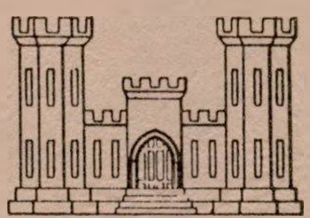
350

DETAILED PROJECT REPORT

BEACH CREEK

LANCASTER COUNTY, VIRGINIA



U. S. ARMY ENGINEER DISTRICT, NORFOLK
CORPS OF ENGINEERS
NORFOLK, VIRGINIA

15 JULY 1963

U. S. ARMY ENGINEER DISTRICT, NORFOLK
CORPS OF ENGINEERS
FOOT OF FRONT STREET
NORFOLK 1, VIRGINIA

IN REPLY REFER TO NAOEN-R

19 July 1963

SUBJECT: Detailed Project Report on Beach Creek, Lancaster County, Virginia

TO: Division Engineer
U. S. Army Engineer Division, North Atlantic
ATTN: NADEN-R

1. Reference is made to:

a. Submission of report for Beach Creek, Lancaster County, Va., by Washington District on 30 Jun 61, and its return to Norfolk District by 1st Ind, 18 Aug 61, subject: "Preliminary Draft of Survey Report for Beach Creek, Lancaster County, Virginia."

b. Authorization for report under Section 107 of 1960 River and Harbor Act by 2nd Ind, OCE to NAD, 15 Jun 61, on basic letter from Washington District, 31 May 61, subject: "Change in Investigation Emphasis, Navigation Improvement, Beach Creek, Lancaster County, Virginia."

2. The inclosed report is submitted in accordance with paragraph 1b. A report to comply with Congressional authorization will be completed after approval of this Section 107 report.

3. Comments of the Governor's representative will be obtained following review by NAD and OCE.

1 Incl (11 cys)
Draft of Report,
dtd 15 Jul 63

R. H. FREE
Colonel, Corps of Engineers
District Engineer

SYLLABUS

The District Engineer has considered the economic merits of a proposed plan of improvement for Beach Creek, Lancaster County, Virginia, consisting of a channel 6 feet deep, 60 feet wide, and 2,100 feet long connecting the Rappahannock River to a turning basin 200 feet by 225 feet at the upper end of the creek. The cost of the improvement is estimated at $54,500. The total estimated annual carrying charges of $4,900 substantially exceed the estimated tangible annual benefits of $2,900 and result in an unfavorable benefit-cost ratio of 0.6 to 1.0. The primary benefit claimed by local interests - increased oyster production - is not likely to be realized and has not been included in the benefits. A conference on 10 July 1962 with representatives of the Virginia Institute of Marine Science and the U. S. Fish and Wildlife Service resulted in the conclusion that no increased oyster production can be expected to accrue to the proposed improvement unless the State and private planters increase their annual plantings of seed oysters and oyster shells by a significant and substantial amount. This is not considered likely to happen. At present there is virtually no production from the public oyster grounds in the lower Rappahannock River due to the prevalence of the MSX disease. It is, therefore, concluded that the proposed improvement is not economically feasible at this time.

The District Engineer recommends that no improvement of Beach Creek, Lancaster County, Virginia, be made at this time.

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PERTINENT DATA

Location - Beach Creek is a small tidal estuary on the north shore of the Rappahannock River, 17 miles above its mouth.

Depth - 6 feet, plus 1-foot allowable overdepth.

Width - 60 feet.

Length - Approximately 2,100 feet.

Turning basin - 200 feet by 225 feet.

Dredging required - 57,600 cu. yds.

Type of material - Sand and silt.

Estimated contract unit price - $0.61

Estimated cost to Corps of Engineers - $50,000

Estimated cost to local interests - $1,000

Estimated cost of navigational aids - $3,500

Estimated total cost - $54,500

Estimated annual charges - $4,900

Estimated annual benefits - $2,900

Estimated benefit/cost ratio - 0.6 to 1.0

Estimated construction time - 15 days.

Disposal areas - To be furnished by local interests.

U. S. ARMY ENGINEER DISTRICT, NORFOLK
CORPS OF ENGINEERS
FOOT OF FRONT STREET
NORFOLK 10, VIRGINIA

NAOEN-R 15 July 1963

SUBJECT: Detailed Project Report on Beach Creek, Lancaster County, Virginia

TO: Division Engineer
U. S. Army Engineer Division, North Atlantic
New York, N. Y.

AUTHORITY

1. This report is submitted under the special continuing authority provided by Section 107 of the 1960 River and Harbor Act, and as authorized by the Chief of Engineers in 2nd Ind to NAD, 15 Jun 61, on basic letter from Washington District, 31 May 61, subject: "Change in Investigation Emphasis, Navigation Improvement, Beach Creek, Lancaster County, Virginia."

2. A report was initially authorized by resolution of the Committee on Public Works of the House of Representatives, 85th Congress, 1st Session, dated June 3, 1959. The text of the resolution is as follows:

> "Resolved by the Committee on Public Works of the House of Representatives, United States, That the Board of Engineers for Rivers and Harbors be, and is hereby, requested to review the reports on Beach Creek, Lancaster County, Virginia (House Document No. 330, 65th Congress, First Session) to determine if improvement of Beach Creek is advisable at this time."

The report was assigned to the Washington District by 2nd Ind from NAD, 26 Jun 59, subject: "Beach Creek, Lancaster County, Virginia." A report to comply with the Congressional authorization will be completed after approval of this Section 107 report.

3. Responsibility for preparation of this Section 107 report was transferred to the Norfolk District on 1 July 1961.

PURPOSE AND EXTENT OF STUDY

4. The purpose of the study is to determine the economic feasibility of improving navigation on Beach Creek.

5. A survey of Beach Creek was made in March 1961. It included topography of shore lines, location of existing jetties, and a hydrographic survey out to the 7-foot depth contour in the Rappahannock River. Rod probings were taken along the centerline of the proposed channel to ascertain the type of material to be dredged.

6. Consultations were held with local interests to procure and develop data relative to project economics. Office studies included preparation of a design and cost estimate and determination of the economic merit of the proposed plan of improvement.

DESCRIPTION

7. Beach Creek, as shown on plate 1, is a small tidal estuary on the north shore of the Rappahannock River, 17 miles above its mouth. The creek extends inland 0.4 mile to connect with a 40-acre lagoon. The controlling depth in the entrance channel is 2.0 feet at mean low water.


Beach Creek
Existing Jetty

Upstream the controlling depth is only 1.0 foot. The mean range of tide is 1.6 feet. The existing channel is partially protected by an upstream stone jetty constructed by local interests.

8. The entrance to Beach Creek is exposed to maximum fetches of 15 miles from the northwest and four miles from the southeast. The channel is subject to direct wave attack over limited fetches, and severe storms have caused shoaling in the entrance channel. The apparent littoral drift is in a southeasterly direction, but does not appear to be extensive.

9. Beach Creek is shown on the U. S. Army Quadrangle Sheet AMS 1834 and U. S. Coast and Geodetic Survey Chart 535, and on plate 1 of this report.

