

> tions. The buildup of mud and the lack of adequate drainage create ruts and potholes, which are quite common and cause travel and safety issues.

> The green center grass strip running along most of the 184.5 mile pathway also negatively impacts the towpath by inhibiting drainage and full use of the towpath. Around 70

percent of the towpath has the strip, which equals about 130 miles. It is ideal for water to drain from either both sides of the center or from one side or the other, but the current conditions allow for water to pool along the tracks.

Throughout many years, the trees along the towpath have grown greatly and so have their roots. These roots grow more and more each year, encroaching upon the towpath and causing safety hazards. Tree roots are reportedly the

greatest cause of injury to towpath users. In the past six years, over 200 towpath injuries were reported, 71 percent of which involved towpath defects such as root exposure.

Based on the assessments, the ATA created a set of best practices for maintaining the C&O Canal towpath. The most apparent is the removal of the center grass strip, which will also assist in creating better drainage off the pathway. The frequently occurring ruts and potholes can be repaired by removing the settled organic material and resurfacing the towpath with new material.

The recommendation for the new trail surface is a 2-inch layer of AASH-TO¹ #10, a material of 3/8 inch crushed stone dust that drains well and is good for walkways. In order to alleviate the frequently occurring compact and wet path conditions, the ATA recommends increasing summer mowing and blowing off organic materials once a year.

Safety is always an important consideration, making the removal or covering of encroaching tree roots and stones such an important aspect of towpath maintenance. Removing dead trees, which is part of an ongoing hazardous tree removal project, and correcting informal paths that erode the sides of the towpath will also assist with alleviating hazards within the park.

The ratings based on the set of criteria, along with engineer drawings and the best practices for maintenance and upkeep, resulted in an ATA-built five-year master plan for improvement. This plan identifies the worst areas of the towpath, based on the assessment results. However, it is presented by access point to access point rather than mile to mile. The park's database and hierarchy are written mile to mile, making the

park's production of ATA-assessment-based projects a challenge.

Other limitations for the proposed five-year-plan include limited in-house capabilities, creating work packages based on the

associated costs, and finding the appropriate funding for the created work packages. Due to these limitations, the C&O Canal is formulating its own master plan based off the ATA's detailed assessments.

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 $\label{eq:condition} \textit{C&O Canal Towpath, Hagerstown, MD and above. Trail ratings are Very Good (A) - blue, Good (B) - green, \\ \textit{Fair/Poor (C) - yellow, and Poor/Very Rough (D) - red. Courtesy of the Allegheny Trail Alliance} \\$

MATCH LINE: C

NORTH MOUNTAIN

MARTINSBURG

Despite limited workers, park staff have accomplished great tasks with in-house efforts. Beginning in August 2017, C&O Canal staff began implementing the plan to "link up the areas that were proposed to be under contract in order to provide a smooth and clear ride for as long as possible," says Mike Messenger, the Western Maryland Supervisory Facility Engineer.

"Five miles of resurfacing a year over 184.5 miles means the towpath will be resurfaced in 37 years if the park relies only on cyclic funding."

With this goal in mind, park staff has targeted areas for the removal of the center grass strip, clearing of pot holes, smoothing of the surface, and adding of extra towpath material to fill in the

HAGERSTOWN

pot holes. Their efforts assisted in creating a better towpath surface over 9 miles in the areas from Dam 5 (Mile 106.8) to Licking Creek Aqueduct (Mile 116.04).

Presently, the staff are working to re-compact the already repaired sections between Dam 5 and Hancock, which spans a total of 16.1 miles. They are also removing the center grass strip, smoothing the surface, and filling in pot holes from the construction area at the Conococheague Aqueduct (Mile 99.72) to Dam 5. Following the work's completion, the towpath from the Conococheague up to Hancock should provide a smoother and clearer ride. This is 23.17 miles of towpath repaired and resurfaced by in-house staff.

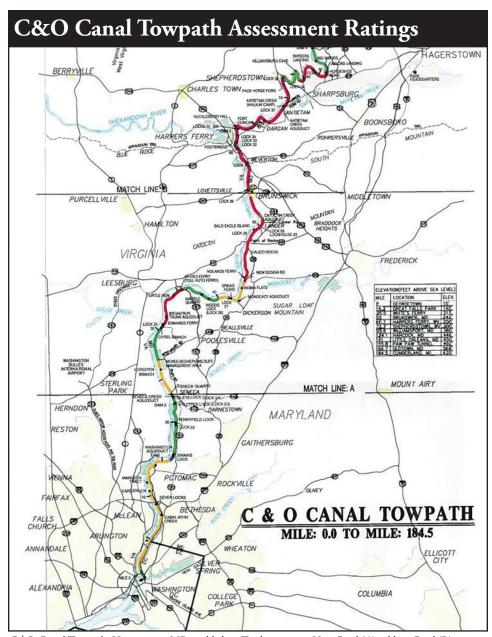
Several different materials have been used for the path surface, including a "crush and run" gravel material that was good but too rough for a top surface and a 4-inch wearing surface that was too thick and did not compact well enough. Due to the incompatibility of previous surface materials, the AAS-HTO #10 is the recommended material for the well-worn path.

There have been several past towpath resurfacing projects completed through contract work. From 2013 to 2015, 8 miles of the towpath were repaired. Six of those 8 miles were resurfaced using the old towpath material, which is a mix of bank run sand and gravel held together by clay. The other 2 miles were the first to be resurfaced using the AASHTO #10 material.

According to Brian Hixon, the park's Exhibits Specialist, the park has had "numerous complaints in the past

about the rough surface of the towpath." Because of these complaints, the AASHTO #10 surface material has been used on a small stretch of the towpath and is found to be "a much smoother riding surface for bicycles compared to the 3/4 inch dirty crusher run that we normally use for towpath resurfacing. Only time will tell how this new material will hold up on the towpath," says Hixon.

As the C&O Canal moves forward with its towpath master plan, funding requests play major roles in determining how effectively the towpath can be repaired. With cyclic funding, one 5-mile stretch of towpath can be resurfaced a year. T.J. Stottlemyer, the park's project manager, points out that 5 miles of resurfacing a year over 184.5 miles means the towpath will be resurfaced in 37 years, if the park relies



C&O Canal Towpath, Hagerstown, MD and below. Trail ratings are Very Good (A) – blue, Good (B) – green, Fair/Poor (C) – yellow, and Poor/Very Rough (D) – red. Courtesy of the Allegheny Trail Alliance

only on cyclic funding. With the help of alternative funding sources, such as the Transportation Alternative Program (TAP) grants from the state of Maryland, the park's efforts can be more than doubled, completing the resurfacing effort in a more reasonable time frame.

Aside from funding complications, the towpath master plan meets challenges related to work access and visitor usage. Many sections of the park are remote and have limited or widely-spaced access points, making it difficult for staff, contractors, and equipment to access project areas. Nearly 5 million people visit the park each year and take advantage of its resources. With such a high volume of visitors, construction projects are sure to impact visitor use.

Currently, there are a number of projects in place that address the towpath sections assessed with a (D) rating, meaning they are poor/very rough. The worst areas are being addressed first, with projects created based on funding. In fiscal year

2018, cyclic funding has provided for a project to address a 5-mile stretch of towpath between Edwards Ferry (Mile 30.8) and Whites Ferry (Mile 35.5). TAP grants funded a project to address a 12-mile section between Harpers Ferry Bridge (Mile 60.7) and Shepherdstown (Mile 72.8).

Both the past and current projects push the park closer to achieving its overall goals of transitioning the entire stretch of towpath to "a safer and more enjoyable state," states Joe Reed, the park's civil engineer, and begin-



Historic photo of the C&O Canal Towpath at "Log Wall," miles 10-11 – Courtesy of the National Park Service, C&O Canal National Historical Park

ning an annual routine maintenance plan following a full resurfacing of the towpath. Until that point, each year the park will continue to strive for the smaller goal of resurfacing 5 miles with cyclic funding and 10 to 15 miles with TAP grants.

