

A LONG THE TOWPATH

VOLUME I NUMBER 5

5 November 1970

BEFORE SNOW FLIES?

Yes, we know we used this heading in the last issue of the newsletter, but now with added emphasis by our President, Colin Ritter (C & O Canal Association), who has passed along the following remarks regarding C & O Canal Legislation and the organization of local chapters of the C & O Canal Association:

A C & O Canal National Historical Park "before snow flies?" Well, maybe we'll have to shave a few snowflakes from Congressman Saylor's prediction--but not many. We can still dream of a White Christmas with the newly-authorized C & O Canal National Historical Park tied up in a neat package under Bill Douglas's Christmas Tree. With HR 19342 successfully over the House hurdle--the C & O Steeplechase now heads for Senator Bible's Sub-committee on National Parks. He indicates hearings on HR 19342 and S 1859 shortly after the Congress reconvenes, November 16th. A clean bill to the full committee, followed by equally swift action by Senator Jackson's Committee on Interior and Insular Affairs may get the bill on the Senate consent calendar in time for a favorable vote. Then it will be up to President Nixon to sign the Public Law and our 16 years of hiking and hollaring will have finally paid off. But, PLEASE NOTE: This is not the time to relax; we must follow through; we must keep up the pressure. And the best way to accomplish this is to keep up the volume of letters to:

Senator Alan Bible, Chairman
Subcommittee on Parks and Recreation
U. S. Senate, Washington, D. C. 20510

Senator Henry M. Jackson
Interior and Insular Affairs Committee
U. S. Senate, Washington, D. C. 20510

Senator Charles McC. Mathias
U.S. Senate, Washington, D. C. 20510

Senator Joseph D. Tydings
U. S. Senate, Washington, D. C. 20510

(Continued)

BEFORE SNOW FLIES? (Continued)

Also before snow flies, we hope to have several new chapters of the Association formed. The organization of county chapter of the C & O Canal Association was one of the key items discussed at our June 23rd meeting last summer. We are proud to report that the Allegany County Chapter was officially organized October 27, 1970, with Lynn DeHart, 1900 Bedford Street, Cumberland, Maryland as the first president of the new chapter. Other officers are: William M. Lesson of LeVale Md., Vice President; William H. Westendorf, Cumberland, Treasurer; Mrs. Edward Troxell of Cumberland, Recording Secretary; and Mrs. David Gehaaf of LeVale, Corresponding Secretary.

Other counties in the process of organizing chapters are: Washington County by Ralph Donnelly, Hancock, Maryland and Hooper Wolfe of Williamsport, Maryland; and Frederick County by George W. Kline of Frederick, Maryland; and Montgomery County by Edwin F. Wesely of Chevy Chase, Maryland.

Other chapters to be organized are: Prince Georges County; Baltimore County; Washington, D. C.; Arlington County; Fairfax County (Va); Loudon Co (va); Alexandria, Virginia; and Pennsylvania State.

Assistance in this area would be greatly appreciated by our President Colin Ritter, whose address is: Box 1076, Alexandria, Va. 22313.

MESSAGE FROM THE SUPERINTENDENT OF THE GEORGE WASHINGTON MEMORIAL PKY

"The diversity of information, observations, and comments presented by the Level Walkers provides a valuable source of current data on many subjects pertaining to the C & O Canal and its environs. I would certainly hope that the originality in reporting may be continued, each in the area of his own interest and inclination, freely, openly, and without restraint, inhibitions, or confinement in any manner. We will read each report, and the personnel in the various disciplines--Management, Protection, Interpretation, and Maintenance--will take note of comments and information pertinent to their areas of responsibility, making use of the information as appropriate. However, as you know, some of our greatest needs and best planning (short as well as long-range) often involve programming, funding, and personnel beyond current availability. This, in turn, further supports the continuation of your reporting strictly on an individual interested, informal basis for pleasure and documentation, in the mutual hope that a further service and benefit may accrue, but without any guarantee that constructive evidence may immediately result from our appraisals and suggestions.

Please express my appreciation to our friends in the Canal Association for all their interest and support." Floyd B. Taylor, Superintendent

The Level Walkers and their newsletter continues without support from membership dues or an assessment (to Level Walkers) themselves. It takes over \$2.00 per year for the 150 issues we put out each time, and the materials used in the Towpath Guide and postage. Sometime ago we made an appeal for contributions. A few were forthcoming. To date the C & O Canal Association has bailed us out. I would like to be in a position where we would not have to depend (and perhaps cannot) on the C & O Canal Association. If I could I would foot the bill myself, but perhaps the hours and hours of typing and research and corresponding marks my part. Please help!! Tom Hahn, Level Walker Chairman

LEVEL WALKERS REPORT

With all the current interest in the C & O Canal due to pending legislative action relating to the canal as a National Park, hopefully this year, it is anticipated that there will be a concomitant public interest in the C & O Canal Association and the Level Walkers. What I am leading up to is this--the few remaining assignments will go fast soon, so I would suggest that you advise your friends accordingly.

At present, the following sections are available:

- 14 33.2-35.5 Fort Harrison Island to Whites Ferry
- 53 140.9-146.6 Little Orleans to Lock 59
- 61 162.3-164.8 Town Creek Aqueduct to Lock 68
- 66 175.6-177.7 North Branch (Lock 75) to Pipe Line
- 67 177.7-180.7 Pipe Line to Evitts Creek Aqueduct
- 68 180.7-182.6 Evitts Creek Aqueduct to Wiloy Ford
- 69 182.6-184.5 Wiloy Ford to Cumberland (Intake Lock)

(What about some of you folks in Cumberland looking into the territory right in your back yard?)

- 6 12.3-14.3 Cropley to Great Falls (Lock 20). Jim Putman says he would like to take on an assistant to help him with this busy section, or perhaps you could talk Jim into sharing his section as a Co-Level Walker.

Many have inquired about sections in the lower part of the canal, particularly those within commuting distance of Washington. Most of those sections have been filled for years and are all filled at the present. However, in fairness to those who are new to the game, I have discussed the possibility of sharing some of the sections as assistants or Co-Level Walkers. Therefore, if you are interested in this approach, tell me the section in which you are particularly interested, and I will try to arrange a sharing plan. If the assigned Level Walker prefers to "go it alone" and if he is reporting on his section as required and carrying his load as a Level Walker, then a simple "no" is the final answer. If, however, a Level Walker has not maintained his interest for some time, then he will be asked as to his intentions. Some of the Level Walkers have indicated a interest in switching, and some of those switches are being worked out. Some Level Walkers prefer to keep a section for years, adding to their knowledge of their section and sharing it with others; some prefer to develop a good base and move on; and others like to "free lance", helping out where needed. There is something in the Level Walkers for everyone. Now that I have become better acquainted with the sections and the Level Walkers involved, I can assure each interested party that something can be worked out for him.