10. The nearest improved harbor is seven miles downstream from Beach Creek at Carter Creek where depths of 14 feet are available and all-weather protection is provided. This harbor is located on the downstream side of Corrotoman River, and is 25 miles distant by highway from the tributary area of Beach Creek. Unimproved harbors in the vicinity are all located downstream of Beach Creek on Corrotoman River and require additional traveling time for local interests harboring there. The distances by water from Beach Creek to these harbors, and the depths available, are as follows:

Creek	Distance from Beach Creek, miles	Available depth, feet, mlw
Whitehouse	5.0	6.0
Town	6.0	3.5
Myer	7.0	8.0

TRIBUTARY AREA

11. The land area tributary to Beach Creek is a rural section of about five square miles with a population of approximately 300, most of whom are dependent upon the seafood industry for a livelihood. Approximately one mile of secondary hard-surface road connects this locality with the State primary highway system and the nearest settlement of Senora. There are no incorporated towns in the area, and the nearest railroad is located at West Point, Va., a distance of approximately 45 miles by highway from Beach Creek.

12. In addition to the land area tributary to Beach Creek, the adjacent waters of the Rappahannock River are located in the center of the public oyster rocks and are currently considered the most productive oyster grounds in the area. At present the only commercial activity on Beach Creek is an oyster packing plant located about 1,500 feet above the mouth of the creek. The plant employs about 25 shuckers during the oyster season, and it processed about 930 tons of oysters in 1960. Of this amount, about 350 tons were delivered by truck from other waterways, principally Greenvale Creek, approximately five miles upstream, and about 580 tons were purchased from local oystermen at the mouth of Beach Creek. Due to the shallowness of the creek, access to the plant by channel is extremely difficult, and it is necessary for these local oystermen to deliver their oysters to a small privately-owned landing at the mouth of the creek from which point they are transferred and trucked to the plant. This landing is also utilized, to a limited extent, by fishing and crabbing interests for transferring their catches to trucks for marketing.

PRIOR REPORTS

13. REPORT OF PRELIMINARY EXAMINATION

This report was authorized by the River and Harbor Act of 27 July 1916, and is published as House Document 330, 65th Congress, 1st Session. This report considered the provision of a channel 6 feet deep and 60 feet wide, and stated that the construction of at least one and probably two jetties, or frequent and extensive dredging, would be required to maintain the channel. This report was unfavorable to the improvement on the basis that it possessed little or no value to general commerce and navigation interests. The Chief of Engineers concurred in this view of the District Engineer, as did the Division Engineer and the Board of Engineers for Rivers and Harbors.

14. REVIEW OF REPORT OF PRELIMINARY EXAMINATION

Reviews of the Preliminary Examination were submitted to Congress on 7 February 1928 and 14 October 1935 in compliance with resolutions adopted 21 January 1927 and 1 April 1935, respectively, by the Committee on Rivers and Harbors of the House of Representatives. The reports of the District and Division Engineers concluded that the improvement of Beach Creek was not economically justified. The Board of Engineers for Rivers and Harbors and the Chief of Engineers concurred in these conclusions, and unfavorable reports were submitted to Congress.

EXISTING CORPS OF ENGINEERS' PROJECT

15. There is no existing or authorized Corps of Engineers' project on Beach Creek. However, emergency dredging was performed by the Corps of Engineers in 1936 and again in 1949 under the provisions of Section 3 of the River and Harbor Acts of 3 July 1930 and 2 March 1945, respectively.

In 1936, a channel 870 feet long, 40 feet wide, and about four feet deep at mean low water was dredged through the bar at the entrance at a total cost of $1,000, the maximum allowed under existing law at that time. Due to storm action and shoaling, it was necessary to redredge this channel in 1949 at a total Federal cost of $3,000. This entrance channel was approximately 900 feet long, 40 feet wide, and four feet deep at mean low water. These temporary channels were not maintained.

LOCAL COOPERATION ON EXISTING AND PRIOR PROJECTS

16. As previously stated, there is no existing or authorized Federal project on Beach Creek. Previous participation of local interests in the improvement of Beach Creek are related to the emergency dredging operations accomplished by the Corps of Engineers in 1936 and 1949 as discussed in the preceding paragraph. In both of these emergency dredging operations, local interests provided the necessary easements, rights-of-way, and spoil disposal areas, and released the United States from all damages due to construction. In addition, in 1936 local interests were required to construct 400 feet of timber jetty on the upstream side of the channel, contribute $100 toward towing costs, and make other necessary arrangements to provide towing service for the plant. It is estimated that local interests expended $1,200 in cash for the expense of constructing this jetty and toward incidentals of the dredging. The timber jetty was weakened and eventually destroyed by marine borers, and was replaced by a stone jetty in 1948 as described in the next paragraph. In the 1949 operation, local interests were required to raise the height of this upstream stone jetty to 3.5 feet

above mean low water and extend it to the 6-foot depth in the Rappahannock River. It is estimated that this work cost local interests approximately $1,200.

OTHER IMPROVEMENTS

17. In addition to the improvements made under prescribed conditions of local cooperation in 1936 and 1949, local interests, prior to 1949, constructed an upstream stone jetty and attempted construction of a downstream cement bag-type jetty to protect the channel entrance. The upstream jetty was about 300 feet in length with a top elevation of two feet above mean low water. Approximately 150 feet of the downstream cement bag jetty was constructed, and in a short period of time had completely deteriorated. It is estimated that local interests expended about $1,200 for the initial construction of these jetties.

TERMINAL AND TRANSFER FACILITIES

18. There are no public wharves at Beach Creek. A small privately-owned landing area is located at the mouth of the creek and is open to the public upon special arrangement with the owner. This landing area is used mainly for transferring oyster catches to trucks for transportation to the oyster packing house on the creek. Local interests also use it as a parking area and as a means of reaching the limited berthing area at the mouth of the creek. This berthing area consists of small privately-owned foot wharves and landing stages which are inadequate for the existing fleet of oyster work boats and outboard motor boats using the creek. In the event of improvement by the United States, construction of a public wharf with an

adequate public landing and access road would be necessary. Suitable locations for the public wharf are available in the vicinity of the oyster house.

IMPROVEMENTS DESIRED

19. Local interests representing the commercial seafood suppliers and processors in the area expressed their desires for improvement at the public hearing and through subsequent personal interviews and correspondence. Local interests advocate a channel 5 feet deep and 75 feet wide, extending from deep water in the Rappahannock River through the existing channel and terminating in a turning basin about 150 feet square in the vicinity of the oyster packing plant.

20. Local proponents stated at the public hearing and in subsequent correspondence that the improvement would result in increased productive time. Local watermen basing at Beach Creek are presently delayed by waiting for favorable tides for entering and leaving the creek through the shoaled entrance channel. In addition, other local watermen basing at nearby harbors because of the navigation difficulties at Beach Creek lose one to three hours of productive time daily in traveling to and from nearby oystering grounds. Numerous instances of moderate to severe damages to work boats were reported, and it is the considered opinion of watermen that boats utilizing Beach Creek require more than normal maintenance in a working season.

EXISTING AND PROSPECTIVE COMMERCE

21. The commerce statistics tabulated below were compiled from the records of waterborne commerce for the years 1959 and 1960. The statistics include only the waterborne commerce relative to Beach Creek, excluding the oysters bought at nearby creeks and trucked to the processing plant.