With more and more people discovering the tranquility and adventures of the towpath, it becomes ever more crucial to preserve and protect this resource for current and future generations to enjoy. Through projects and in-house teamwork, the winding historic pathway can remain an inspirational, educational, and safe resource for years to come.

Note:

1. AASHTO is the American Association of State Highway Transportation Officials

Stephanie Spencer is a professional photographer and journalist from Pennsylvania who graduated from the University of Maryland University College. She currently works at the C&O Canal National Historical Park headquarters as the Maintenance Division's Facility Services Assistant.

C&OCA Welcomes New Members

Eric Anderson, Washington, D.C.

Olivia Brown, Chevy Chase, Md.

Carolyn Bryant, Brunswick, Maine

Mary Conlon, Cumberland, Md.

Jay & Sheila Creswell, Vienna, Va.

Dave & Dawn Crumrine, Roaring Spring, Pa.

Charles Edson, Chevy Chase, Md.

Cheryl & John Gates II, Hagerstown, Md.

Meredith Gorres, Silver Spring, Md.

Patrick & Nanci Grach, Waynesboro, Pa.

Mary & Terry Green, Poolesville, Md.

Jim & Laura Grinnan, Sharpsburg, Md.

Chris Lecrone, Waynesboro, Pa.

Nancy D. Martz, Hagerstown, Md.

Michael & Amber Marx, Greencastle, Pa.

Allison & Barry Miller, Bethesda, Md.

Donald & Connie Peoples, Sharpsburg, Md.

David & Lia Royle, Washington, D.C.

Brigitta Shroyer & Joel Anderson, Thurmont, Md.

Irene Vollbrecht, Bethesda, Md.

Toni Woods & George Clausen, Herndon, Va.

Volunteers-In-Parks

By Jim Heins

There's more than one way see the canal from one end to the other. Many experience it on a thru-hike and many more see it as a thru-ride. How many see it as a thru-work? By the end of this summer, members of the VIP team should be able to wear this banner.

Many projects are planned, including signage around Milepost 0 (tide lock), picnic table repairs and grill replacements in the Palisades area as well as further up the canal. The stewardship efforts at Swains have already begun. A new wayside at Brunswick has been added as well. The VIPs led a large effort in the Palisades as part of the annual Alice Ferguson Potomac Watershed Clean-up.

The installation of a bike repair station, purchased by the Association's thru bikers, is just around the corner, as is another wayside at Hancock. Then the team is off to begin installing benches at 18 locations from Great Falls to Cumberland. Probably 20 or more willing souls will have partaken in this year's "thru-work." You will hear about all of them by the year's end.

Although our Garlic Mustard Challenge appears to have limited appeal, there are a number of hard working, dedicated folks who continue to do battle with this unforgiving weed. Pat Hopson's band of merry men and women are a fine example of this commitment, as they continue to work around Edwards Ferry. We had a couple of more join us this year. Maybe next year will be even better. Our hats are off to all of those stalwarts.



Carol Ivory, Margaret Neuse and Larry Broadwell pull garlic mustard at Edwards Ferry – Photo by Pat Hopson



Emily Hewitt, Jim Heins and Doug Zveare at Brunswick with a newly installed wayside – Photo by Skip Magee



A volunteer team from the National Institute of Health during the Association-led watershed clean-up at Carderock – Photo by Steve Dean



Margaret Neuse, Larry Broadwell, Charlie Connolly and Carol Ivory with bagged garlic mustard at Edwards Ferry – Photo by Pat Hopson

Across the Berm

James R. Preston

James R. Preston died March 23 at the age of 91. Jim was a World War II veteran, serving in the U. S. Army Paratroopers, and was an officer in the Maryland Department of Natural Resources for over 30 years. He was a longtime Association member and was a fixture at events and hikes for many years. Jim included poetry among his many talents and was considered the Association "poet laureate." He was an Association director, served as a Lockhouse 75 volunteer and was a level walker on several levels in Western Maryland.

Ranger Rita Knox summed up Jim and his devotion to the canal perfectly: "Jim loved the canal and was active with the Association, hiked the trail frequently, and helped out at Lockhouse 75 for a number of years. He was a kind and lovely person. He will be missed."



Jim Preston – Photo by Jim Moen from the September 2005 Along the Towpath

Barbara Sheridan recalls that Jim completed the Thru-Hike in 2004. He also designed the shirts for the hike and someone in his family (possibly his grandson) designed the logo for the patch and cap that were also part of that Thru-Hike.

Nasra Sakran shared: "Jim Preston taught me to level walk – and to wear gloves! Subsequently, we found a used diaper and I understood why the gloves. On my first Thru-Hike, Jim had me bring a small foot bath to soak my feet at night. The first night people looked at me oddly. The second night, several other hikers queued to use the tub."

Another story about Jim was provided by Pat White: "Jim started coming to my Continuing Hikes in 1999 or so, usually driving an old VW van (supposedly confiscated from drug dealers and bought from law enforcement at auction). One year a group had camped out before an Association hike and the temperature plummeted overnight. During the hike the campers were complaining about how cold they'd been, and Jim indicated he'd had no problems with the temperature. Finally someone looked at him and said "You have a heater!" Jim's smile said it all.

Jim conducted a project in the early 2000s to compile a list of past Association presidents. As a result of this effort he proposed a breakfast and hike to honor past and present Association presidents. The first breakfast was held in 2003 at

Bill's Place, with a hike to the Indigo Tunnel afterward. In the announcement for that breakfast in the March 2003 *Along the Towpath* Jim commented "This year we start what we hope will be an annual event" – that wish has been fulfilled.

The December 1994 Along the Towpath included two of Jim's better-known poems – The Walk of Ninety Four and To the Honorable Justice William O. Douglas.

The Walk of Ninety Four

When what to our wandering eye did appear Was a round number. A "zero" so clear On a concrete bollard - letter "0" in the grain. How shocking to find - 'twas nothing we gained Nothing you ask? Nothing at all? Let's run it again - a partial recall.

One eighty-four was our depart. Add one-half for the actual start. Then all in between. Quite like it began, While our eyes scanned the past of nature and man.

Of the wondrous work by that C & O band To accomplish this path on our Creator's land And ask if our eyes saw what Mr. Douglas did see. The flowers, the woods, the enormous trees, The stones that were carved from a mountain nearby, The rive, the locks, the clouds riding high, We watched it all pass, we marched through the trough To our goal of that column, marked simply zero. How can you believe "zero" is nothing to read For it spells our triumph if we're to succeed.

But go back once again to sights that were seen While we plodded and stumbled - walked briskly walked clean.

Oh can we compare or just comprehend What Justice Douglas saw around every bend? Whose eyes looked beyond, others couldn't understand. His was the sight to preserve this land. That sight was a vision viewed with the mind Whether awake or asleep, or sighted or blind.

How thankful and blessed he saw more than thee For we may touch that zero - so nobly And hail to our sweet victory.

To the Honorable Justice William O. Douglas

This 40th Anniversary year
We honor walked with your memory.
Called salutes and gave cheer.
Respectfully yours, a proud corps
Fondly remembered - "The Group of Ninety-Four."

Across the Berm

Charles J. Weir

Charles J. Weir died on January 30. He was 86. Mr. Weir served in the U.S. Marine Corps during both the Korean and Vietnam Wars. He retired from the Marine Corps due to a combat injury. He freely devoted his time and efforts to public service, including activities in support of armed services veterans.

Charles was an Association member. He and his wife Darlene were frequent donors to Association funds. He supported Association projects over the years, including the development of an interpretive kiosk at the Monocacy Aqueduct.

Mr. Weir served on the C&O Canal National Historical Park Federal Advisory Commission for 21 years. He started that service in 1992 as an at-large commission member.

Carolyn W. Johnson

Carolyn "Carrie" Johnson died on May 5 in Arlington, Va. She was 77. Originally from Wisconsin, she moved to Washington D.C. in 1964 after her education at Milwaukee University School and Smith College. She was a legislative aide on Capitol Hill and her time there included assistance in advancement of the bill that created the Chesapeake and Ohio Canal National Historical Park in 1971. After her time on Capitol Hill her career included service on the *Washington Post* editorial board.