WELCOME TO NEW LEVEL WALKERS

New to our ranks in the past few months are the following, to whom we offer a friendly welcome and hopes for happy hiking:

- 24 Jim Porter of Glen Burnie to the Dam No. 3-Dargan Quarry section. (62.4-65.1)
- 54 Miss Doris M. Bailey of Frederick, Maryland to the Lock 59 to Lock 60 Section. (146.6-149.7)
- 55 Miss Dorothy Ann Johnson also of Frederick to the Lock 60 to Green Ridge Station section. (149.7-151.2)
- 56 John Anderson of Suitland, Maryland to the Green Ridge Station to Lock 61 section. (151.2-153.1)
- 60 Capt. Theodore J. Barnvard, USN of Kensington, Maryland to the Opposite Little Cacapon to Town Creek section. (159.7-162.3)
- 41 Charles Morrison (106.8-108.6) of Hagerstown, Maryland to Dam No. 5 to Lock 47.

LEVEL WALKERS REPORT (Continued)

- 62 Jack and Jane Rottler of Annandale, Virginia to the Lock 68 to Oldtown (Lock 77) section. (164.8-167.0)
- 63 Co-Level walkers Sylvia Geller and Ellen Holway of Herndon, Virginia to the Oldtown to Kellys Road Culvert section. (167.0-170.8)
- 64 Craig Wolf of Landover, Maryland to the Kellys Road Culvert to Spring Gap Culvert section. (170.8-173.4)
(Hope I haven't missed anyone--if so, please tell me--Editor.)
(A new Level Walkers list will be published in the next issue or so.)

Now, on to what some of the Level Walkers have reported in the past few months. Some extracts are made to make a point in the type of reporting desired; some of pure interest of new items to be used or enjoyed in hiking; and others? Not all reports will be mentioned each time. Level Walkers are reminded that reports are required at least twice a year--30 June and 31 December, or better yet, whenever there is anything to report. Mileages and data should be keyed to the basic notes provided to each Level Walker. If possible, please make your reports and notes in pencil or typed, since copies are furnished to the National Park Service for interest and corrective action wherein possible--ball-point pens and some ink pens won't reproduce on my copy machine.

- | Sec | Level Walker | Mile | Section Description |
|---|----------------|------|--|
| 1 | Rae Lewis | 0.00 | Georgetown Tidal Lock to Old Boat Incline |
| Our "inimitable Washington reporter" continues to supply us with all the good (and bad) things <u>happening in the Metropolitan Washington area</u> . | | | |
| 2 | Bill Johnson | 2.1 | <u>Old Boat Incline to Lock No. 5</u> provided a complete, <u>detailed revision</u> of basic notes for the forthcoming Georgetown to Seneca portion of the Towpath Guide, with new entries on the <u>Old Potomac Canal</u> which should be of interest to all readers. |
| 6 | Jim Putman | 12.3 | <u>Cropley to Great Falls</u> has furnished information regarding the <u>"restoration" of the Widewater area</u> . |
| 16 | Anson Courter | 39.4 | <u>Lock No. 26 to Monocacy Aqueduct</u> reports that there is "little change in structures since the spring of 1970. <u>Floor of Monocacy Aqueduct has little large hole. Towpath in better shape.</u> Holes left by off-road machinery either filled or washed in. Bird count light this time; herons and ducks may have been out on Potomac Islands; <u>Potomac was clearer than usual this time of the year (October).</u> Some cane flowers left, long patches of purple woodland aster, deep colored--maybe dry weather means more minerals? Access from Lock 27 toward river cut-over area grew rapidly this summer, probably because of April and July rains." |
| 22 | (Grant Conway) | 58.0 | <u>Weverton to Harpers Ferry</u> . T. J. McDonald is the Level Walker for the section--Grant made a hike on the section and made the comment, " <u>The State of Maryland (spearheaded by Sen. Goodloe Byron), has decided over the piers of the highway bridge across the Potomac, washed away in the 1936 flood, at Harpers Ferry to the NPS. However, funds for the proposed foot bridge from the canal to Harpers Ferry have been deferred to fiscal 1974 (and probably later unless we can build up pressure in support). A resolution requesting the NPS to include funds for the foot bridge in its next fiscal budget would be in order by the Canal Association at its next meeting, if we do not forget it by then.</u> " |

LEVEL WALKERS REPORT (Continued)

25 Gabriel Jacobs 65.1 Dargan Quarry to Mountain Lock. (This extract is made to show how one family approached its section--there is no one approach--it is up to the personalities and talents involved.) "I visited section 65.1- 67.0 of the canal on October 9 and again with my family on October 12, 1969. At that time we were uncertain of the nature of the report that was expected of level walkers. Subsequently last winter and spring the press of work became too great to allow me to visit the canal. We visited again on Sunday September 20, 1970 and this time organized more thoroughly for the visit. Each member of the family and one guest of the family prepared himself to study one aspect of the four categories of information requested in the Level Walker Report. In fact, the section on natural resources was split into three parts which were plants, trees and shrubs, and animal life and insect life. A sketch of the area was made and is included in this report. In addition, after we made the last walk we put together four geological survey maps of the area and pasted them together to make a single map covering our section. A copy of this map is enclosed. We found that we could not find or verify many of the things that Mr. Orville Crowder had mentioned in his notes. This seemed to be the result of our having our hands full concentrating on the areas each of us had specialized in. We plan to return in the near future to check Mr. Crowder's notes more thoroughly." (Following this introductory paragraph is the bulk of the very interesting report submitted by the Jacobs' family.) (Just one more extract from this report and we will move on upstream.) "We explored the cave opening that we placed at approximately mile 65.5 and found it to have a width of about 8 feet and a height of about 7 feet. It extends for approximately 25' to an opening which is quite small but passable and has been closed down to its present size as a result of a rock slide. The lime kiln remains are just downstream of the cave opening and next to them is the building which had the belt and drive wheel for the quarrying operations. We were unable to locate the tunnel that can be found by "passing through the quarries." We will try for it next time."

32 John Delcan 81.6 Marsh Run Culvert to Dam No. 4. (Middle-kauffs Basin also included in the report.) John provided a very good correction of the basic data, and reports that, "At approximately 82.50 there is a Hiker-Biker campsite with a table and an out house--but no water at date of inspection. Work signs indicated work was being done to bring in a well. At Dam No. 4 there is a picnic area with tables, but no water or camping. Parking available. Winch house is in good condition... Near Dam No. 4 the towpath shows signs of erosion due to flooding--this is still minor."