Table 1. COMMERCE STATISTICS ON BEACH CREEK
(in short tons)

Commodity	1959	1960
Oysters	430	584
Oyster shells	128	256
Crabs, hard	55	116
Fish, food	2	10
Total	615	966

22. It is extremely difficult to accurately forecast the amount of prospective commerce which would result from the proposed improvement of Beach Creek. Although local interests have made claims, for a substantial increase in commerce on this waterway, this is considered highly speculative in view of the fact that the improvement will not lead to an increase of seafood production in the area. Commerce on Beach Creek consists entirely of seafood products which are harvested from the Rappahannock by local oystermen working out of the creek. It is conceivable that should the improvement be provided, an increase in waterborne commerce may be experienced. Such an increase would result primarily from the utilization of the creek by oystermen who presently dispose of their seafood catches at other facilities. As shown in the above table, oysters and oyster shells

account for the bulk of the commerce moving on Beach Creek, and since oysters are presently being cultivated at maximum capacity in the section of the Rappahannock River in the vicinity of Beach Creek, any increase in this commodity would be the result of a diversion from other harbors. Furthermore, it is not expected that the improvement, if it were provided, would stimulate any new commerce.

VESSEL TRAFFIC

23. At present there are 26 work boats which make Beach Creek their permanent harbor. These work boats are small power boats which range from 20 to 40 feet in length and draw from two to four feet of water when loaded. Based on information obtained at the public hearing and in subsequent correspondence, it is estimated that if the proposed improvement were provided, there would be about a 40 percent increase in the number of vessels using the harbor. This increase would be comprised of about 10 work boats ranging from 25 to 45 feet in length with drafts of two to five feet, which at present are forced to base at distant harbors due to inadequate harbor and facilities at Beach Creek. Only four of the work boats would permanently base at Beach Creek, while the remaining would utilize the harbor as a base during the oyster, fishing, or crabbing seasons.

DIFFICULTIES ATTENDING NAVIGATION

24. The controlling depth in the entrance channel to Beach Creek is 2.0 feet below mean low water. Navigation above the entrance channel in the creek proper is restricted by prevailing depths of 1.0 foot. Navigation can be accomplished only during periods of high tide by the work boats'

A comparison of the present and previous recorded high water shoreline and available aerial photographs indicate that the littoral drift is predominately to the southeast or downstream. Although shoaling will occur in the entrance channel due to the littoral drift, it is estimated that such action would not be significant enough to warrant a jetty. Maintenance dredging without the jetty would be more frequent; however, allowable overdepth dredging to a depth of one foot would allow approximately a 7-year interval between maintenance dredging operations. This will reduce the cost of maintenance to an amount substantially less than the annual charges incurred with the jetty.

28. The location of the proposed channel was selected on the basis of economy of dredging. The site selected for the public landing and public wharf was suggested by local interests. The access road to be constructed by local interests would connect the public landing with State Route 628, a distance of about 0.25 mile. The public wharf would consist of a structure 100 feet long extending along the proposed turning basin. The public landing to serve this proposed wharf would be about 0.5 acre and would provide ample parking space for prospective users.

29. Probings indicate that to a depth of 7.0 feet, a mixture of sand and silt prevails throughout the project length. Hydraulic dredging with disposal of spoil in the area indicated on plate 1 is most feasible from an engineering viewpoint. The proposed disposal area would be located on marshland with negligible monetary value and use. Limited dikes would be required to retain the material.

30. The improvement as considered would require that local interests obtain permanent easements for (a) construction of the channel and turning basin, and (b) disposal of material dredged initially, and for future maintenance purposes.

31. At the further request of local interests, a 4-foot entrance channel was considered through the bar at the mouth of Beach Creek. Since such depths could not be accomplished by usual dredging equipment, it was necessary to prepare estimates based on prices obtained from local contractors using equipment not normally associated with dredging operations. The cost of such improvement is considerably less than the complete project previously referred to. However, it would have a limited useful life, the benefits would be substantially reduced, and the economic feasibility is questionable. Consequently, no further consideration was given to such a plan of improvement.

SHORELINE CHANGES

32. It is not expected that there will be any effect on the configuration of the shoreline due to the construction of the proposed improvement.

REQUIRED AIDS TO NAVIGATION

33. The Commander, Fifth Coast Guard District, has estimated that aids to navigation, consisting of one breakwater light and six daybeacons, will cost $3,475 for installation and require $250 for annual maintenance.

ESTIMATES OF FIRST COST AND ANNUAL CHARGES

34. The total first cost of providing the improvement for Beach Creek is shown in the following table. Details are presented in section B of the appendix. The estimate includes contingencies, engineering and design,

and supervision and administration. The annual charges for the plan of improvement are based on (a) interest at 2-7/8 percent of the investment, (b) amortization of investment based on the sinking fund method to return the investment within 50 years, and (c) annual cost of maintenance. Costs are based on June 1963 price levels.

35. The cost of dredging the channel is considered to be entirely Federal. The cost of the retaining structures for the disposal area is considered entirely local. The access road, parking facilities, and public wharf estimated at $17,500 are considered to be self-liquidating and will be provided by local interests. The cost of these items has been omitted from the benefit/cost comparison. The proposed disposal area would be located on marshland with negligible monetary value and use; therefore, the acquisition of this land would involve little, if any, cost.

Table 2. ESTIMATED COST AND ANNUAL CHARGES

Item	Estimated Cost		
	Federal	Non-Federal	Total
A. PROJECT INVESTMENT			
Channel	$40,400	$ 0	$40,400(a)
Engineering and design	4,800	0	4,800
Supervision and administration	4,800	0	4,800
Aids to navigation	3,500	0	3,500
Disposal area retaining structures	0	1,000	1,000
Total First Cost	$53,500(b)	$1,000(c)	$54,500
B. ANNUAL CHARGES			
Interest at 2-7/8%	$ 1,540	$ 30	$ 1,570
Amortization, 50 years	490	10	500
Annual Maintenance:			
Corps of Engineers	2,600	0	2,600
Aids to Navigation	250	0	250
Local Interest	0	0	0
Total Annual Charges	$ 4,880	$ 40	$ 4,920
Rounded			$ 4,900

(a) Includes 57,600 cu. yds. at $0.61 = $35,000; plus 15 percent contingencies at $5,400 = $40,400.
(b) Exclusive of preauthorization studies amounting to $7,000.
(c) Exclusive of self-liquidating items including access road, parking facilities, and public wharf amounting to $17,500.

ESTIMATES OF BENEFITS

36. Analysis of information on prospective benefits which would accrue to the considered plan of improvement shows them to be general in nature and related directly to the commercial fisheries of the area. Details are presented in section A of the appendix. Since oystering and fishing are the economic mainstays of the area, any improvement to navigation facilities at Beach Creek would favorably affect the local existing economic climate.

The benefits to be reasonably expected from the proposed improvement would be (a) reduction of damages to commercial boats presently based there due to the elimination of the shoaled channel and the provision of an adequate anchorage, (b) transportation savings to local watermen who base at adjacent harbors due to hazardous navigation conditions and the lack of suitable anchorage at Beach Creek, but operate on the Rappahannock River public oyster rock near Beach Creek, and (c) transportation savings resulting from elimination of the need for trans-shipment of oysters by truck from near the mouth of the creek to the existing oyster plant, a distance of about one-quarter mile. Under existing conditions, the oyster plant operator maintains a truck with operator at the landing to buy oysters and transport them to the packing plant.

37. The tangible benefits are summarized in the following table:

Table 3. ESTIMATES OF BENEFITS

Item	Annual Benefits
Reduction of damage to commercial boats	$ 880
Transportation savings resulting from boats oystering in the area and based at other harbors	500
Transportation savings resulting from elimination of trans-shipment by truck from existing landing to oyster shucking plant	1,500
Total	$ 2,880
Rounded	$ 2,900

Thus, the total average annual benefits which may be reasonably expected to accrue to the proposed improvement are $2,900.