Carrie was a long-time Association member. She was a level walker on possibly the busiest level on the canal, Level 1 in Georgetown. She served on the C&O Canal Federal Advisory Committee and was the chair from 1982 to 1987.

Carrie's words from a 1989 biography in *Along the Tow*path sum her service and devotion to the canal quite well, and her words about the commission ring especially true today:

"My friendship with the C&O Canal began in 1965 when I joined the staff of then-Rep. Charles McC. Mathias (R-Md.) and began working to advance the legislation creating the National Historical Park. An Association member since the mid-60s, I have kept on enjoying and writing about the canal while at *The Washington Post* in the 1970s and as a free-lance writer/historian since 1980. From 1982 through 1987 I was privileged to chair the park's advisory commission. That highly educational experience showed me how much the canal and National Park Service need watchful, articulate, savvy friends to combat constant threats ranging from budget cuts to encroaching development and unwise use."

Dr. Jack Colwell

Dr. Jack Colwell died on February 19 at the age of 87. He was a veteran of the U.S. Army. After his military service he embarked on a distinguished career in physical chemistry. His career took him to Washington where he conducted his work at the National Bureau of Standards, later the National Institute of Standards. Dr. Colwell was talented golfer and a champion sailor. He was a paddler on the Potomac and was a member of the Sycamore Island Canoe Club. He also enjoyed bicycling on the C&O Canal.

Dr. Colwell was a supporter of the C&O Canal. He and his wife Rita generously donated to Association funds for many years. He served as a level walker on level 55 in the 1970s. Dr. Colwell was one of 33 hikers who walked the full length of the canal in the 1974 Thru-Hike.

Christopher F. Hahn

Christopher F. Hahn died on April 17 at the age of 66. He was the son of Thomas Hahn, past level walker chair, *Along the Towpath* editor and author of the *Towpath Guide to the C&O Canal*. Chris was a career federal employee for the Department of Defense.

As the son of Tom Hahn, Chris was involved with the canal as a child and into his adult years. One experience of his time on the canal was related by his father in a past issue of *Along the Towpath*. The account was about a Douglas reunion overnight hike in the early 1960s:

"Chris and I were talking about some of the stars, planets, and constellations of that nights sky. Apparently we were a bit long at it, because Bill (Douglas) shouted over, "Don't you guys ever go to sleep?" Oh well, in this case I can't say that better people have chewed me out, because there weren't any better than Justice Douglas."

Chris appeared in a photograph used in some versions of the *Towpath Guide to the C&O Canal* as a boy walking on the towpath. Barbara Sheridan recalled that when she first met Chris she told him that she expected him to be that tenyear old boy pictured inside his dad's book. He just laughed.

Chris lent his support and encouragement to the production of the revised edition of the *Towpath Guide*. Cathy Baldau of the Harpers Ferry Park Association recalls that Chris participated in the 2015 launch of the revised *Towpath Guide*. Chris spoke fondly of his father and their adventures on the towpath when Chris was a boy. His recollections of his canal days brought a tear to many who were present.

- Steve Dean

Spring Wildflower Nature Walk

By Tom Aitken

In spite of a spring cold snap, the wildflower hike on April 8th turned out to be an enjoyable 3.1 mile out-and-back trek downstream from Lock 38. Our group of eight was able to identify thirteen plants, and many of them were challenging because they had yet to flower. Wildflowers that were in full bloom included purple dead nettles, grape hyacinth, cutleaf toothwort, bloodroot, violets, ground ivy, dandelions, and spring beauties. Some Dutchman's breeches had flowered, but we were a few days too early for trout lilies, lesser celandine, toad trillium, and Virginia bluebells.

Young adventurers Davy and Henry Hunter were a pleasant addition to the hike, and their enthusiasm and love of nature delighted everybody. The turn-around just below Mile Marker 71 is the site of one of the Virginia bluebell monitoring stations along the towpath. We were able to record the soil temperature and recent growth of the plant, as well as learn interesting bluebell facts from project leader James Webb.

I would like to thank all of the participants for their contributions to the success of the hike and add that I returned on April 11th to see many Dutchman's breeches, a few trout

lilies, and the full growth of the lone lesser celandine. It's hard to predict what will and will not be flowering in early April, but on this day good conversation and a lively crew more than made up for Mother Nature's delays.



(l-r) Paul Petkus, Marjorie Richman, Mary Hunter, Henry Hunter, David Hunter, Davy Hunter, and James Webb – Photo by Tom Aitken







(l-r) Trout lily, lesser celandine and bloodroot - Photos by Tom Aitken

Continuing Hikes 2018

Only three hearty souls braved the extreme cold in March to check out the Paw Paw Tunnel and the scaling work on the downstream end of the tunnel. As promised there was a fence at the downstream end of the tunnel blocking access to the boardwalk and towpath beyond. The usually wet walls of the tunnel cut were glistening with ice and icicles. As expected the detour over Tunnel Hill was exhausting and we weren't pushing loaded bicycles.

Continuing Hikes will take the summer off and resume September 29th with a hike from Taylors Landing.

- Pat White, hikemaster@candocanal.org



A September morning river view at Taylors Landing - Photo by Steve Dean

A Chilly March Tree Walk at Blockhouse Point

By Carol Ivory

March 17 started out mild but turned cold and blustery as the day progressed. It was a sharp reminder that spring is slow in arriving this year. Our group met at the small parking area across from Pettit Way and walked the trail back to the overlook. The view of the towpath, the Potomac River and Pond Island through the leafless trees was stunning.

We had a plant list for Blockhouse Point provided by a Maryland Native Plant Society member and preceded to checkoff our observations. In the high areas, the large trees were oaks, tulip trees, hickory and black gum trees. Four species of oak were identified: white, chestnut, northern red and

black. We saw a number of very young ash trees that were still healthy but most of the mature ones were dead and dying due to the emerald ash borer.

Young beech trees were easily spotted as they are still holding on to their tan leaves. This is believed to be one of nature's ploys to deter the deer from eating the young beech twigs. *Carpinus caroliniana*, American hornbeam or musclewood trees were easy to spot given their distinctive smooth, sinewy bark. In the stream valley, sycamore and Paw Paw trees were dominant. We added two new woody plants to the list, wild hydrangea

and devils walking stick. Devil's walking stick grows to 10 feet or more and is very attractive when it leafs out with lacy, leaves and produces long lasting white flowers at the top of the plant. Small purple-black fruit produced in the fall are eaten by birds.

A similar walk in April would highlight spring wild flowers such as spring beauties, cut-leaf toothwort, Solomon's seal, bluets, rue anemone and others.

Join the June 23^{rd} walk at the same location for a totally different view and botanical display.



(l-r) Jim Spangenberg, Ralph Buglass, Pat Hopson, and Carrie Blair accompanied by Ernest Shackleton



Devil's walking stick - Photos by Carol Ivory

C&O Canal Handbook Reprint

The revised *Chesapeake and Ohio Canal Official National Park Handbook*, also known as *Handbook 142*, was originally printed in 2015, with the intent of providing a five to six year supply. The handbook sold better than expected, and it was necessary to reprint the book in May, 2018. The book is largely the same as the 2015 printing and the cover price remains \$10.95; \$8.00 to Association members through our on-line book store. The Association is able to maintain the low price due to the use of volunteer support to produce and manage the book. To date, sales of the book have raised around \$10,000 to support park education projects. The *Chesapeake and Ohio Canal Official National Park Handbook* is available from the C&O Canal Association online book store at www.candocanal.org/store.html.

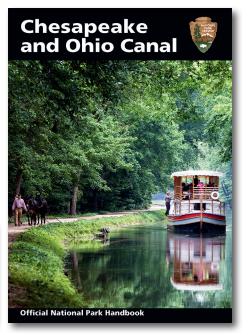
– Steve Dean











Along the Towpath, June 2018

Nature Notes

By Marjorie Richman

Flowers that Follow the Sun

In the Washington area we are fortunate to have an excellent place to observe flowers that follow the sun. At the McKee-Beshers Wildlife Management Area (WMA) in Maryland sunflowers are planted each year in order to provide sunflower seeds, a high protein food source, for many species of birds, wild turkey, deer, and a variety of reptiles and amphibians. The result is several extensive fields of sunflowers that bloom throughout the summer months.