38 Melvin Kaplan Lock No. 44 to Pinesburg Station submitted a very informative report, including useful information re access points to the canal. He also states that, "48 hour-camping at the Williamsport River Front Park at the foot of West Salisbury Street. Check in at the town clerk's office between 8 a.m. and 5 p.m. Monday to Friday; 8 a.m. to 12 noon on Saturday. Before 8 a.m. and after 5 p.m. contact one of the town policemen and a permit will be issued."

58 (Grant Conway) Lock 63 1/3 To Paw Paw (MD 51). Grant made a trek to Alan Franklin's section and reports, "On April and June trips from Paw Paw to Little Orleans (section covered 10 to 25 times over the years), the tunnel was visited. The loose rocks from the slides do not seem to require attention before any attempt to rewater the canal. A

LEVEL WALKERS REPORT (Continued)

service road to provide access for heavy equipment which would be needed to remove large rocks from the canal prism would scar the natural area. Green Springs on the Western Maryland is down to one family."

50 Katheryn Gordon 130.0 Lock No. 53 to Dam No. 6 reported on her section by providing a very fine revision of the basic data. To reach this section, "Rt 144 through Hancock and two miles beyond. Left on Seavolt Road. Cross railroad tracks. Small settlement affords parking. There is a mowed swath across field to canal. Earlier foot bridge is gone." Also provided were very nice colorphotographs of the lock-keeper's house, a culvert (two actually), and an interesting rock formation.

67/68/69. (Bill Johnson) 178.28 Above Pipe Line to Cumberland (In-take Lock). On a temporary assignment, Bill (of Old Boat Incline fame), provided very fine coverage of the Cumberland area, and has established a good base for these unassigned sections--(Here is your chance!) One extract is of special interest and significance, "I found the entrance to the canal from the river in Cumberland. This is the guard lock and inlet and the location is underneath the Western Maryland Railroad where it crosses from West Virginia to Maryland and goes north following Wills Creek. These locks are reached from streets of Cumberland by going down Howard Street toward the river, Howard Street being only one block long, runs out as the street approaches the river. On the north side of Howard Street is the Bauer Lumber Company.

These guard locks and inlets at a point where they connect to Wills Creek instead of the Potomac River and they are a considerable number of feet above the river. It is very apparent that there just had to be a dam located somewhere to raise the water level to get any water into the canal, but today there is no evidence of a dam having been located here as Wills Creek is clear of obstructions that would indicate a dam and the sides of Wills Creek are cemented to prevent any further erosion, this cementing going to an upper level that looked to me like dikes."

IN ADVANCE OF PUBLICATION OF THE GEORGETOWN TO SENECA PORTION OF THE TOWPATH GUIDE, I WOULD LIKE TO EXPRESS MY THANKS TO THE FOLLOWING LEVEL WALKERS WHO PROVIDED MUCH OF THE DATA NECESSARY TO PREPARE THE MANUSCRIPT THIS SUMMER AND THIS FALL:

Miss Rae T. Lewis	Georgetown Tidal Lock to Old Boat Incline
William M. Johnson	Old Boat Incline to Lock No. 5
Philip J. Stone	Lock No. 5 to Cabin John Creek
Kenneth Phifer	Cabin John Creek to Lock No. 14
Robert N. Greenberg	Lock No. 14 to Cropley
James E. Putman	Cropley to Great Falls
Dail Ducotte	Great Falls to Swains Lock
Edwin F. Wesely	Swains Lock to Pennyfield
Mrs. John (Peg) Frankel	Pennyfield to Seneca Aqueduct

AND TO: Grant Conway who provided many useful additions and ideas; Chet Harris who spurred us on; to Colin Ritter for his continued support to the Level Walkers; and especially to John Beck for his maps (assisted by Bill Clague); AND above all, to Orville Crowder for the original concept and the use of his very important and useful notes. Mr. Crowder is the co-author of the Towpath Guide. Tom Hahn, Level Walker Chairman.

ENVIRONMENTAL AWARENESS

Thank God man cannot as yet fly, and lay waste the sky as well as the earth.

Henry David Thoreau

The President's SST ad hoc Review Committee (P-4, p. H-10436) believes that by raising the humidity, the SST's "... would alter the radiation balance and thereby possibly effect the general circulation of atmospheric components."

"... those damned jets flying over it [the towpath] and bothering the wildlife..." A Level Walker

Interested persons are referred to S/S/T and Sonic Boom Handbook by William A. Shurcliff, Director, Citizens League Against Sonic Boom. The reference is, "A documented source book on the supersonic transport planes (S/S/T's) now being developed and the sonic booms they would produce." Obtainable from most book stores and large chain drug stores; a Ballentine/Friends of the Earth Book (95¢) also obtained from Ballentine Books, 36 West 20th Street, New York, N.Y.

Another book of current interest in The Environmental Handbook: Prepared for the First National Environmental Teach-In. "The 1970's is our last chance for a future that makes ecological sense. This handbook focuses on some of the major problems of our deteriorating environment, explains the nature of ecology and--most importantly--suggests action that can be taken right now in any community, by any individual." Though I'm just part way through this book, I can recommend it as fascinating reading and a fine and detailed collection of articles to anyone interested in environmental problems. Available in the Washington area in Peoples Drug Stores (95¢) or by mail to the address listed above (Ballentine Books).

A request for Ecotactics (include \$1.25) to the Campus Representative, Sierra Club, 1050 Mills Tower, San Francisco, California 94104, the book being an environmental activists handbook prepared by the Sierra Club, will bring you by mail not only a copy of Ecotactics, but a recent bulletin of the Sierra Club and other interesting materials. Earth Times has this to say about Ecotactics: "The real fault of this book is the lack of a focal or rallying point for activists...Any collection of essays by almost 30 authors is bound to be a mixed bag, and it can't be expected to please everyone all the time. However, the editors didn't commission or select the sort of articles which start at the ground level and then fan out to at least the beginnings of the avenues the incipient environment activist can take...Another problem of the book is its constant emphasis of the gloriousness of youthful activists...We need anybody who can help and older people often have more of that establishment energy and money which is needed badly...There are of course some fine articles which make the book worthwhile...The book isn't perfect but neither are we." (Continued)

I like the dedication of a new book, Earth Day--The Beginning, which is, "To the tree from which this book is made."

ENVIRONMENTAL AWARENESS (Continued)

Recommended to our readers is the Potomac Newsletter, a public service of the Potomac Basin Center, which is, "Committed to citizen involvement in discussions determining the destiny of the Potomac River Basin, and to the citizen's right to full knowledge about the issues in question." Included are articles pertaining to the C & O Canal. Inquiries should be made to: The Potomac Basin Center, 1717 Massachusetts Avenue N. W., Washington, D. C. 20036.