38. A conference was held on 10 July 1962 in the District Engineer's office with representatives of the U. S. Fish and Wildlife Service and the Virginia Institute of Marine Science. Representatives of these agencies stated that it was their opinion, based on the number of people engaged in harvesting oysters and the number and location of improved and natural harbors in the area, that the productivity of the oyster grounds were currently being exploited to their fullest. The fact that an improved Beach Creek would result in some savings in time to the oystermen by not having to wait for favorable tidal stages would not, in itself, increase oyster production. The conferees expressed considerable doubt that oyster production would be increased unless the State and private planters take positive action to increase their annual plantings of oyster shells and seed oysters by a substantial amount. This is not considered likely to happen and consequently no benefit has been taken for increased oyster production.

COMPARISON OF BENEFITS AND COSTS

39. The average annual benefits which would result from construction of the proposed plan of improvement are estimated to be $2,900. Annual charges for the plan are estimated at $4,900. The ratio of benefits to charges is 0.6 to 1.0. Accordingly, the project is not economically feasible.

PROPOSED LOCAL COOPERATION

40. The extent of local cooperation to be required of local interests has been established as follows:

a. Provide without cost to the United States all lands, easements, and rights-of-way required for construction and subsequent maintenance of the project, including suitable spoil disposal areas with necessary dikes, bulkheads, and embankments therefor.

b. Hold and save the United States free from damages to oyster beds or other property resulting from the construction of the project.

c. Provide and maintain at local expense a public wharf with an adequate public landing and access road, open to all on equal terms, in accordance with plans approved by the Chief of Engineers.

d. Assume full responsibility for all project costs in excess of the Federal cost limitation of $200,000.

APPORTIONMENT OF COSTS AMONG INTERESTS

41. The United States would accomplish the initial dredging estimated to cost $50,000. The U. S. Coast Guard would expend funds in the amount of $3,500 for the installation of navigation aids. Local interests would assume the costs to be incurred in providing retaining structures for the spoil disposal area, estimated to cost $1,000. The access road, parking facilities, and public wharf, estimated at $17,500, are considered to be self-liquidating and would also be provided by local interests.

42. The annual cost of maintaining the improvement is estimated to be $2,850, of which $2,600 would be borne by the Corps of Engineers and $250 by the Coast Guard.

COORDINATION WITH OTHER AGENCIES

43. The views of local interests were obtained at the public hearing held on 6 December 1960, and through interviews and correspondence with interested persons. The County Board of Supervisors has been advised (see section C of appendix) of the unfavorable recommendation contained in the report, and has offered no comment thereon.

44. The Regional Director of the United States Fish and Wildlife Service, Region 4; and the Director, Virginia Institute of Marine Science, were consulted for advice and assistance. The Commander, Fifth Coast Guard District, furnished the estimates of cost for placing and maintaining necessary navigation aids.

45. Correspondence with Congressman Howard W. Smith, Eighth Congressional District of Virginia, on the proposed improvement of Beach Creek is also included in section C of the appendix.

46. The Director of the Department of Conservation and Economic Development of Virginia, in behalf of the Governor, stated that (to be completed after review of draft by OCE as directed by EM-1165-2-107, paragraph 14a(4)).

DISCUSSION

47. Beach Creek, located on the left bank of the Rappahannock River about 17 miles above its mouth, is located in a productive oystering area. There are two Federally improved harbors across the Rappahannock River - Urbanna Creek opposite Beach Creek with a 10-foot channel, and Whiting Creek three miles downstream with a 4-foot channel.

48. Local interests desire improvement of Beach Creek to provide for a channel 5 feet deep and 75 feet wide to be dredged from the Rappahannock River through the mouth of Beach Creek to connect with a turning basin approximately 150 feet square at the same depth. The District Engineer is of the opinion that a channel 6 feet deep, 60 feet wide, and 2,100 feet long from the Rappahannock through the mouth of Beach Creek, connecting to a turning basin 200 feet by 225 feet to the same depth, would be more suitable for existing and prospective navigation.

49. Local interests claim that improvement of Beach Creek would result in (a) reduction of travel to and from oystering grounds, (b) increase the productive time, thereby increasing the local production of seafood which in turn would affect the economic climate of the area, (c) reduce damages to boats using the creek occasioned by shallow depths and insufficient anchorage, and (d) afford a harbor of refuge for transient craft.

50. Despite the contentions by local interests, it is doubtful if any increased seafood production would be realized. It is recognized that Beach Creek is located in a very productive oystering area. However, since 1959 the entire lower Rappahannock River area has been infected with the MSX organism, and oyster production thereon has virtually ceased. At a conference on 10 July 1962 with representatives of the Virginia Institute of Marine Science and the U. S. Fish and Wildlife Service, the conferees were of the opinion that the production from public grounds on the Rappahannock River would not reach a point where the existing harbors could not handle the commerce. In view of the foregoing, it is not considered that the improvement of Beach Creek would result in any significant

increase in local oyster production. Current benefits to be derived from the proposed improvement are estimated to be $2,900 annually. These evaluated benefits are general in nature and are entirely in the public interest. The plan of improvement would cost $54,500, exclusive of pre-authorization studies. The annual charges are estimated at $4,900 and the annual benefits at $2,900. The ratio of annual benefits to annual charges is only 0.6 to 1.0, and therefore the project is not economically justified.

CONCLUSION

51. The proposed plan of improvement provides for a channel 6 feet deep, 60 feet wide, and 2,100 feet long connecting the Rappahannock River to a turning basin 200 feet by 225 feet at the upper end of the creek. The cost of the improvement is estimated at $54,500. The total estimated annual carrying charges of $4,900 substantially exceed the estimated tangible annual benefits of $2,900 and result in an unfavorable benefit-cost ratio of 0.6 to 1.0. The primary benefit claimed by local interests - increased oyster production - is not likely to be realized and has not been included in the benefits. A conference on 10 July 1962 with representatives of the Virginia Institute of Marine Science and the U. S. Fish and Wildlife Service resulted in the conclusion that no increased oyster production can be expected to accrue to the proposed improvement unless the State and private planters increase their annual plantings of seed oysters and oyster shells by a significant and substantial amount. This is not considered likely to happen. At present there is virtually no production from the public oyster grounds in the lower Rappahannock River due to the prevalence of the MSX

disease. It is, therefore, concluded that the proposed improvement is not economically feasible at this time.

RECOMMENDATION

52. It is recommended that no improvement of Beach Creek, Lancaster County, Virginia, be made at this time.

2 Incl
1. Plate
2. Appendix

R. H. FREE
Colonel, Corps of Engineers
District Engineer

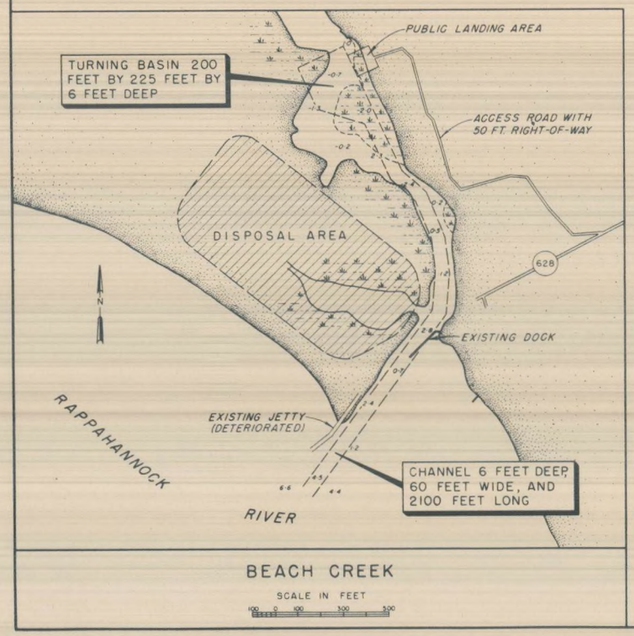
CORPS OF ENGINEERS

U. S. ARMY

LOCATION MAP

SCALE IN MILES

20 0 20 40



BEACH CREEK

SCALE IN FEET

100 0 100 300 500

BEACH CREEK, VA.