Heliotropism, the response of plants to the direction of the sun, or "sun tracking" as it is often called, was first documented in Ancient Greece. The Greeks noted it but did not think the subject worthy of further study. It was simply accepted that certain plants face east to greet the rising sun, then gradually move west as the day progresses. By sunset the plant is facing west. During the night the plant once more reorients, moving gradually east. By sunrise, the plant is facing east. It was assumed that the plant was passively following the sun. It was a long time before scientists became interested in trying to understand the mechanism behind heliotropism.

Last year I decided to visit McKee-Beshers WMA to take photos showing proof positive that sunflowers face east in the morning and west by sunset. I arrived early in the morning to photograph a small section of sunflowers. They were all facing east. Late in the day I returned expecting to see the entire section now facing west. Instead to my surprise they were still facing east. I was puzzled.

Fortunately, I found intriguing information in the *Plant Science* column in the journal *Science* dated Aug. 5, 2016: "How do Sunflowers follow the sun – and to what end?" The column is a synopsis of research undertaken at the University of California at Davis. Botanists conducted experiments to find answers to three questions: how do sunflowers follow the sun, what are the evolutionary advantages, and why do mature flowers stop sun tracking? It seems that sunflowers only track the sun while in the bud stage. The buds are heliotropic. Once the flower head blooms, the mature plant faces east for the remainder of its life cycle. The magazine article provided answers to many questions about heliotropism including why my photographed sunflowers didn't move from east to west during the day.

With regard to the "how" question, researchers at Davis found that the movement of the bud is caused by alternating growth rates that take place on each side of the plant due to the action of a plant hormone called Auxin. This might be more than you want to know, but it is intriguing that this hormone actually moves from one side of the plant to the other during a 24-hour day. When on the east side of the plant that side of the stem exhibits a higher growth rate causing the stem to bend and the apex of the plant to move west. When the hormone is on west side of the plant, the higher growth rate on the west side causes the stem to bend and the apex of the plant moves east. As each side of the stem becomes longer in response to its growth pattern, the apex of the plant is gradually moved in the opposite direction, from east to west during the day and from west to east at night.

With regard to evolutionary advantage, the researchers determined that the plant absorbs more warmth when facing the sun rather than away from it. Pollinators are attracted to heat, and they are most active during the day. When the plants were restrained so they could not orient toward the sun, the result was decreased growth.

Researchers noted that sun tracking slows as the plant matures, and the mature flower faces only east. The advantage, they determined, is warmth. Plants facing the rising sun warmed up more quickly than plants facing in the opposite direction. The warmer flowers received more pollinators. Researchers concluded that reproduction has a better chance of success if the mature plant remains oriented to the best source of heat, the light from the east in the morning.

The life cycle of flowers that follow the sun can be observed from bud stage to maturity at the McKee-Beshers WMA. On the McKee-Beshers website you will find directions to three different parking areas as well as information on when the flowers are expected to bloom. Keep in mind that sunflower viewing is very popular among people with a variety of interests, including artists, photographers and hikers. It can get pretty crowded, so plan your trip accordingly. Note that McKee-Beshers shares a common boundary with the C&O Canal National Park.



Sunflowers at McKee-Beshers WMA - Photos by Marjorie Richman

On The Level By Level Walker Chair Steve Dean

Within a week after this newsetter is mailed it will be time to welcome summer and say goodbye to spring. Many of us will be glad to see the end of a very wet spring that has not been kind to our beloved canal. Some of our levels have been impacted, especially in Frederick County. Level 20 is presently disrupted in the middle because of the breach caused by the blow-out of Culvert 82.

Watch the level walker blog (levelwalker.blog) for summer safety notes. These are mostly a reminder but it is always important to be safe out there, especially in the summer when heat can turn even a short walk into an ordeal if one is not properly prepared, and insects and animals can create hazards.

Nearly 70 reports from February 15th through late May are included in this summary, and the walks reflect visits to 43 of our 69 levels. There are fewer walks for May than normal due to the persistent rains throughout that month. If you are not familiar with the level walker program and are interested in joining contact me at levelwalker@candocanal.org.

One of the best quotes I've heard for a while came from Karlen Keto — "... the canal just called for me and I had to go!" That's a good reminder for many of us. It's easy to get wrapped up with life and stay away from the canal. We have to convince ourselves to take a canal break — then when we do we wonder why we stayed away! I hope to see some of you on the towpath or at canal events this year.

Level 1 Tidelock to Incline Plane: Bob Radlinski and Laura Galvin report March 18: Even though trash was lighter than last time, we found two large bags. Several passersby thanked us for the cleanup effort. Due to dry conditions, the towpath was in very good shape. There was an infestation of unidentified beetles in the Fletchers area.

Level 3 Lock 5 to Cabin John Creek: Allyson Miller reports May 3 and 9: There was a lot of trash in the prism on May 3, but I could not reach it. On May 9 I focused on trash in the prism. Most of the trash was plastic bottles, beer cans and assorted other trash. On May 3 the Glen Echo Fire Department was practicing water rescues near Lock 6. There are many trees down in the prism, but the towpath was clear. Near the Sycamore Island bridge a small creek flows into the prism and the runoff has caused a huge buildup of soil. There is very little water in this area and plants are taking over the prism. A broken bike rack that was apparently vandalized was found at Lock 6. The Lock 7 house roof has some loose or missing shingles. There is some old graffiti on the back of the lockhouse that is showing through the paint. The basement door casing is broken and there is a large gap there, as well as water puddling in the entryway.

Level 4 Cabin John Creek to Lock 14: Larry Heflin reports February through May: The towpath was monitored over numerous walks, through all conditions. No significant issues were reported during this period.

Level 5 Lock 14 to Bridge at Cropley: John N Maclean reports March 19: The walk was refreshingly trash free. I collected a half-bag using the plastic trash bags obtainable at NPS stations. There was one exception, a tire and rim in the canal just above the Marsden Bridge at mile 11.5. The fairly recent application of fresh gravel has improved the condition of the towpath. Wisely, the NPS has put up signs at the high wall over the Potomac just upriver from the Carderock access and parking lot warning against motorized traffic on the narrow length of the towpath along the top of the wall.

Level 6 Bridge at Cropley to Lock 20: Jan Kuhl reports Jan. 13 and March 4: In January there was very little trash and the towpath was dry. In March I think a lot of folks, like me, were getting cabin fever, plus it was a sunny day. The towpath was mainly dry in March, with only a few lingering mud puddles. There was debris on most of the towpath; I removed anything I thought would impede bicycles. Billy Goat Trail A was closed. Two trees were down by the fencing at the Great Geologic Barrier byway; both trees completely covered the towpath. I could easily step over one of them, I had to shimmy

over the other. There were some large branches covering about 2/3 of the towpath near the stop gate. The towpath erosion on the south end of Wide Water is worse, with several new patches; the NPS has added orange fencing in four places. There is also towpath erosion at lock 19; the NPS has added fencing here.

Level 7 Lock 20 to Lock 21: Jim and Lisa Goheen report Feb. 21 and April 28: The first walk took place on a beautiful February day. The tow path in fairly good shape considering the rain fall during the previous days. Construction workers were at the Swain lock house. Turtles were sunning themselves at several sites along the canal. In April the park was very busy. Turtles were out sunning themselves on the canal. There were the usual herons and other birds; no unusual sightings. Bill James reports Feb. 28: Several small branches were removed from the towpath. Most trash was at the Swains campground. Temperature was in the low 50s and herons, geese and turtles were observed. Nancy Benco reports April 20: There were many downed trees, evidently from the high winds of March. Some of them had been cut by saws and all were off the towpath. The prism was partially watered throughout the level, but water was generally low, revealing small clam shells all along the prism edge. It was unwatered near Great Falls Tavern due to construction. Spring was in bloom: Bluebells were at their peak; other spring wild flowers included spring beauties, mayapples, Dutchman's breeches, blue phlox, violets, field chickweed and dandelions. Trees were in early stages of leafing out, and redbuds were blooming, and Paw Paws were fruiting.