Now, to a few comments more germane to the C & O Canal itself:

- 6 12.3 Cropley to Great Falls. The Widewater section has been an area of controversy for several months. The National Park Service has undertaken a restoration project in this area, and it has stirred up a hornet's nest, in that many persons have voiced the opinion that it should have been left a natural area, while others (including principally the NPS) feel that it should be more accessible to the public. At present, the restoration work extends from the beginning of Widewater (the downstream end) to about 200 yards from the head of the lake. Several Level Walkers have expressed very strong feeling on the subject, some of which have appeared in the press. I have received many comments, such as, "It's a damn mess and a shame that the whole stinking project was begun in the first place."

I was faced with the controversy in that it was a quandry how to describe Widewater in the section of the Towpath Guide just finished which included this section. I hedged somewhat by describing the area (in part): "Lower end of Widewater: This section of the towpath has been a real trouble spot to Park Service canal maintenance men as the towpath periodically washes out, dumping canal waters into the Potomac far below. The towpath in the Widewater area is being restored, and the matter of restoration has been a controversial one as many think the area should have been preserved in its rugged, natural state, while others have welcomed the widening of the path and its accessibility to cyclists as well as hikers. Certainly, the natural ruggedness of the area is now missing and must seem unnatural to those who have hiked around Widewater in the past...One approach under consideration is to leave the last 200 feet of the towpath as is and to provide an additional detour path for the cyclist so as to provide a continuous bike path to Cumberland. Hopefully, the area of construction will heal as predicted by the Park Service, and with restoration more persons will have and use the restoration which is an (almost) accomplished fact of life." In other words, my personal opinion is that it was a mistake to have begun the construction, but now that is with us, and can't be undone, to make the most of it. I also think that in the future, the public (the users) will and should have a voice in the assets which they jointly own with the Park Service as citizens of these United States. By this I do not mean that every minute action should necessarily be under the guidance of the public, but that matters of major concern and the general direction certainly should be, probably through representative of groups having a direct interest in preservation. In point of fact (or perhaps opinion), this approach should even be welcomed by the Park Service.

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ENVIRONMENTAL AWARENESS (Continued)

The following letter was sent by the C & O Canal President, Colin Ritter, to the Director of the National Park Service regarding Widewater: "With reference to that section of the C & O Canal known as Widewater--between Great Falls and Old Anglers Inn--representatives of the C & O Canal Association, in company with Supreme Court Justice William O. Douglas, personally inspected the area on October 2, 1970.

Before commenting on this particular situation, however, we would like to reaffirm the position of the C & O Canal Association on several points with respect to appropriate development--or restraints to such development--of what we trust will soon be known as the C & O Canal National Historical Park.

1. We have always considered this particular area of the National Park System to be of prime historical interest--while at the same time recognizing the wild beauty of the natural woodland and pastoral setting of the C & O Canal along its entire length from Cumberland to Washington.
2. We believe, therefore, that the primary management objective for the C & O Canal, its towpath and all of the historic engineering features pertinent thereto, so as to provide the most faithful historic interpretation of this area to the visiting public.
3. In realizing this objective, we believe that it is important that the towpath be maintained--and faithfully restored where practicable--to provide a continuous hiker-biker pathway from Cumberland to Washington.
4. In connection with the above, we applaud the National Park Service for the introduction of its fine system of hiker-biker campgrounds.
5. Reiterating the primary emphasis on historical restoration with reference to that portion of the C & O Canal area between the outer edge of the towpath and the berm side of the canal, we believe that secondary emphasis should then focus on preserving the natural values that provide the environment and backdrop for the historical features of the area.
6. We fully recognize that this is not a wilderness area per se. It is primarily a park to serve countless thousands of urban-oriented citizens who need the kind of quiet, contemplative recreation that this fine old park provides. Nevertheless, in its entire 184-mile distance, as it parallels the Potomac River, the C & O Canal does afford some "near-wilderness" experiences--and we should do our utmost to temper our desire for development with a measure of concern for maintaining this natural integrity.

Now with direct reference to work already accomplished and work remaining to be accomplished by the National Park Service in the Widewater area of the C & O Canal, the Association would like to make the following recommendations:

- 1; With regard to future restoration work or maintenance work, we trust that destruction of natural conditions will be kept to an absolute minimum--especially adjacent to the towpath.

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ENVIRONMENTAL AWARENESS (Continued)

2. We believe that the National Park Service is proceeding on the correct general principle that the historic conditions of the canal should be restored insofar as practicable. In other words, we approve the levelling of the towpath in the Widewater area to the extent that it has already been leveled. Not all of us approve--ATP Editor

3. We believe that a continuous towpath the full length of the Canal is important for cyclists and hikers, and perhaps in time for horse-back riders.

4. In our opinion, present circumstances indicate that the best solution with regard to the remaining 200 feet of the Widewater restoration work would be to leave this rugged and picturesque area as is, and to build a path around it so that there can still be continuous travel for hikers and cyclists who find the rock outcroppings difficult or impassable. However, this would not necessarily preclude future restoration of the towpath in this section of the C & O Canal in the event that actual operation of canal boats should be resumed at Widewater.

5. The river side of the towpath should be left untouched and undeveloped. It's going to be tough to get that bike path in there under these conditions, isn't it?--ATP Editor While there may be, and probably will be, exceptions, Ah, yes, the inevitable loophole--ATP Editor the Association feels that as a working principle, the best approach would be to locate campgrounds, parking lots and other visitor facilities on the berm side of the canal.

These comments and suggestions are respectfully submitted for your appropriate consideration. Please let us know if at any time the C & O Canal Association can be of any assistance to the National Park Service."

After this "Brief" stop at Widewater, let's proceed on up the towpath:

11 25.0 Tenfoot Island to Sycamore Landing Grant Conway; reports that "the area below Sycamore Landing remains in a somewhat static condition; varying with the seasons. Visitor use is increasing along with all sections of the canal. There is less trash, including tin cans, than was visible 15 to 20 years ago, mainly due to cleanup parties." Well, that is something, anyway. In case we get too enthused, however, it could be that there is even more trash than there was 20 years ago, but that "more trash" is being picked up. It is a small point, and perhaps not even worth considering.

16 39.4 Lock No. 26 to Monacacy Aqueduct Anson O. Courter; reports that, "Pipe from PepCo plant was discharging into canal prism, water flowing slowly downstream, and backing up toward bridge. Part of old coal silt bank still in canal; wondered if silt might have some cleaning action, like activated charcoal; does not appear to be acid or otherwise sulphurous. Downstream, after flowing through about a half mile of grass and woods, discharge seems cleaner. The canal prism here may be cleaning the water as a live swamp does." Interesting point. Any comments, anyone?