IMPROVEMENT CONSIDERED
NOT RECOMMENDED

SCALE AS SHOWN

U.S. ARMY ENGINEER DISTRICT, NORFOLK JANUARY 1963

SUBMITTED: APPROVAL RECOMMENDED: APPROVED:

CHIEF, PLANNING & REPORTS BRANCH	CHIEF, ENGINEERING DIV.	COL., CORPS OF ENGINEERS

DRAWN: H.J.H.
TRACED: H.J.H.
CHECKED: F.T.W.

TO ACCOMPANY REPORT DATED 15 JUL 63

H-50-60-13(1)

PLATE 1

APPENDIX

SECTION A. BENEFITS

TABLE OF CONTENTS

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BENEFITS

1. GENERAL

Average annual tangible benefits of $2,900 are attributable to the proposed navigation improvement of Beach Creek. These benefits would result from (a) reduction of damages to commercial boats presently based on the creek due to the elimination of the shoaled channel and the provision of an adequate anchorage, (b) transportation savings to local watermen who base at adjacent harbors but would base in Beach Creek if the improvement were provided, and (c) transportation savings resulting from elimination of the need for trans-shipment of oysters by truck from near the mouth of the creek to the existing oyster plant. Benefits claimed by local interests but disallowed in the economic evaluation are also discussed.

2. REDUCTION IN DAMAGE TO BOATS

Due to the extensive and progressive shoaling of the entrance channel into the creek, work boats presently based thereon annually sustain damage to the bottom of the boat, propellers, and paint. Most of the damage results from boats dragging bottom in crossing the sand bar, while some is incurred running aground at the mouth of the creek.

3. There are 25 work boats presently based on the creek. The cost resulting from the above damage to the bottom of the boats and to propellers is estimated at $35 per boat, or a total average annual damage of $880. Based on a review of the size, value, and class of work boats using the creek and a comparison with damages experienced on other unimproved harbors in the area, it appears that the damages are reasonable and valid.

4. TRANSPORTATION SAVINGS (BOATS)

At present, there are 11 boats based on unimproved harbors adjacent to the creek. These boat owners have indicated that if the proposed improvement were provided they would base their boats in Beach Creek. In moving their base of operation to this creek, it would reduce the cost of boat operation by being closer to the seafood grounds in the Rappahannock River. It is estimated this saving would be 7 miles per day x 11 boats x $0.10 per mile x 65 working days per season, or $500 annually.

5. TRANSPORTATION SAVINGS (TRUCK)

Transportation savings would result from the elimination of the trans-shipment of oysters from near the mouth of the creek to the oyster plant, a distance of about 1/4 mile. Under existing conditions, the oyster plant operator maintains a truck at the landing to buy oysters, and transports them to the packing house. It is assumed that four round trips are made per day, with an average time of one hour per trip, including two men working with the truck at a minimum wage of $1.25 per hour. Accordingly, 4 hours per day for 2 men at $1.25 per hour will equal a cost of $10 per day. From the data presented in the Chesapeake Bay Fishing Harbors Economic Study, Maryland and Virginia, prepared by the Board of Engineers for Rivers and Harbors and dated 1 January 1961, the oyster season is about 150 days. Therefore, the total savings due to the elimination of the trans-shipment of oysters by truck are $10 per day for 150 days per season, or a savings of $1,500 annually.

6. INCREASED OYSTER PRODUCTION

Local interests claim that improvement of the entrance channel into Beach Creek would eliminate time they now lose in waiting to get into and

out of the creek and that such time can be profitably converted into increased production time on the seafood grounds in the area. A conference was held on 10 July 1962 in the District Engineer's office with representatives of the U. S. Fish and Wildlife Service and the Virginia Institute of Marine Science. Representatives of these agencies stated that it was their opinion, based on the number of people engaged in harvesting oysters and the number and location of improved and natural harbors in the area, that the productivity of the oyster grounds were currently being exploited to their fullest. The fact that an improved Beach Creek would result in some savings in time to the oystermen by not having to wait for favorable tidal stages would not, in itself, increase oyster production. The conferees expressed considerable doubt that oyster production would be increased unless the State and private planters take positive action to increase their annual plantings of oyster shells and seed oysters by a substantial amount. This is not considered likely to happen. Accordingly, claims of increased oyster production by tongers working out of this creek are not considered realistic and no benefit has been taken for increased oyster production.

7. ELIMINATION OF DOCK RENT

Under existing conditions a rental fee is charged the owner of the oyster shucking plant for use of the dock facility near the mouth of the creek. Local interests claim that provision of an adequate channel into the creek would eliminate this rental charge since boats would be able to navigate the improved channel to the oyster shucking plant where the oyster catch would be discharged. These interests therefore contend that the savings resulting from the elimination of dock rent is a valid

benefit attributable to the improvement under consideration. However, since adequate transfer facilities do not presently exist at the oyster shucking plant, the construction of such facilities would be necessary. Therefore, although the present rental charge may be eliminated, the owner of the oyster shucking plant would incur comparable charges by constructing and maintaining necessary facilities adjacent to the plant.

8. TRANSPORTATION SAVINGS

Local interests contend that under existing conditions, the owner of the oyster plant on Beach Creek finds it necessary to transport oysters from Greenvale Creek to his plant for processing. These interests claim that additional cost in transporting oysters overland to Beach Creek is a legitimate benefit attributable to the proposed improvement. Since this benefit appears to be encroaching on the secondary sphere of economic activity beyond the basic return at the fishermen's level of operation, it has not been considered a primary benefit attributable toward the proposed improvement.

9. INCREASE IN SALES

Local interests claim that the proposed improvement would increase the sales to the oyster plant located on the creek. It is believed that the proposed improvement would probably increase the sales of oysters to the shucking plant, but other seafood terminals in the area would lose the corresponding sales. Overall, oyster sales in the area would remain constant from the local fishermen's level of operation since there will not be any increase in seafood production. Therefore, this benefit has not been considered as a primary benefit attributable to the proposed improvement.

10. SUMMARY OF BENEFITS

The average annual benefits estimated to result from the proposed improvement of Beach Creek are summarized in the following table.

Table A-1. SUMMARY OF EVALUATED BENEFITS

Item	Benefits
Reduction in damage to boats	$ 880
Transportation savings	
Boat	500
Truck	1,500
Increased oyster production	0
Elimination of dock rent	0
Transportation savings	0
Increase in sales	0
Total	$2,880
Rounded	$2,900

APPENDIX

SECTION B. DESIGN AND COST ESTIMATES

TABLE OF CONTENTS

LIST OF TABLES

1. SCOPE

This section of the appendix indicates the field and office studies made to determine the most feasible and economical method of accomplishing the improvement of Beach Creek, and the determination of the cost thereof.