Level 8 Lock 21 to Lock 22: Karen and Steve Appleton report March 18: It was a beautiful day and the towpath was in great condition. There were many people out. We picked up two full bags of trash, including numerous beer cans and bottles in the woods around the Pennyfield lock house.

Level 9 Lock 22 to Seneca Aqueduct: John McGraw reports March 12, 13 and 31: On the earlier walks there was light trash; during the March 31 walk it was evident someone had done a thorough cleanup. The access road to Pennyfield was undergoing some much-needed improvements. Bird sightings included owls, many woodpeckers, cardinals, ducks and sparrows. I was particularly fortunate to be on the towpath on a quiet Monday morning on a beautiful day. Paul and Rita Marth report May 9 and 25: The May 9 walk was primarily to focus on garlic mustard. On the 25th there was minimal trash. It was very muddy near the river, so we avoided

this area. There was one beaver swimming in the canal near Blockhouse Point, two egrets, two herons, numerous turtles swimming in the canal and on logs, two black snakes and one pileated woodpecker. The water level in the canal was low. The Seneca parking lot is a disaster, as usual. The pavement is crumbly with big pot holes.

Level 10 Seneca Aqueduct to Milepost 25: Carol Purcell reports March 18: It was a beautiful day—and I saw my first wild flowers of the season! There was much evidence of tree cutting by the Park Service. Thanks to the tree cutting crew for leaving one big log prone by Mile Post 25. It is a nice spot to sit and drink some water. I spoke with several people along the way. One woman was heading up stream and thought she was going south. I gave her a park map, so she could see where she was and find other entry points for future hikes. A pileated woodpecker landed on a tree above me as I was talking with a birding couple who had been watching an eagle nest on Sharpshin Island. It is a huge nest. I also heard three different sets of barred owls calling, the third was across the river in Virginia.

Level 15 Whites Ferry to Lock 26: Jon Wolz reports March 24 and April 17: The level is visited many times and this report reflects highlights from March. It was a nice day for a walk accompanied by dog Violet. There were seven Girl Scouts and two scout leaders back-packing from Edward's Ferry to the Marble Quarry Camp Site. Water level in the prism continues to be high in spots and is swampy in other spots. There is only a little bit of the prism that does not have any water in it at all. At Culvert 54, I heard what I thought were loud voices. My first instinct told me there was a group of people down at the river. When I looked toward the sound, I saw there were 12 cormorants on a log in the river. They certainly make an unusual noise. There was a moderate amount of trash, and most was picked up was in the last mile near White's Ferry. A tent was in the canal prism near Milepost 39. I pulled it out and dragged it about a hundred yards to the Marble Quarry hiker biker camp where I placed a rock on it, so it would not blow away. I left the tent at the campsite.

Level 16 Lock 26 to the Monocacy Aqueduct: Michael Cianciosi reports March 18: There was very little trash on the towpath. Numerous trees have recently been cut down along the sides of the towpath in this section, especially between the aqueduct and Lock 27. Thanks to the NPS for doing an excellent job of clearing fallen trees and branches after recent wind storms. I inspected the culverts on this walk. On Culvert 69 I noted that one stone from the upstream arch right wing wall has fallen out since last year and is on the ground. Culvert 65 has been refaced on the berm side, and there is currently a scaffold leading into the barrel on the berm side, where a worker has been shoring up the stones inside the barrel. Jon Wolz reports March 24, and April 7 and 20: The level is visited frequently and this report reflects highlights from March and a cleanup in April. Snow covered the hillsides on the north sides on the berm side of the canal in March. The bad ruts near Lock 27 have been filled in by the NPS. The roof and gutter repairs to the lockhouse at Lock 27 were completed. On April 7 Jon led a large-scale cleanup of the Monocacy river area with a group of 14 volunteers. This effort was part of the Alice Ferguson Foundation watershed cleanup. The group led by Jon removed 51 bags of trash and recyclable material as well as several large objects. Thanks to Jon for the tremendous effort.

Level 17 Monocacy Aqueduct to Nolands Ferry: Earl Porter reports March 19, April 18 and May 14: All seven arches of the Monocacy Aqueduct were clear in March, water was high in April, and Arch 5 was blocked in May. I am monitoring the river and berm sides of Culvert 71. A stone on the river arch has recently fallen and the erosion on the berm arch continues. I met an elderly man at Mono-

cacy in March who lived there in the 1940s. He pointed out that there were three houses in the aqueduct area then and a house near the river on the upstream side whose occupants rented out canoes.

Level 18 Nolands Ferry to Point of Rocks: Kerry Gruber reports Feb. 20: Six volunteers conducted the walk on this date. Conditions were somewhat muddy and wet, with some puddles. The weather was remarkably warm for February, with highs in the 60s. The towpath was remarkably clear of trash. The eagle's nest in a large sycamore tree overhanging the river around Mile 46.5 was clearly visible but no eagles seemed to be occupying it. A pair of bald eagles was seen circling nearby.

Level 19 Point of Rocks to Catoctin Aqueduct: Don Peterson reports March, April and May: Towpath was monitored over numerous walks. Conditions are generally good on both levels, and no significant issues were reported. In early April a snapping turtle and Bonapartes gulls were observed, and Dutchmans breeches, cut-leaved toothwort, and Virginia bluebells were in bloom. James Spangenberg reports April 10: The towpath in this area looked good. No unusual findings were reported.

Level 20 Catoctin to Lock 30: **Comment:** As noted on Page 1 of this newsletter, Culvert 82 was heavily damaged. Part of this level will be closed for the near future until a bypass is developed.

Level 21 Lock 30 to Lock 31: John Ferguson reports March 18: The towpath was reasonably clean. Many families were out on the towpath. There are paving blocks on both sides of the west end of the Lock 30, under the highway bridge, that are crumbling and appear as though they are ready to fall into the lock. Karlen Keto reports March 19: Dog Chessie and I walked east from the Weverton lock house. We met three cyclists, one walker, and one mom with two children in stroller. One full small bag of trash was removed as well as a fishing pole/reel/line and one shoe. It was a short walk, but the canal just called for me and I had to go! Towpath conditions were fine.

Level 22 Lock 31 to Lock 33: Tom Crouch reports March 10, April 14 (with Alex Wyatt), and April 28 (with Abigail, Emma and Alex Wyatt): In March, the towpath was drier than I expected, with occasional soft spots and puddles that could easily be avoided. The NPS has clearly been putting in time clearing the downed trees along the path. The scouts of Troop 457 from Rockville were out in force. I always enjoy chatting with the children and their leaders. I assumed that trash would be light, given the season and the wet February. I was very wrong; it had accumulated to an extraordinary degree in the wet and dry sections of the canal bed. In mid-April, grandson Alex and I did a level walk to ensure that Douglas hikers would see Level 22 at its best. Spring wildflowers were putting in an appearance, unfortunately, spring has also brought less attractive features to the landscape. Alex and I filled two large garbage bags full of cans and bottles from what appeared to be party sites. During the Douglas Hike with Alex, my daughter Abigail and granddaughter Emma, we discovered that considerably more trash had accumulated since mid-April. Since I had a garbage bag in my pack, we decided to turn the hike into another level walk.

Level 27 Antietam Aqueduct to Lock 38: Jonnie and Joyce Lefebure report Jan. 31: A notch into the towpath continues to erode into the river side of towpath at Packhorse Ford wayside by fishers crossing from Canal Road The towpath is in good shape otherwise. Spring and summer birds were vociferating—wood thrush, warbling vireo, song sparrow, robins, Baltimore oriole, cardinal, and Carolina wren. Bluebells were fading, and Paw Paw trees were blooming as were purple and white violets, golden ragwort, mayapple, common cinquefoil and Indian strawberry.