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ENVIRONMENTAL AWARENESS (Continued)

The following comments are somewhat old now because of the several-month gap between issues of Along the Towpath; also all the facts are not available, and this should be taken into consideration:

58 154.5 Lock 63 1/3 to Paw Paw (MD 51. Level Walker for the section is Alan Franklin but the comments at this time are from Ray Teele. , beginning in June. Ray Teele: (In a letter to the Executive Director of the Audubon Naturalist Society of the Middle Atlantic States), "As you know, the Society's Field Trip Committee regularly schedules hikes along the Chesapeake and Ohio Canal for studies of birds, plants, geology, and ecology in general. The latest was a trip to the Paw Paw section with the particular aim of studying plant communities which differ from those found closer to Washington. When we arrived at Paw Paw we were sickened to find that the plants had been sprayed with herbicide. Lavish use of the chemical had been made at the locks, and a less appetizing place to eat a picnic lunch can hardly be imagined. Those who have responsibility for the Chesapeake and Ohio Canal National Monument are obviously unaware that it is a great natural gem to be cherished. Their lack of appreciation is demonstrated by their fiendish ability to choose the most interesting natural areas for their campsites. At Indian Flats they passed over a large patch of nettles and garlic mustard to clear out Virginia bluebells for the camp. Another campsite near Shepherdstown was formerly well known for its great variety of spring flowers. The last time I was there I found a fine stand of ailanthus. At the PEPCO plant near Monocacy all vegetation on both sides of the canal has been destroyed. It now presents a fine example of soil erosion.../The letter continues to give other examples relating to the authors allegation/ Of course, one way of looking at it is that in addition to being a great historical monument and an outdoor laboratory for the study of natural history, the canal is now also a glaring example of man's indifference to his environment. Are we helpless?" (This was reported in the July issue)

Later on, Ray comments further, in another letter (to Chairman, Level Walkers), "With further reference to herbicides--after our Paw Paw experience we went to check over our section 17 /Monocacy Aqueduct to Noland's Ferry/ and found that the Park Service had used the chemicals properly on the aqueduct and had--at least at that time--left the vegetation along the towpath alone. Then we went to Woods Lock. Here the herbicides had been used lavishly. Worst of all this had been done during the nesting season. Below Woods Lock the Service has cut off the trees between the towpath and canal so as to fall across the canal and then left them there to rot. If this was planned as a gnat and mosquito breeding project, it is difficult to see how they could have done better."

Later on Ray commented further in a letter to the Level Walker Chairman, "...You will be interested to know that the Park Service says that the damage was not caused by herbicides but by cicadas. While the cicadas were present in great numbers, their damage was not yet apparent. Fortunately we have colored pictures taken on June 7 that show clearly the type of damage--quite obviously not at all like that caused by cicadas." (Photos were included in the letter.)

It appears to us that there is NO place for herbicides on the C & O Canal. We would be interested in the position of the Park Service on this subject. Editor. 11

CAPTAINS COMMENTS

By the time you receive your copy of Along the Towpath, we should be just at about that ?magic? day of 16 November when the Congress reconvenes--hopefully to consider ^{at} the legislation at hand concerning the C & O Canal National Historic Park. With some luck (and a lot of support) to the interested (and uninterested) legislators, our next issue will announce the accomplishment of that legislation and the approval of the President.

Already a great amount of interest and concern is being generated by various local factions as to what is to happen to their areas as a result of the pending legislation if successful. One such area is Cumberland, the western termination of the canal. There are those who are concerned that the plan, "does not include Cumberland at all and lists the western terminus of the canal at North Branch, Maryland." The City of Cumberland has passed a resolution which in part reads, "...that the Senate of the United States be urged to adopt legislation that will designate the Chesapeake and Ohio Canal Monument /sic/ and that an Historical Park mark its existence for a distance of approximately 185 miles from Washington, D. C. to Cumberland, Maryland, and that suitable facilities be constructed at its western terminus near the confluence of the North Branch and Wills Creek." (The Mayor of Cumberland, Tom Conlon is a Level Walker on the Spring Gap Culvert to North Branch sectbn.)

The Executive Officers and the Board of Directors of the Allegany Chapter of the C & O Canal Association have stated that, "/We/ would like to take this opportunity to express our complete support for the C & O and National Historical Park. The Officers and Directors feel the primary reason for the C & O Canal National Historic Park Bill should be passed by the U. S. Senate is that this issue is not a local, regional nor even a state-wide issue but a question of national priorities. The C & O Canal must be preserved as a national historic site that will enrich the lives of future generations. We strongly hope the U. S. Senate Committee on Interior and Insular Affairs, and eventually the Senate itself, will pass this bill during this session of Congress. And in doing so will preserve this site forever." (Emphasis was added by your editor to the two above paragraphs.)

We like the view of the Allegany Chapter. Let's not get divisive in local issue too early in the game. There are things in the legislation and plans that many of us don't like, primarily ones of emphasis as to how to proceed with an effective plan. These objections can and should be worked out with firmness and yet with a sense of fairness and balance for the good of all, at least to the maximum extent possible.

We would like to extend a welcome and our congratulations to the Allegany Chapter, and to its President, Lynn W. DeHart for their initiative in forming the new chapter. Perhaps I can now get some of those "western terminus" sections filled, since everyone up in that area has suddenly taken an interest in the canal!

Jim Putman, Level Walker Cropley to Great Falls suggests that the C & O Canal Association and/or the Level Walkers attempt to negotiate with the Park Service to use an old lockkeeper's house (such as the one at Lock No. 16) as our Headquarters. He also suggests consideration for chapters similar to the Level Walkers such as Lock Tenders, Canal Boaters, etc as well as the local chapters now being formed. Is there any interest in this approach by any of the rest of you?

CAPTAINS COMMENTS (Continued)

GEORGETOWN TO SENECA PORTION OF THE C & O TOWPATH GUIDE COMPLETED!!!

In case any of you have been wondering why there has been a gap in the issues of Along the Towpath, it is that (aside from the normal pressures of work, vacations, etc) that we finally completed the first section of the Towpath Guide. After all that writing and re-writing and typing and re-typing, you should be grateful that I could even sit down to a typewriter this week without vomiting, but--so much has piled up, that I wanted to get out a newsletter before attacking the next section from Seneca to Harper's Ferry. The 35 8½ x 11" single-spaced typescript have been submitted to President Ritter for publication. The six maps done by John Beck will follow next week. It is hoped that the publication announcement can be made in the next issue (January).