DESIGN

2. CHANNEL DIMENSIONS

In determining the width of a channel for commercial and recreational craft so as to make a passing situation possible, the following channel elements were considered: (a) bank clearance on each side of channel, (b) maneuvering lanes of passing boats, and (c) clearance between the passing boats. Field investigations and questionnaires from boat owners indicate that the largest boat based on the creek has an 11-foot beam and a 5-foot draft. Considering the above factors, a channel width of 60 feet is deemed necessary. In tidal channels, time and space are generally limited and the unstable forces of tide, current, and wind must be judged and compensated for quickly and accurately to avoid mishaps. In order to maneuver a boat, there is definite need for a certain clearance between the bottom of the boat and the channel. Provision of a channel with a depth of less than six feet is not considered to be desirable. Investigation of dredging equipment in the area indicates that available equipment could not efficiently dredge to a depth of less than six feet since the dredges have a draft of at least five feet. Therefore, a 6-foot channel could be provided at about the same cost as a channel of lesser depth.

3. PROTECTION BY JETTY

Consideration was given toward reinforcing the existing stone and timber jetty along the upstream side of the proposed channel and extending the jetty to the 6-foot depth in Rappahannock River. Although shoaling will occur in the outer portion of the channel, it is estimated that such action would not be significant enough to warrant a jetty. The cost of such a project would be prohibitive and would considerably exceed the estimated savings in maintenance dredging costs resulting from the jetty. Accordingly, no further consideration was given to providing for the jetty in the plan of improvement.

4. ALTERNATE PLANS

Consideration was given to a channel 4 feet deep and 60 feet wide extending from that depth in Rappahannock River extending across the shoal at the mouth of Beach Creek only to the existing dock at the end of Route 628. Due to the fact that dredging equipment available in the area could not be utilized because of the insufficient flotation provided by a 4-foot depth project, it was necessary to consider the utilization of equipment not normally associated with dredging operations. Prices were secured from local contractors in the area for providing such a limited improvement. While the cost of such an improvement would be considerably less than the plan of improvement adopted, it would have a limited useful life, the benefits would be substantially reduced since it would still be necessary to truck-haul all seafood landed on the creek to the shucking plant, and the economic feasibility is questionable. Accordingly, no further consideration was given to such a plan of improvement.

5. PLAN OF IMPROVEMENT

The plan of improvement, as shown on plate 1, provides for a channel 6 feet deep, 60 feet wide, and 2,100 feet long, connecting the Rappahannock River to a turning basin 200 feet by 225 feet at the upper end of the creek. 6. The side slopes provided are 1 vertical on 3 horizontal throughout. The slopes were selected after consideration of the type of material to be dredged. An allowance of one foot of allowable overdepth is included in the estimate to provide for inaccuracies in dredging. No required overdepth is included.

COST

7. DREDGING QUANTITIES

Construction of the channel would be by hydraulic dredge. The classes of material believed to exist were judged from the feel of probings made in the area. The primary purpose of these probings was to determine whether the material to be dredged was hard or soft, and whether it was of such a nature that it could be removed by hydraulic dredge. The material encountered, as determined by probings, consists of sand and mud. The following table summarizes the quantity of material to be dredged.

Table B-1. DREDGING QUANTITIES

Section	Quantities of Material, cu.yd.		
	6-foot depth	1-foot allowable overdepth	Total
Estimated pay yardage	47,500	10,100	57,600
Non-pay overdepth and overwidth dredging			14,400
Total estimated yardage to be removed			72,000

8. DISPOSAL AREAS

Disposal areas were selected in accordance with lands available and with a view to minimizing pumping distances. No levees or spillways would be required since the material would be allowed to take its natural slope. Local interests would be required to furnish all lands for initial construction and subsequent maintenance of the improvement, as shown on plate 1. Local interests would also be required to furnish releases for damages to private oyster grounds resulting from the initial construction and subsequent maintenance of the improvement.

9. INSTALLATION OF AIDS TO NAVIGATION

The estimate of cost includes the cost of aids to navigation which would be installed and maintained by the U. S. Coast Guard. The Commander, Fifth Coast Guard District, has estimated that it will require the installation of one breakwater light and six daybeacons in order to mark the channel.

10. COST

The estimate of project cost is based on June 1963 price levels, and on accomplishing the work by contract with a 12-inch hydraulic dredge and attendant plant, with consideration being given to length of pipeline required, nature of material being dredged, and location of available disposal areas. During the initial construction of the project, spoil material would be deposited adjacent to the channel in the disposal area shown on plate 1. This area is considered to be the most economical site for disposal.

Table B-2. ESTIMATED FIRST COST OF PROJECT

09.	CHANNELS		
	Dredging channel by hydraulic method:		
a.	Quantity to be dredged:	57,600 cu. yds.	
b.	Output of plant and time allowed for completion of work:		
	(1) Amount dredged per day	4,400 cu. yds.	
	(2) Effective time per month	25 days	
	(3) Time allowed to complete work	0-16/30 mo.	
c.	Estimated cost:		
	(1) Total cost of plant (12" dredge) 0-16/30 months at $43,100	$23,000	
	(2) Mobilization and demobilization of dredge, attendant plant, and equipment	12,000	
	(3) Total estimated contract cost		$35,000
	(4) Contingencies, 15%		5,400
	(5) Engineering and design		
	(a) Surveying and mapping	$ 3,000	
	(b) Design and cost estimates	1,500	
	(c) Subsurface investigations	300	
			$ 4,800
	(6) Supervision and administration		
	(a) Inspection and supervision	$1,000	
	(b) Surveys and layouts	2,500	
	(c) District overhead	1,300	
			$ 4,800
d.	Total first cost of construction		$50,000
e.	Aids to navigation (U. S. Coast Guard)		3,500
f.	Lands for disposal area		1,000
TOTAL ESTIMATED PROJECT COST			$54,500 (a)

(a) Exclusive of preauthorization studies amounting to $7,000.

11. ANNUAL MAINTENANCE

The estimate of annual maintenance is based on June 1963 price levels and on accomplishing the work by contract with a 12-inch hydraulic dredge on an average of 7-year intervals during the life of the project, with

disposal in shore disposal areas adjacent to the project. Beach Creek is not a heavy silt-bearing waterway. The shoaling rate will be more rapid for the first 4 or 5 years after initial dredging than in later years when the channel will have become stabilized. It is estimated that, over the useful life of the project (50 years), an annual rate of fill of 2,000 cubic yards of material will occur and that removal of shoals therein will be required on an average of once very 7 years. The estimated cost of annual maintenance of the project is as follows:

Table B-3. ESTIMATED COST OF ANNUAL MAINTENANCE

FEDERAL COST	
Maintenance:	
Removal of minor shoals in channel, 2,000 cu. yds. at $1.20	$ 2,400
Annual condition survey	200
	$ 2,600
Maintenance of aids to navigation (U. S. Coast Guard)	250
FEDERAL MAINTENANCE COST	$ 2,850
NON-FEDERAL COST	
Non-Federal maintenance cost	None
TOTAL ANNUAL MAINTENANCE COST	$ 2,850

APPENDIX

SECTION C - PERTINENT LETTERS

TABLE OF CONTENTS

UNITED STATES COAST GUARD

ADDRESS REPLY TO:
COMMANDER
5TH COAST GUARD DISTRICT
U.S. POST OFFICE AND COURT HOUSE
POST OFFICE BOX 540
NORFOLK 1, VA.