Levels 28 and 29 Lock 38 to Snyders Landing: Clifford Smith reports Feb. 27: The towpath was in good condition and remarkably free of sticks and branches up to lock 39. Thereafter there was lots of them all the way to Mile 76. The picnic table at Killiansburg camp had been moved to a lower level nearer the water. The river was high, and the table was at risk of washing away.

Level 30 Snyders Landing to Lock 40: Charles Connolly and Kathy Cox report March 11: It was a beautiful day for a walk on the canal, but people didn't seem to realize that. There was a bit of trash, and most was near Snyders Landing. We saw and heard several pileated woodpeckers. We cleaned the prism of trash thrown from the road for a short distance until it became impassable. Margie Knott and Cat Pham report March 31: It was finally a gorgeous day to get outside and walk. I haven't been on towpath in over eight months ... so it was a wonderful treat to be walking and enjoying nature again. There was no trash and I was surprised the towpath was in such good shape after all the rainy weather. The river was at boat ramp in flood stage.

Level 33 Dam 4 to McMahons Mill: Phil Shanholtzer reports March 17: I saw no trash. A tree cutting crew had been working around Dam 4 and Big Slackwater. A scout leader was waiting at McMahon's for a group of boys on bikes. Later I saw the group of eight boys on their bikes. They planned to camp there that night and ride up to Milepost 100 the next day. The winch house at the stop lock by Dam 4 is in need of paint and replacement of some boards. I think it has become worse since I visited last fall.

Level 34 McMahons Mill to Opequon Junction Hiker Biker: Trent Carbaugh reports April 11: I thought I should go to the level and see that the March and April high water left. The towpath was in surprisingly good shape; mostly dry except in areas that were flooded. There was much debris on the stone causeway sections – logs and sticks with minimal washed down trash. Many more standing dead trees have been removed in this level. There was lots of water in Lock 41 and no visible degradation of the structure from the last visit. There was more water than usual in Lock 42.

Level 36 Lock 43 to Falling Waters: Dick Ebersole reports April 14: The towpath was in good condition with a few small branches left from the wind. Lock 43 and its lockhouse appeared to be in stable condition. There was very little trash.

Level 37 Falling Waters to Lock 44: Jim Tomlin reports March 14 and 19, and April 12 (with Cindy Walczak): It took two visits in March to complete the cleanup of Level 37. There sure were a lot of small sticks to remove from the towpath – nothing larger than my forearm, but many finger-diameter sticks to be flicked. I assume that the larger stuff from the ghastly winds was removed when the NPS crew chain-sawed the three large blowdowns on this level. In April there were many discarded tissues and plastic water bottles in canal. There were also numerous drink cups at Lock 44 end. There were many more sticks down than expected, since it has not been that long since my last visit and I do not recall any new high wind events.

Level 39 High Rock Quarry to Nessle RR Bridge Piers: Stefanie Boss reports May 3: All trash was found in the parking lot off Dam 5 Road. There was no puddling on the towpath. I actually managed to see two Baltimore orioles! This was my first time ever spotting orioles.

Level 42 Four Locks to McCoys Ferry: Jack and Deborah Ebersole report March 10: The towpath is in great shape, dry and no puddles. There are a lot of small limbs, we moved as many as we could of the

larger ones. McCoys Ferry is clean and in good condition. Some picnic tables, including the wheelchair accessible one, are in need of serious. There is also a broken table and a damaged fire grate at Four Locks. At the end of McCoys Ferry Road people throw a lot of trash. I'm not sure if it's inside or outside of the park. Maybe the county should put a "No Dumping" sign up.

Level 44 Fort Frederick to Ernstville: **Jim Biasco reports April 20:** The towpath very clean like usual. The regrading of the towpath has left it in good condition, just a few soft spots from the recent rains. There were only a few ducks and geese on Big Pool.

Level 45 Ernstville to Licking Creek Aqueduct: Dennis Kubicki reports April 8: Considering the pleasantness of the weather and the fact that it was a Sunday, I was surprised that there was not more activity on the towpath. With the exception of a few isolated locations where tree roots have come up through the surface, the towpath itself is in great condition reflecting last year's resurfacing. The towpath border areas from Fort Frederick to the Western Maryland Railway trestle feature a good deal of invasive species growth that is beginning to project into the vertical plane of path. This will pose a hazard to cyclists. From the trestle to the aqueduct this growth has been cut back to a significant degree. There was a solitary goose swimming quietly in the water about 10 yards away from two fishermen. This is unusual; my experience with geese is that they squawk when humans approach and fly away when they get too close for comfort.

Levels 47 and 48 Little Pool to Round Top Cement Mill: Phillip M. Clemans reports March 10: It was a cold day – 25 degrees at the start and not much warmer at the end. Despite the cold there were a few walkers and three fishers. The prism was wet from the Bowles House to town, and then most of the way to White Rock. The culverts were inspected in good condition, except Culvert 185, which has a leak in the prism. Recent winds left quite a bit of wood on the towpath, the larger pieces were removed. No deer were seen, but a few cardinals, robins, and hairy and downy woodpeckers were noted. It was a great, sunny day to be out on the towpath!

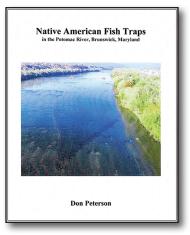
Level 54 Lock 59 to Lock 60: Dennis Kubicki reports April 21: Recent wind storms deposited quite a bit of deadfall of various sizes on and beside the towpath. The larger trees have been cut up by (presumably) the NPS and deposited off the path. I pushed away as many of the larger branches that had fallen as I could. Many small pieces litter the towpath. They don't prevent travel: but they make for a rough ride by cyclists. As reported in my previous reports, the leveling of the "crown" of dirt and vegetation in the center of the towpath by a road grader may not have been sufficient to fill in the existing "potholes." One encounters a number of rather deep potholes throughout the level, and also on Level 53 down to Little Orleans. Since my last report, additional earth has fallen away from the river side of the Culvert 207 wall. The dimensions are approximately 5 feet by 5 feet by 10 feet deep. Earth has fallen from the canal embankment on the river side, creating about a 75 percent obstruction of the culvert opening.

Level 55 Lock 60 to Culvert 208: Paul Petkus reports Feb. 28: It was quiet on the towpath, which is typical for this level. Winter was a bit drier than average through January, but the rains in February helped the situation. They were timely since some of the amphibians were starting their mating season. Water is present in the prism for the entire level, as is typical at this time of year. The extent of the swampy area upstream of the road to the Bonds Landing camping area is normal. Red-spotted newts were plentiful, as they typically are at this time of the year. It wasn't difficult to find them. Many

Native American Fish Traps

Don Peterson is a retired employee of the U.S. Fish and Wildlife Service. He has written numerous books and articles on a diverse range of topics. *Native American Fish Traps in the Potomac River, Brunswick, Maryland* is his first work on archeology and Native Americans.

This short (28 page) book provides an overview of Native American fishing techniques, the progressive evolution of fish traps and how they work. As the title suggests, the primary focus is fish traps in the Brunswick area, known as the Middle Reach of the



Potomac River. Two large fish traps are located in the river in the Brunswick area, and details are provided that allow an understanding of the traps and where they are located.

The book is a valuable resource for anyone who wants to understand Potomac River fish traps. It is available at the Brunswick Heritage Museum or from the author at dpeterson4526@gmail.com. Proceeds are donated to the Brunswick Heritage Museum.

- Steve Dean

were in the swampy areas. Most of the birds that I saw were downstream of Mile 150.3. Wood ducks were present, but they took to flight long before I got anywhere near them. A pair of wild turkeys crossed the towpath from the prism. A pileated woodpecker streaked across the towpath. I noticed the concrete headwall on the berm side of Culvert 208 appeared to have fallen. I could not get there on this visit, but on a later visit via Green Ridge State Forest I verified that the headwall had fallen on the berm side of the culvert.