You may be interested in the proposed Preface, which states the need and purpose of the guide. Only part is quoted:

The Georgetown to Seneca portion of the Towpath Guide to the Chesapeake and Ohio Canal has been compiled from many sources--principally from the first-hand impressions of the authors [Thomas F. Hahn and Orville W. Crowder] and the Level Walkers of the C & O Canal Association. The purpose of the guide is to provide the hiker, cyclist, and canoeist with a detailed description of points of interest along the towpath (measured to the nearest hundredths of a mile), including physical features of the canal and its surroundings; historical events which took place along the canal; and the presence of flora and fauna as seen or heard from the towpath. We have tried to approach the canal as an ecological system, pointing out its environmental features and problems.

The guide is a beginning, not an end; there is much detailed research work to be done. Our goal is that the reader will use the guide as a "workbook", adding to its coverage and content as he wends his way along the canal.

A towpath guide for the C & O Canal has been needed for many years, but particularly after the public attention given to the canal by Justice William O. Douglas and his enterpid band who hiked the length of the canal in 1954 in a successful effort to preserve the canal from encroachment and possible deperadation. It was at about that time when Orville Crowder, the first Level Walker Chairman, conceived the idea of a detailed towpath guide. Due to the press of his world-wide nature tour activities, Mr. Crowder was unable to complete the project. Renewed interest in a guide by the Level Walkers this past year led to the completion of the first major section of the hike guide; the section from Seneca to Harpers Ferry is well underway, and the succeeding sections are under study and preparation.

We hope that users of the guide will approach the canal and its environs as conservationists, considering the canal as one of the historical treasures of our country, while at the same time receiving maximum enjoyment from its useage--the two are not incompatible. Our philosophy in this regard is summed up in the basic law which established the National Park Service and directed it to, "conserve the scenery and wildlife...to provide for the enjoyment of same in such a manner and by such means as will leave tehnm unimpaired for the enjoyment of future generations.

The final paragraph of the preface gives credits, similar to those contained in The Level Walkers Report section of this issue of ATP.

Level Walkers upstream, your cooperation and hard work is necessary for the sections yet to come!

CAPTAINS COMMENTS (Continued)

Free-lance work in reporting is needed for the Towpath Guide from Seneca to Harpers Ferry. Let me know in what section you are interested and available information will be sent

We have on hand a number of C & O Canal Association embroidered sew-on patches and the BSA C & O Canal Guide, 184 miles of adventure--Hiker's Guide to the C & O Canal, for \$1.00 each. Any profits will go back into publishing this newsletter or Towpath Guide expenses. I have found the Scout Guides fine handouts for friends who are getting acquainted with the canal; they make nice small Christmas presents as well. (You have to be a salesman on this job too!)

We recently received a letter from the co-chairman of the D.C. area Open Spaces Committee, Carl Loik, who stated, "One of our prime targets is the preservation of the C & O Canal." Mr. Loik requested information as to what his organization could do (re the C & O Canal). I could not attend the meeting to which I was invited, but did give Mr. Loik the information desired over the phone. In case any of you are interested in the work of the D. C. Area Open Spaces Committee (of the Wilderness Society) re the canal, may I suggest that you write to: Mr. Carl Loik, 3109 Garfield Street, N.W., Washington, D. C. 20008

THE AMAZING PENNSYLVANIA CANALS--William H. Shank

May I recommend to your reading the fine booklet written by Bill Shank, the Editor of the Pennsylvania Canal Society bulletin, Canal Currents. The work is an eighty-four page, profusely illustrated booklet giving a complete description of virtually all of Pennsylvania's publicly and privately owned canals of 130 years ago. This is now considered the most comprehensive work on the Pennsylvania Canal system available anywhere. Illustrator for the book is Philip Hoffman of Johnstown, some of whose superb sketches of life on the canals are shown in full color. The "Main Line" system of canals and railroads connecting Pittsburgh and Philadelphia is described in great detail, also the State-owned Susquehanna Division, North and West Branch Divisions, Delaware Division and Erie Extension Canal. The Union Canal, the Susquehanna and Tidewater, the Monongahela Navigation, the Schuylkill Navigation, and many other smaller canals are pictured and described. Price \$2.25 by mail, in care of the author, William H. Shank, 809 Rathon Road, York, Pa. 17403.

SECTION OF THE MONTH
THE GEORGETOWN CANAL INCLINE
BY HAROLD SKRAMSTAD

(Continued from July 1970 issue)

(The first part of the article dealt the need for a canal incline as canal trade increased, causing traffic tie-ups in the Georgetown area; various plans discussed; the construction of the incline and its physical description; and an explanation of its operation. Anyone interested in obtaining a copy of the first portion may request same from:)

Capt T. F. Hahn, USNR
Level Walker Chairman
7535 Will Street
Ft. Meade, Maryland 20755

The incline was given a vote of confidence at the July 6, 1876 meeting of the president and board of directors of the canal company. The engineering of the project also won the approval of the prominent civil engineer, James McAlpine, who referred to the work as the "largest incline in the world," the only incline in constant operation in the United States, and a distinct achievement of civil engineering.¹⁷ On January 11, 1877, reflecting their confidence in the work, the canal company agreed to lease the incline from the Potomac and Dock Company for \$15,000 per year for a period of twenty-five years. The total cost of the project, according to H. H. Dodge, was \$146,556.79.¹⁸

Ironically, by the time that the incline had finally been completed the need for it had almost vanished. Tonnage on the canal had dropped from its peak of 973,805 in 1875 to 709,112 in 1876, the year in which the canal was completed. In 1877 tonnage again dropped, now to 627,913 tons.¹⁹ The congestion born of the earlier prosperity was now almost completely gone; the great flow of boats had been reduced to a number that could be handled without the incline.

Even though the incline failed to stimulate business on the canal to any significant degree, it did prove to be an efficient connection between the canal and the Potomac River. A canal boat took only twelve to eighteen minutes to pass over the incline, compared to the thirty or forty minutes required to pass through the Rock Creek outlet. In 1878, the first year in which a record was kept of boats passing over the incline, 1,918 boats used it, thus proving its value in expediting traffic on the Georgetown Level of the canal.²⁰ Unfortunately for the canal company, tonnage continued to fall, and in late 1879 constant operation of the incline ceased. From this time on it was used only when the Rock Creek outlet was unable to accommodate the canal boat traffic. In August 1880 the outlet at Rock Creek was severely damaged by a flood and was subsequently abandoned; thereafter the incline was the only means by which boats could pass from the canal to the river. The incline continued to operate intermittently until 1889 when it was destroyed by the great Potomac Valley flood that almost destroyed the canal itself.

17 Proceedings of the President and Board of Directors of the Chesapeake and Ohio Canal Company, July 10, 1876. McAlpine's superlatives might possibly have been spurred by the fact that he received \$100 for consulting work on the incline.