A1/1

8 MAY 1961

From: Commander, Fifth Coast Guard District
To: District Engineer, Washington District, Corps of Engineers, U. S. Army

Subj: Beach Creek, Lancaster County, Virginia; aids to navigation, estimate for

Ref: (a) Corps of Engineers, Washington District ltr file NAWGW dtd 13 April 1961

1. The following estimate for the establishment of aids to navigation in subject creek is forwarded in accordance with reference (a):

a.	One (1) breakwater light	$ 1,375.00
b.	Six (6) daybeacons	2,100.00
	Total cost	$ 3,475.00

The total annual maintenance cost of the above aids is estimated at $250.00.

C. R. MAC LEAN
Chief of Staff

4

NAOEN-R

25 September 1962

Mr. A. R. Beane
Chairman, Board of Supervisors
for Lancaster County
Lancaster, Virginia

Dear Mr. Beane:

As you know, this District has been completing a study of Beach Creek which was initiated by the former Washington District. We would now like to bring our conclusions to your attention.

We have considered a plan of improvement which would provide a channel six feet deep at mean low water, 60 feet wide, and 2,100 feet long connecting the Rappahannock River to a turning basin 200 by 225 feet near the existing oyster packing plant. This is the minimum improvement that will adequately meet the needs of boats using this creek as a base of operations. No jetty has been included in the plan. Local interests would have to provide the necessary land, construct an appropriate public wharf, parking area, and access road thereto, and hold and save the United States free from damages to oyster beds or other property resulting from the construction of the project.

The benefits to be derived from the plan of improvement outlined above have been carefully studied and we find them to be insufficient to justify the work. Therefore, Federal participation in this proposed project cannot be recommended at this time.

I shall be glad to have my engineers meet with you to discuss the matter in greater detail if you so desire.

Very sincerely yours,

R. H. FREE
Colonel, Corps of Engineers
District Engineer

Copy furnished:
Mrs. Bertha G. Abbott
Clerk for Lancaster Co.
Lancaster, Va.

Mr. V. R. Chowning
Executive Vice-President
The Chesapeake Banking Co.
Lively, Va.

NACEN-R

23 October 1962

Honorable Howard W. Smith
House of Representatives
Washington, D. C.

Dear Mr. Smith:

Your letter of 16 October 1962 refers to previous correspondence concerning the need to have the sand bar removed from the entrance to Beach Creek in Lancaster County. You also inclosed a copy of letter dated 2 October 1962 on the matter from Mr. Chowning and requested the latest available information as to the prospects for getting this project done.

You will recall that at your request the House Public Works Committee authorized a study of Beach Creek in 1959. In June 1961 the prosecution of a study of Beach Creek was initiated under the simplified procedure authorized by Section 107 of the River and Harbor Act of 1960. This Act gives the Chief of Engineers authority to develop and construct economically justified small navigation projects without further specific approval by the Congress. A copy of my letter of 25 September 1962 to the Lancaster County Board of Supervisors is inclosed. I was preparing to send you a copy for your information when your letter of 16 October arrived.

You may be interested to know that at the request of the Congress, the Corps prepared reports on Beach Creek in 1917, 1927, and 1935. In each instance, the District Engineer and Division Engineer concluded that the improvement of Beach Creek was not economically justified. The Board of Engineers for Rivers and Harbors and the Chief of Engineers concurred in these conclusions and unfavorable reports were submitted to the Congress.

A plan for the Federal improvement of Beach Creek was carefully investigated in connection with the presently authorized study. The plan considered by the Washington District before the area was transferred to Norfolk included the repair and strengthening of the existing jetty as well as the dredging of a channel. The overall cost of this plan was $180,000, and it is this estimate to which Mr. Chowning refers in his letter.

Since the area was transferred to this District, we have given considerable thought to the need for improving the existing jetty. We have

concluded that the channel would remain open with periodic maintenance and without a jetty. The plan which we finally evolved included an improvement which would provide a channel six feet deep at mean low water, 60 feet wide, and 2,100 feet long connecting the Rappahannock River to a turning basin 200 feet by 225 feet in Beach Creek. We have estimated the cost of such an improvement at $55,000. Local interests would have to provide the necessary land, construct an appropriate public wharf, parking area, and access road thereto, and hold the United States free from damage to oyster beds or other property resulting from the construction of the project.

We have carefully studied the benefits to be derived from the plan of improvement outlined above. We have conferred with the Virginia Institute of Marine Science and with the U. S. Fish and Wildlife Service as to the need for additional harbors for harvesting the fishery and oysters on the Rappahannock River. Based on this study we have concluded that the benefits are insufficient to justify a Federal project on Beach Creek.

Mr. Chowning refers to six Federal projects which have been constructed at other creeks. The inclosed tabulation shows (a) all Federal projects which have been authorized by the Congress for the lower Rappahannock and some adjoining streams, (b) the Federal cost of dredging them initially, and (c) the total cost of maintaining them over the years.

You may be interested to know that in the case of the entire James River, there are only two small creeks that have been improved with Federal funds; in the case of the York River, there is only one improved creek; and in the case of the Rappahannock, there are 10 small Federally-improved creeks.

I know how important each stream is to the adjoining landowner or fishermen and oystermen utilizing the waterway and regret the necessity for having to recommend against the adoption of improvements they desire. The facts are, however, that there are not sufficient benefits to justify each creek or waterway that is investigated.

I shall be glad to furnish you with any further information that you may require on this matter.

Very sincerely yours,

2 Incls
1. Cost Data for Tributaries of Rappahannock and Adjoining Streams
2. Copy of letter to Lancaster County Board of Supervisors, 25 Sep 62

R. H. FREE
Colonel, Corps of Engineers
District Engineer

Copy furnished w/incl:
NAD, ATTN: NADEN-R, w/cy Rep. Smith's ltr & incl
OCE, ATTN: ENGCW-P, " " " " "

COST DATA FOR TRIBUTARIES OF RAPPAHANNOCK AND ADJOINING STREAMS

Stream	County	Initial Federal Construction Cost	Cost of Maintenance(a)
Broad Creek	Middlesex	27,888	17,010
Mill Creek	Middlesex	5,445	0
Locklies Creek	Middlesex	11,581	519
Whitings Creek	Middlesex	21,630	11,713
Urbanna Creek	Middlesex	55,724	46,822
Parrotts Creek	Middlesex	37,045(c)	0
Jacksons Creek(b)	Middlesex	8,500	491
Hoskins Creek	Essex	44,100	178,259
Totuskey Creek	Richmond	167,869	135,748
Mulberry Creek	Lancaster	2,393	1,767
Carters Creek	Lancaster	28,398	3,176
Dymers Creek(d)	Lancaster	5,582	4,524

(a) Since initial construction.
(b) Tributary to Piankatank River.
(c) Includes $500 for claim paid in 1961.
(d) Located in Chesapeake Bay.

U. S. Army Engineer District, Norfolk
Norfolk 10, Virginia
22 October 1962

NAOEN-R

11 March 1963

Honorable Howard W. Smith
House of Representatives
Washington 25, D. C.

Dear Mr. Smith:

Further reference is made to your letter of 8 February 1963 concerning the possibility of dredging a small sandbar at the mouth of Beach Creek in Lancaster County to provide a minimum improvement. In the acknowledgment sent you on 13 February 1963, it was stated that the matter would be reviewed and that you would be advised accordingly.