Level 58 Lock 63 1/3 to Tunnel Parking Area: Ken Skrivseth and Karen Lubieniecki report Feb. 27: Since the tunnel is closed, we hiked the tunnel bypass trail twice. With an elevation gain of 360 feet it is a bit of a rigorous hike. There was not as much trash as we expected to find, and most was near the south (upstream) tunnel entrance; also closest to the Paw Paw Tunnel parking lot. The canal superintendent's house foundation looks as though it has several significant areas of weakness, and areas where bricks have fallen out, leaving gaping holes. Two types of tree frogs were very loud along the canal, just south of the tunnel entrance. One type sounded a bit like peepers, but they were in the trees. The canal channel was wet from recent rains. No mammals were seen or heard but several bird species were heard or seen: pileated woodpecker, black capped chickadee, white breasted nuthatch, cardinal, Carolina wren.

Level 59 Tunnel Parking Area to Opposite Little Cacapon: Trent Carbaugh reports April 15: Aside from a large amount of medium sized branches and a good amount of trash at the Purslane Run hiker biker camp, Level 59 looked pretty good. There was quite a bit of wildlife, including many hawks, ducks and green herons.

Level 60 Opposite Little Cacapon to Town Creek Aqueduct: Trent Carbaugh reports March 18 and May 20: In May noted that all sections that have water are much fuller than is usual and in areas where there is water flow in the prism water is moving fast, erosion may be a problem later. Structures looked good, there was some flood debris lodged against the waste weir gate posts. There were numerous birds, both songbirds and waterfowl; as well as one whitetail deer and for some odd reason hordes of squirrels, both fox and gray, were everywhere. There was a large number of turtles and frogs in the watered sections of the canal.

Level 61 Town Creek Aqueduct to Lock 68: Trent Carbaugh reports March 18 and May 20: After May's high water there was much standing water in large puddles all along the level with a few really

deep mud holes. A normal number of small limbs and branches were down. Grass was very high in sections. I saw a beaver working on a beaver dam which was damaged by high water. I also saw lots of turtles, one black snake, one very large corn snake, a few whitetail deer, and numerous birds. Fishermen were catching bluegill and largemouth bass in the canal.

Level 64 Kellys Road Culvert to Spring Gap Recreation Area: Nasra Sakran reports April 19: There was not much trash at all. The canal was filled with water. There is a 'creek' that runs parallel to the canal (on the river side.) I saw an accumulation of white foam; not sure if it is pollution of some sort. There were more patches of mayapple than last year. A large patch of wildflower (one stem with a white top) was noted that was not seen before. Plus, a patch of another similar, but different, flower with a pinkish blossom was observed. I do not know if it just that I happened to be on the level at the right time, or if pulling all that garlic mustard made a difference.

Levels 65 to 67 Spring Gap Recreation Area to Evitts Creek Aqueduct: Trent Carbaugh reports April 22: In general, these three levels looked very good. Aside from a small amount of trash, some fallen tree trimming, and thorn cutting back, things looked fine. One item of note is erosion of the earth dam at the downstream end of Evitts Creek aqueduct that may be an issue sooner than later.

Level 68 Evitts Creek Aqueduct to Wiley Ford Bridge: Travis and Liz Medcalf report April 14: We headed out to Candoc in Cumberland to travel between Wiley Ford bridge and Evitts Creek Aqueduct on the first nice Saturday of the spring. The towpath was in great condition with only two eroded areas from a tree which fell toward the river (Mile 180.75) and severely eroded drainage pipe area to the eastern end of the Evitts Creek Aqueduct. The level was clean, and it appears someone had previously done a large-scale cleanup in the area. Extensive work is underway at Candoc for a combined sewer outflow tank.

Level 69 Wiley Ford Bridge to Cumberland Terminus: Travis and Liz Medcalf report May 12: We walked on a completely graveled towpath in very good shape, with occasional dry mud puddles with dried bike tracks. There was very little. We encountered several walkers and bikers. The structures and railroad bridge over towpath are in good shape. The Cumberland basin stop gate was closely examined and is in excellent condition.

Calendar of Events - 2018

June 23, Sat. Tree Nature Walk, 10 a.m.-noon, Blockhouse Point. Second of three walks in the same area to observe seasonal changes. Learn or brush up on tree identification skills while enjoying a walk in a woody conservation park that served as a Civil War lookout and provides panoramic views of the canal and river. Semi-brisk pace and a few semi-steep hills. Meet at the Blockhouse Point parking area on River Road, opposite Pettit Way. Contact Ralph Buglass at rbuglass@verizon.net; 617-571-0312 (cell for day of the walk).

June 23-24, Sat.-Sun. **Montgomery County Heritage Days**, 10 a.m.-4 p.m., Rileys Lock. Heritage Days includes interpretive tours of the canal's only site with both an aqueduct and lockhouse. Lockhouse tours, noon-4 p.m. Association members will be at the aqueduct and lockhouse on both days to give tours and provide information. For more information visit the Heritage Days website www.heritagemontgomery.org/events/heritage-days/.

July 14, Sat. **Paddle Trip** from Rileys Lock (Seneca) through the old Potowmack Canal on the Virginia side of the Potomac to Pennyfield Lock (approx. 4.5 miles). Reservations are required and paddlers must provide their own canoe/kayak and gear. Contact Tony Laing (canoemaster@candocanal.org or 301-980-8932).

Aug. 5, Sun. **Board Meeting**, 1 p.m., at Glen Echo Town Hall, 6106 Harvard Ave.

Aug. 24-26, Fri.-Sun. Paw Paw Bends Area Paddle Trip in the Potomac River from Paw, W.Va. to Little Orleans, Md. (22 miles). Reservations are required and paddlers must provide their own canoe/kayak and associated paddling/camping gear. Paddlers are expected to contribute to community-type meals and help out in camp. Contact Barbara Sheridan at canoemaster@candocanal.org or 301-752-5436.

Aug. 25, Sat. **Dragonfly Nature Walk** 10:00 a.m. in the Dickerson Conservation area. The group will head upstream. Contact Steve Dean at levelwalker@candocanal.org or 301-904-9068.

Aug. 25-26, Sat.-Sun. **Williamsport C&O Canal Days**. Events will be taking place in various areas of the town. Contact: Tom Perry, 301-223-7010.

Sept. 10-12, Mon.-Wed. World Canals Conference, Athlone, Ireland. For more information, see http://wccireland2018.com/.

Sept. 22, Sat. **Bird Nature Walk**, 8 a.m. to about 11 a.m., in the Big Pool area. Meet in the Western Maryland Rail Trail parking lot. Association member Kurt Schwarz of the Maryland Ornithological Society will lead the group. Contact Kurt Schwarz at krschwa1@verizon. net or 410-461-1643 or 443-538-2370.

Sept. 29, Sat. Continuing Hike Series, 10:30 a.m., Taylors Landing area. Contact Pat White at hikemaster@candocanal.org or 301-977-5628.

- Liability waivers are required for many Association activities.
- Hikes require proper footwear.
- Reservations are required for many events.
- Outdoor events are subject to cancellation in the event of inclement weather. Contact the event coordinator in the event of weather concerns.

Oct. 5–10, Fri–Wed, **Through Bike Ride**, Cumberland to Georgetown. No sag wagon provided. Reservations required, no later than September 1. Limited to 20 riders. Contact: Denny Sloppy, 814-577-5877 or dennysloppy@yahoo.com.

Oct. 7, Sun. **Board Meeting**, 1 p.m., at Williamsport Town Hall, 2 North Conococheague St.

Oct. 13, Sat. **Tree Nature Walk**, 10 a.m.-noon, Blockhouse Point. Refer to June 23 listing for contact info and additional details.

Oct. 27, Sat. **Annual Heritage Hike and Dinner**, with program to follow. Details in September *Along the Towpath* and on the Association web site. Contact Steve Dean at programs@candocanal.org or 301-904-9068.

Nov. 18, Sun. **Continuing Hike Series**, 10:30 a.m., upstream from Fifteen Mile Creek. Contact Pat White at 301-977-5628 or hikemaster@candocanal.org.

Dec. 2, Sun. **Board Meeting**, 1 p.m., at Glen Echo Town Hall, 6106 Harvard Ave.