18 Proceedings of the Stockholders, January 11, 1877.

19 Sanderlin, p. 307.

20 Proceedings of the President and Board of Directors, December 28, 1878

While the Georgetown incline was relatively neglected by the engineering profession in the United States, where contemporary railroad engineering projects far outshadowed those of inland canals, it was regarded with great interest in Europe, where canals were still a major means of transporting freight. Aware of the foreign interest in canal improvements, the American Society of Civil Engineers selected Hutton's incline, along with such engineering achievements as the tower foundation caissons for the Brooklyn Bridge, to represent the best efforts of American civil engineering at the Paris Exposition of 1878. The project was extensively described and analyzed in many European technical journals of the period, the most important being the influential *Zeitschrift für Bauwesen*. The Georgetown incline also occupied a prominent place in M. Joseph Hirsch's classic work on inclines, *Notice sur les élévateurs et plans inclinés pour canaux*, published in Paris in 1881.²¹

The incline was also significant as the focus of several major engineering controversies during the 1870s and 1880s. Certain technical difficulties encountered in the operation of the incline became the object of a local engineering debate regarding the efficiency and safety of inclines and lifts in general. During the fall of 1876, while Dodge's workmen were attempting to balance the counterweights, the operator of the incline lost control of the machinery. The empty caisson was carried violently against the headwall, while the counterweights ran down the rails until checked by the cables. The automatic brakes had been removed earlier for modification after proving to be ineffective. The great strain put on the cables and other machinery caused part of the supporting masonry to crack slightly. At the time, the accident was not considered serious enough to report to either Hutton or the officers of the canal company.²² In March 1877 another incident occurred at the incline, causing Hutton and others to suspect that the winding machinery was not sufficient to handle the heavy loads imposed by the weight of the loaded caisson and the counterweights (the loaded caisson weighed between 360 and 400 tons, the counterweights about 200 tons apiece). While a boat was being lowered, the incline operator noticed that one of the winding pulleys was not running true. A closer examination of the machinery showed that the axle of the winding pulley was cracked. Two months later the same thing happened to the other pulley. Evidence of the 1876 accident was discovered in both cases.²³

On May 30, 1877 the incline was the scene of a major disaster. As a loaded boat was descending in the filled caisson, the masonry supporting one of the winding pulleys gave way; the wire ropes came free from their guides and sheared off the axles. As the ropes came free, the counterweights ran down their respective tracks until they smashed into the lower wall of the incline, while the caisson, still loaded with the canal boat, ran down its track to the river. The boat and caisson were not damaged by their wild run, but the three men operating the incline were killed. John Mead, assistant harbor master of the company, was crushed to death by one of the counterweights, while his two assistants were killed by the lashing of the wire rope.²⁴ Following this accident, the incline came under attack from all sides. The press, the board of the canal company, and the political leaders of Georgetown all leveled criticism at both Hutton and the incline. The report of the coroner's jury investigating the death of Mead gives some indication of local feeling: "The jury find that John W. Mead came to his death by being crushed under the counterweight truck, occasioned by the giving way of the machinery and masonry during the passage of a boat

21 Paris: Imprimerie Nationale, 1881.

22 Undated Hutton MS, Hutton Papers.

23 Ibid.

24 Evening Star (Washington, D.C.), May 31 and June 1, 1877.

downwards to the river. We find that the accident that caused his death was on account of the insufficient strength of a portion of the iron work and masonry for the purpose intended, which from the evidence adduced was suspected by both the contractors and employees of the canal company for some time."²⁵

As a result of the accident, Hutton instituted a series of improvements on the incline. Steel rails were installed to replace the iron ones used previously, a new and more effective braking system was designed, and heavier winding pulleys were added. More important was the decision to operate the caisson dry; now boats would rest directly on the bed of the caisson as they were raised or lowered. This new method of operation materially reduced the excessive load on the machinery, caisson trucks and axles, and rails, but it also nullified to a great degree the advantages of the original plan. No longer could the water level in the caisson be adjusted to a level that would equalize the weight of the loaded caisson and the counterweights.²⁶

Despite these improvements, most operators remained hesitant about using the incline. In order to quell any further suspicion and possibly some legal action, President Gorman commissioned P. H. Dudley, an engineer for the New York Central Railroad who specialized in wheel and axle loads, to undertake an independent evaluation of the incline. In his report, submitted in May 1879, Dudley pointed to three major faults in the design and the construction of the incline: excessive weight upon the wheels, axles, and rails that supported the caisson; unequal distribution of this weight due to the practice of operating the caisson dry, causing axles to bend and rails to crush; and an unnecessary complexity in the winding machinery. He recommended increasing the number of caisson trucks so as to distribute the great weight of the loaded caisson more equitably, installing springs between the trucks and the caisson, using a worm-gear drive in the winding machinery in order to decrease the possibility of the caisson and counterweights running out of control should the machinery partially fail, and replacing the existing winding pulleys with "clip pulleys" (pulleys with clips which provided a positive grip on the wire ropes) to reduce slippage of the wire ropes during the application of power.²⁷

In July 1879 Hutton replied to Dudley's report. In an attempt to refute the major part of his findings, Hutton argued that the massive construction of the caisson trucks prevented unequal distribution of weight on wheels, axles, and rails. He added that although a larger number of spring trucks would be "desirable," they were not a necessity. Regarding Dudley's recommendations for improving the machinery, Hutton replied that a worm-gear drive would be out of the question because of its excessive friction; however, he made no attempt to argue against the need for the clip pulleys, recommending their installation on the work. Hutton also made no attempt to refute Dudley's charge of excessive caisson weight. He admitted that "the excessive pressure of the wheels upon the rails" was the chief defect of the incline. The practice of operating the caisson dry, according to Hutton, was designed specifically to ameliorate the weight problem.²⁸ Unfortunately, it was impossible to make any improvements following Dudley's report. Shipping had fallen to 522,904 tons in 1879, lessening even further the need for the incline and destroying any economic justification for making improvements in its operation.

25 Evening Star (Washington, D. C.), June 2, 1877.

26 MS dated June 1, 1879, Hutton Papers.

27 Report of P. H. Dudley, May 31, 1879, Hutton Papers.

28 Review of Dudley's Report. Hutton Papers.

The engineering problems involved in the design and operation of the Georgetown incline also became an important issue in the great controversy of the early 1880s surrounding plans for an isthmian ship crossing in Central America. During the years 1880 and 1881 James B. Eads began to promote actively a plan for a large ship railway to be built across the Isthmus of Tehuantepec which would employ a system of water-filled caissons drawn by steam locomotives and carrying trans-oceanic vessels. . . . at this time was probably the best-known civil engineer in the United States. His controversial St. Louis Bridge (1869-74) and his work on improving the channel of the Mississippi had had a major impact on civil engineering practices in America; therefore his plan for the isthmian ship railway was well publicized. In an article published in the *North American Review* and entitled, "The Isthmian Ship-Railway," the Georgetown incline played an important part in Ead's argument. He cited it as an example of an operating ship railway successfully using a transfer system similar to that he proposed for the isthmian project: "Within four miles of Washington, a railway, composed of four rails, transports canal-boats from the Potomac River to a canal which is about thirty feet above it. The boats are conveyed over the railway several hundred feet to the other level. The total load each trip weighs three hundred tons. The canal-boats are carried in a tank of water about seven feet deep, yet the water does not burst out the sides of the tank, although there are no beams across the top of it to tie its sides together."²⁹ Ead's bold and gaudiose scheme was immediately attacked by engineers, ship captains, and ship builders, most of whom were extremely sceptical about the possibility of transporting ocean-going vessels on land for any appreciable distance.