The temporary channels that were dredged into the mouth of Beach Creek in 1936 and 1949 were dredged under conditions that permitted the work to be done at a minimum of cost. Government plant engaged in dredging at other locations in the vicinity was utilized on both of these previous occasions. Currently, however, we have no Government equipment suitable for dredging a channel comparable to that previously provided. Our estimates of cost for providing a small entrance channel must of necessity, therefore, be based on current contract dredging prices. Almost 50 percent of the cost of accomplishing the work by contract would be associated with assembling the plant and equipment, moving it to Beach Creek, and thereafter moving it back to its base. Our studies indicate that the cost of providing even the minimum improvement in this manner would be substantially more than the two or three thousand dollars mentioned by Mr. Chowning and is not economically justified. In this connection, it is believed that an expenditure of two or three thousand dollars is well within the capability of local interests, and if they know of some way to accomplish a satisfactory minimum improvement for such a sum, it would be well for them to do so rather than the Federal Government.

As a last alternative, we are currently studying the possibility of accomplishing the work by local contractors using equipment not usually associated with dredging operations and comparing the cost of this method of operation with that of conventional methods. I shall be pleased to advise you as soon as a conclusion has been reached.

Very sincerely yours,

E. J. STOKES, JR.
Major, Corps of Engineers
Executive Officer

Copy furnished:
NAD, ATTN: NADEN-R
OCE, ATTN: ENGCW-P

NAOEN-R

9 May 1963

Honorable Howard W. Smith
House of Representatives
Washington 25, D. C.

Dear Mr. Smith:

Please refer to our letter of 11 March 1963 in which you were advised that we were studying the possibility of improving Beach Creek, Lancaster County, Va., by local contractors using equipment not normally associated with dredging operations and comparing the cost of this method of operation with that of conventional methods. We stated that we would write you again as soon as a conclusion had been reached.

We have secured prices from two local contractors in the area for providing a limited improvement, i.e., a 4-foot entrance channel through the sand bar at the mouth of the creek. While the cost of such an improvement is considerably less than the complete project we have studied, it would have a limited useful life, the benefits would be substantially reduced since it would still be necessary to truck-haul all seafood landed on the creek to the shucking plant, and the economic feasibility is questionable.

On 29 April 1963 two engineers from this office called on Mr. Chowning at Lively to discuss the project. Mr. Chowning was advised that reports prepared by the Corps of Engineers in 1916, 1928, and 1935, in compliance with requests by the Congress, concluded that improvement of Beach Creek was not economically justified. He was also advised that the small dredging work done in 1936 and 1949 was performed by the Corps as emergency measures. When it becomes necessary to repeatedly dredge in a specific area, the work desired should be studied under normal survey procedures as established by the Congress. Our study has been carried out in accordance with this policy.

During the visit with Mr. Chowning, Beach Creek was inspected and various plans of improvement were discussed, including the costs and benefits associated therewith, as well as the relation of Beach Creek to other harbors in the area. It was pointed out that the Virginia Institute of Marine

NAOEN-R 9 May 1963
Honorable Howard W. Smith

Science and U. S. Fish and Wildlife are unable to assign any increased seafood production benefits to the proposed improvement; that the principal benefits which would accrue to the improvement are elimination of damage to boats and savings in transportation costs both by water and land; and that these latter benefits are not commensurate with the cost. We believe that, as a result of this discussion, Mr. Chowning has a better concept as to the reasons why the project lacks economic feasibility.

Mr. Chowning did ask what changed conditions could occur to develop a favorable project, say a year or two hence. He was advised that a project on Beach Creek could be made more feasible economically if there were additional benefits from (a) the transfer of more commercial boats into an improved harbor, thereby creating a greater savings in running time and transportation costs, (b) the advent of recreational craft, and (c) the assignment of a seafood production benefit by the fishery agencies.

Mr. Chowning stated that local people have talked to a dragline contractor and are contemplating dredging a small entrance channel at their expense.

Please call on me if I can be of further assistance in the matter.

Very sincerely yours,

R. H. FREE
Colonel, Corps of Engineers
District Engineer

Copy furnished:
NAD, ATTN: NADEN-R
OCE, ATTN: ENGCW-P

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE
PEACHTREE-SEVENTH BUILDING
ATLANTA 23, GEORGIA

ADDRESS ONLY THE
REGIONAL DIRECTOR

SOUTHEAST REGION
(REGION 4)
NORTH CAROLINA
SOUTH CAROLINA
GEORGIA
FLORIDA
KENTUCKY
TENNESSEE
ALABAMA
MISSISSIPPI
ARKANSAS
LOUISIANA
VIRGINIA
MARYLAND
PUERTO RICO
VIRGIN ISLANDS

CE-MA-ra (Beach Creek, Va.)

August 2, 1961

District Engineer
U. S. Army, Corps of Engineers
Norfolk, Virginia

Dear Sir:

The preliminary plan of improvements for navigation purposes at Beach Creek, Lancaster County, Virginia, furnished with Major Smith's letter of April 12, 1961, has been reviewed by the Bureau of Sport Fisheries and Wildlife and the Bureau of Commercial Fisheries of the U. S. Fish and Wildlife Service.

Beach Creek is centrally located in the oyster producing segment of Rappahannock River and affords an operating base for crab and finfish fisheries of commercial importance. Historically, these waters comprised a valuable part of the oyster producing area in Virginia. Currently, the Rappahannock River is perhaps the last stronghold of substantial oyster production in Virginia. The catastrophic decline in oyster production in lower Chesapeake Bay has resulted from the invasion of MSX, a parasitic spore-forming organism belonging to the Protozoa group. The organism has been identified in the lower Rappahannock River but severe mortalities have not occurred.

Construction of the project will result in a benefit to the fishing industry by providing a needed harbor of refuge, increasing the productive time on the fishing grounds, reducing boat damage, and reducing the cost of handling shells, and seed and market oysters.

The present transportation system involves moving oysters from boat to truck and truck to bin. A loss due to breakage of 15 percent is not uncommon in each operation. Reduction in the number of times oysters have to be handled would lower production costs. It is not known if the increased water circulation that would

result from channel improvements would make possible oyster production within Beach Creek. However, if conditions are made suitable for oyster cultivation, rigid controls would be required to prevent pollution of the area from domestic wastes and oil that usually occurs with the influx of small boats in a restricted harbor.

We appreciate the opportunity to review and comment on the considered plan of improvement for Beach Creek.

Sincerely yours,

Walter A. Gresh

Walter A. Gresh
Regional Director

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE
PEACHTREE-SEVENTH BUILDING
ATLANTA 23, GEORGIA

April 23, 1963

District Engineer
U. S. Army Engineer District, Norfolk
P. O. Box 119
Norfolk 1, Virginia

Dear Sir:

Reference is made to our letter reports dated August 2, 1961, concerning navigation improvements at Beach Creek and Windmill Point Creek, both tributary to the Rappahannock River, Virginia. These reports concluded that navigation improvements would be beneficial to the fishery industry and cited the general areas from which benefits would be derived.

You have requested specific information as to whether increased production will continue to be an important benefit if additional harbors are provided. The record of production in the Rappahannock River since 1955 shows a steady increase in harvest of oysters. This is not related to navigation facilities but rather to increased oyster cultivation. Additional harbor improvement, in our opinion, will not influence the oyster production of Rappahannock River at this time. Such facilities will, of course, provide benefits related to the reduced cost of production.

The question of optimum river development desired in the lower Rappahannock is quite difficult to appraise. We have made preliminary studies but we have been unable to establish guidelines that are adequate for application to all positions of the area in question. We intend to pursue studies of this matter and will discuss tentative findings with you in the near future.

Sincerely yours,

Walter A. Gresh
Regional Director

1505-22 Beach Creek
X 1505-22 Windmill Point Creek