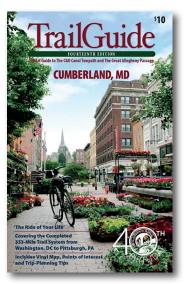
Dec. 8, Sat. **Frostbite Hike**, Details in a later *Along the Towpath*. Contact Bill Holdsworth at 301-762-9376 or website@candocanal.org.

A Request for Help at Williamsport Canal Days

Tom and Linda Perry will be heading up an effort at Williamsport C&O Canal Days on August 25th and 26th to encourage people to take the free shuttle down to the park. They will be handing out sheets highlighting the activities that will be provided on those days.

Last year this effort provided good results, so the Perrys would like again to ask C&OCA members to join them to reaching out. If you would like to join them or need further information, feel free to contact Tom or Linda at 301-223-7010. Please leave a message with your contact answer.

If you choose to help, Perrys can meet you at the entrance to Byron Park on Saturday or Sunday and give you the information sheets to hand out. Thanks for your support.



2018 TrailGuide

The 14th edition of the *Trail-Guide* is available from the C&O Canal Association online book store at www.candocanal.org/store.html. The *TrailGuide* is tremendous resource for lodging & dining options along C&O Canal Trail and Great Allegheny Passage rail trail. Don't plan your trip without it.

C&O CANAL NATIONAL HISTORICAL PARK **Telephone Numbers and Personnel**

C&O Canal National Historical Park Headquarters

1850 Dual Highway, Suite 100, Hagerstown, MD 21740

Superintendent	301-714-2202	Kevin Brandt
Deputy Superintendent	301-714-2200	John Noel
Assistant to the Superintendent	301-714-2201	Linzy French
Chief Ranger	301-714-2222	Ed Wenschhof
Chief of Business Management	301-714-2204	Kris Butcher
Chief of Resource Mgmt.	301-714-2225	Jeri DeYoung
Chief of Maintenance	301-714-2211	Greg Kniesler
Chief of Interpretation,		
Education and Volunteers	301-714-2238	Catherine Bragaw
Partnerships Coordinator	301-714-2218	Ben Helwig
Volunteer Coordinator	301-491-7309	Emily Hewitt
Cultural Resources		
Manager/Historian	301-491-2236	Sophia Kelly
Historian	301-714-2220	Karen Gray
Safety Office	301-745-5804	John Adams
IT Specialist	301-745-5817	John Lampard

Palisades District - Milepost 0 (Tidelock) to Mile 42.19 (Monocacy River) 11710 MacArthur Blvd, Potomac, Md.

Interpretive Supervisor	301-767-3702	Pete Peterson
District Ranger Law Enforcement	301-491-6279	Joshua Cunningham
Supervisory Visitor Use Assistant	301-767-3703	Shaun Lehmann
Georgetown Interpretive		
Supervisor	240-291-8466	Brendan Wilson

Great Falls Tavern Visitor Ctr

11710 MacArthur Blvd, Potomac, Md.

Western Maryland District - Mile 42.19 (Monocacy River) to Milepost 184.5 (Canal Terminus, Cumberland, Md.)

(Canar Terminus, Cumberianu, ivi	·u.)	
District Ranger Law Enforcement	301-722-0543	Todd Stanton
Cumberland Subdistrict	301-722-0543	
Hancock Subdistrict	301-678-5463	
Ferry Hill Subdistrict	301-714-2206	
Williamsport Visitor Center 205 West Potomac St., Williamspo	301-582-0813 ort, Md.	
Supervisory Park Ranger	240-625-2931	Matt Graves
Hancock Visitor Center	301-745-5877	
439 East Main St., Hancock Md.		
Supervisory Park Ranger		Rita Knox
Cumberland Visitor Center	301-722-8226	

Western Maryland Station, Cumberland, Md.

Supervisory Park Ranger Rita Knox

OTHER USEFUL TELEPHONE NUMBERS:

Great Falls Boat Operation	301-767-3714
Boathouse at Fletcher's Cove (concessionaire)	202-244-0461
Carderock and Marsden Reservations	301-767-3731
Canal Quarters Program	301-714-2233

24-HOUR EMERGENCY

(TOLL FREE): 1-866-677-6677 HAZARDS CHOH_Hazards@nps.gov



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C&O CANAL ASSOCIATION

Membership in C&OCA is open to all persons with an interest in the C&O Canal, the C&O Canal National Historical Park, and the Potomac River Basin. Annual membership dues are: \$15 individual, \$20 family, and \$25 patron, assessed on a calendar-year basis, and include subscription to the newsletter. Dues should be mailed in to the C&O Canal Association, P.O. Box 366, Glen Echo, MD 20812-0366. C&OCA is a non-profit organization as defined by section 501(c)(3) of the Internal Revenue Code, and all contributions are tax deductible to the fullest extend of the law. A copy of our current financial statement is available upon request by writing to C&OCA at the address above or calling 301-983-0825. Documents and information submitted to the State of Maryland under the Maryland Charitable Solicitations Act are available from the Office of the Secretary of State for the cost of copying and postage.

C&OCA maintains a home page at www.candocanal.org. The webmaster is webmaster@candocanal.org. C&OCA also maintains a telephone number for recorded information and inquiries: 301-983-0825.

2018 Association Officers

President: Bill Holdsworth, 10 Radburn Ct., Rockville MD, 20850, 301-762-9376, president@candocanal.org

First Vice President: Rod Mackler, 944 N. Potomac St., Arlington VA 22205, 703-536-1737, firstvp@candocanal.org.

Second Vice President: Steve Dean, P.O. Box 132, Saint Leonard MD 20685-0132, 301-904-9068, levelwalker@candocanal.org.

Secretary: Susan VanHaften, 944 N. Potomac St., Arlington VA 22205, 703-536-1737, secretary@candocanal.org.

Treasurer: Richard Radhe, 8902 Skyrock Court, Columbia MD 21046, 410-302-2721, treasurer@candocanal.org.

Information Officer: Pat White, 66 Oak Shade Road, Gaithersburg MD 20878, 301-977-5628, inquiries@candocanal.org.

Board of Directors: (terms expire in 2021): Trent Carbaugh, Dick Ebersole, Kerry Gruber, Christine Holdsworth, Anthony Laing. (terms expire in 2020): Chris Cerniglia, Jill Craig, Jonnie Lefebure, Bert Lustig, Doug Zveare. (terms expire in 2019): Tom Aitken, Nancy Benco, Barbara Sheridan, William R. Stewart, Jim Tomlin.

Committees (contact at C&OCA address/tel. no. above): Archives, Susan Van-Haften; Auditing, Jon Wolz; By-laws, Dave Johnson; Editorial Review, Steve Dean; Environmental, Rod Mackler; Festivals, Rita Bauman; Finance, Richard Radhe; Legal Advisory, Vacant; Level Walkers, Steve Dean; Membership, William R. Stewart; Nature, Marjorie Richman; Nominating, Barbara Sheridan; Programs, Steve Dean; Sales, Jill Craig; Special Projects, Bill Holdsworth; Volunteers in the Park (VIP), Jim Heins.

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Along The Towpath

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This view shows the now-lost river side arch of Culvert 82, the only section of the structure spared by a flood in 1987. This beautiful 16-foot arch was a favorite of photographers and carried the towpath over Little Catoctin Creek. Sadly, heavy rains during May of 2018 caused local flooding and swept away much of what was left of this culvert. Not only was another canal treasure lost, the towpath was breached, which can impact towpath use. See the article on page 1 of this newsletter for more details of the flood.

ASSOCIATION

In This Issue
Heavy Rains Impact C&O Canal 1, 2
Douglas Hike
World Canals Conference 4
President's Report 5
Swains Lock House Groundbreaking 6
Donors to Association Funds
Observation Balloon Demonstration 8
Accompanied by the Past
Park Planner
Towpath Master Plan
New Members
Volunteers In Parks
Across the Berm
Continuing Hike Series
Nature Walks 23, 24
Handbook 142
Nature Notes
On the Level
Native American Fish Traps 29
Calendar
GAP Guide
Contacts