One of the most vocal of Ead's opponents was a ship captain, S. L. Phelps. In June 1881 Phelps published a pamphlet in which he actively attacked the plan.³⁰ In this pamphlet the Georgetown incline was brought under fire. Although misinformed about many of the details of the incline and its operation, Phelps was able to use the faults in its design and operation effectively to bolster his argument. He specifically referred to the problems of maintaining an even roadbed under the great weights operating on the rails, the large amount of friction inherent in the design of the machinery, and the unequal local pressures exerted on the wheels and axles of the caisson. He asserted that "if 400 tons create such difficulties...what may we not anticipate when the weight of the ship and car is 10,000, 15,000, 20,000 and 26,000 tons to be drawn by traction engines."³¹

Phelps included in his pamphlet a letter from a J. H. Hall, who had canvassed steam tug and canal boat captains for their views on the incline. According to Hall, one of the captains "does not remember to have heard many captains praise it, but has heard almost all say they were afraid of it."³² Another captain "had never heard one of the captains speak in its praise; on the contrary all condemn it and many say they are afraid of it when they go in loaded."³³ The major reason for this fear, in Hall's opinion, was the dry operation of the caisson, which he believed put excessive weight upon the boats.

A letter from Hutton to his close friend Daniel Ammen, a vocal critic of Ead's project and a strong advocate of a Nicaraguan canal crossing of the isthmus, was also included in Phelps's pamphlet. In this letter, Hutton admitted that the friction in the machinery of the Georgetown incline had been "far beyond anything we could have expected."³⁴ He

29 James B. Eads. "The Isthmian Ship-Railway," *North American Review* 132, no. 3 (March 1881): 231

30 S. L. Phelps, *Review of the Proposed Tehuantepec Ship-Railway* (Washington, 1881) 31 Ibid., pp 22-23. 32 Ibid., pp. 72-73

33 Ibid., 34 Ibid., p. 74.

also conceded that the unequal distribution of weight on the axles and wheels was still a problem, although it had alleviated to some degree by operating the incline with approximately 20 inches of water in the caisson. This procedure distributed the weight of the canal boat more evenly and reduced the extremely high pressures on particular wheels and axles. Hutton concluded by agreeing that the Georgetown incline was not a tenable basis on which to argue for a large interoceanic ship railway, saying, "no comparison can be made between that work [the incline] and his [Ead's] project."³⁵

However, after the appearance of Ead's pamphlet, Hutton wrote privately to Ammen, complaining that Phelps had made several errors regarding the operation of the incline which should be corrected.³⁶ To this end Hutton made notes for a review of Phelps's pamphlet, directing himself mainly to the question of damage to boats using the incline. He remarked that most canal boats were built with flat bottoms and utilized "hog irons" to prevent the ends of boats from sinking or "hogging," and that in many cases damage was done to boats by overtightening the hog irons, thus giving the boat a permanent camber. Hutton went on to argue that little damage resulted from operating the caisson dry, the situation being only slightly different from boats being grounded in the canal by lack of water.³⁷ Hutton's criticism had a strong basis in fact; the grounding of canal boats was a common occurrence, and there was no evidence that boats suffered significant damage while lying on the bottom of the dry canal.

But Hutton was not unaware of the validity of some of the criticisms aimed at the incline. In a letter written to C & O president A. P. Gorman in 1878, Hutton admitted that he was uneasy about the project,³⁸ and in a professional vita written in 1893, he omitted the incline from a list of engineering projects with which he had been associated.³⁹ There can be little doubt that Hutton's uneasiness regarding the incline had basis in fact. The weights and forces imposed on the machinery of the incline were excessive, causing the rail crushing, axle breaking, and failure of other parts of the machinery that plagued the project. The corrective measures taken, such as operating the caisson dry or with a small amount of water, while alleviating to some degree the weight problem, caused others, such as unequal stress on rails and axles and damage to canal boats. Moreover, this practice nullified the advantages of using a water-filled caisson to transport the boats.

Despite its failure, the incline is significant for the light it throws upon the closing years of canal operation in the United States. It represented one of the last major engineering projects of the canal era; it was built as a desperate attempt to wrest the coal trade away from the domination of the railroad. Both the size and complexity of the incline bear witness to the lengths to which the Chesapeake and Ohio Canal Company was prepared to go to improve its competitive position as a freight carrier. Unfortunately the time was wrong; the incline became a white elephant, symbolic as a casualty of railroad expansion, which rendered such projects largely irrelevant to the main thrust of technological innovation in America.

35 Ibid. 36 W. R. Hutton to Daniel Ammen, July 2, 1881, Hutton Papers.

37 "Review of the Proposed Tehuantepec Ship Railway," Hutton Papers. Apparently this review was not published.

38 W. R. Hutton to A. P. Gorman, April 21, 1878, Hutton Papers.

39 W. R. Hutton to Max E. Schmidt, May 21, 1893, Hutton Papers.

ALONG THE TOWPATH / LEVEL WALKERS

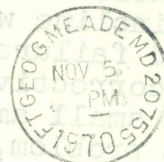
Our editorial policy is very simple: "To provide a means of exchanging ideas and information regarding the Chesapeake and Ohio Canal and related matters." Level Walkers are free to discuss freely their opinions.

ALONG THE TOWPATH is published several times a year by the Level Walkers of the Chesapeake and Canal Association. The only means of support (except from the C & O Canal Association) is by donation. We would like to be self-supporting, so--donations of \$2.00 per year are solicited from all readers to help defray the cost of preparation, publishing, and mailing.

Comments or inquiries regarding ALONG THE TOWPATH or the Level Walkers should be sent to: CAPT. T. F. HAHN, USNR
7535 Will Street
Ft. Meade, Maryland 20755

Level Walker Chairman
C & O Canal Association

CAPT. T. F. HAHN, USNR
7535 WILL ST.
FT. MEADE, MD. 20755



John C. Frye
Gapland, Md. 21736
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