SMALL NAVIGATION PROJECT

OWLS HEAD HARBOR

MAINE

DETAILED PROJECT REPORT

U.S. ARMY ENGINEER DIVISION, NEW ENGLAND
CORPS OF ENGINEERS WALTHAM, MASS.

OCTOBER 1965

8 FEB 1966

NEDED-R (NEDED-R 21 Oct 65) 2d Ind
SUBJECT: Detailed Project Report for Small Navigation Project, Owls Head Harbor, Owls Head, Maine

U. S. Army Engineer Div, New England, Waltham, Mass. 24 Feb 1966

TO: Chief of Engineers, ATTN: ENGCW-PD

1. In accordance with ER 1165-2-14, paragraph 14(5), there are inclosed 10 copies of the final report. The Governor of Maine has been informed of the proposed project and his comments endorsing the project are included in Appendix B of the final report.

2. The report has been changed in accordance with paragraphs 2 and 3 of the preceding indorsement, except for stating the percent of local cooperation to the nearest tenth of a percent as noted in paragraph 2. The estimated cash contribution, as reported, was discussed by telephone with a representative of the Chief of Engineers in January 1966. It was agreed that there is no need to change the report in this regard.

3. Members of Congress and the Governor of Maine were notified of the formal adoption of the project by letters dated 3 February 1966. The date of final project approval for record purposes is 3 February 1966.

4. Responsible officials of the Town of Owls Head have given firm indications that the requirements of local cooperation would be met. The position of the Town regarding local cooperation was reaffirmed by letter on 5 February 1966. The Town reports State and local funds now available for project construction will lapse in June 1967, and are hopeful that Federal financing will permit project construction before that date.

5. The Town of Owls Head and the Maine Department of Sea and Shore Fisheries were notified of final project approval on 16 February 1966.

Incl
10 cys Final Report

REMI O. RENIER
Colonel, Corps of Engineers
Acting Division Engineer

U. S. ARMY ENGINEER DIVISION, NEW ENGLAND
CORPS OF ENGINEERS
424 TRAPELO ROAD
WALTHAM, MASS. 02154

ADDRESS REPLY TO:
DIVISION ENGINEER

REFER TO FILE NO.

NEDED-R 21 October 1965

SUBJECT: Detailed Project Report for Small Navigation Project, Owls Head Harbor, Owls Head, Maine

TO: Chief of Engineers
ATTN: ENGCW-PD

1. In accordance with ER 1165-2-14, there is submitted, for review and comment, an advance draft of the subject report.

2. Responsible officials of the State of Maine and the Town of Owls Head concur in the recommended plan of improvement and have indicated a willingness and ability to meet the requirements of local cooperation. Formal assurances of participation will be obtained from the State and Town during preparation of the final design for the project.

3. The plans and specifications will be prepared in accordance with Detailed Project Report as approved. Funds in the amount of $10,000 for preparation of plans and specifications will be required. The total Federal share of construction is estimated to be $144,000 and the local share is estimated to be $6,000.

4. Formal comments of the Governor of Maine will be requested after approval of the advance draft.

Incl
as (10 cys)

E. J. RIBBS
Colonel, Corps of Engineers
Acting Division Engineer

ENGCW-PD (NEDED-R 21 Oct 65) 1st Ind
SUBJECT: Detailed Project Report for Small Navigation Project, Owls Head Harbor, Owls Head, Maine

DA, CofEngrs, Washington, D. C. 20315 21 December 1965

TO: Division Engineer
New England Division

1. The proposed report is acceptable subject to the comments in the following paragraphs. The Governor of Maine should be informed of the project proposal and his formal endorsement obtained. After receipt of favorable State comments fully endorsing the project, it may be considered formally adopted under Section 107 of the River and Harbor Act of 1960 as amended. Authority is then granted to issue simultaneous notification to the concerned members of Congress and State Governor informing them of the project adoption under Section 107. The notification should describe the project and required local participation. For record purposes the date of notification will be considered the date of final approval.

2. The cash contribution should be stated to the nearest tenth of a percent (EM 1120-2-113, paragraph 14a). Further, it should be made clear that the amount is subject to adjustment once the final first costs are determined.

3. The condition of local cooperation concerning lands, easements and rights-of-way should include the standard condition for furnishing disposal areas in the event that at some future date the method of dredging is changed from a dipper to pipeline dredge.

4. The Owls Head Harbor project will take its place on the backlog of approved Section 107 projects to await funding from future appropriations. Authorization is granted to proceed with preconstruction planning of the project. The following work allowance is established to cover preconstruction work pursuant to the small navigation project authority provided by Section 107 of the 1960 R & H Act as amended:

Location	Code 902-	Amount
Owls Head Harbor, Maine	216	$10,000

5. Allotment of $10,000 under appropriation 96X3122 Construction, General will be sent by separate communication.

FOR THE CHIEF OF ENGINEERS:

Incl
3 cys w/d

JACKSON GRAHAM
Major General, USA
Director of Civil Works

U. S. ARMY ENGINEER DIVISION, NEW ENGLAND
CORPS OF ENGINEERS
424 TRAPELO ROAD
WALTHAM 54, MASS.

ADDRESS REPLY TO:
DIVISION ENGINEER

REFER TO FILE NO. NEDED-R

21 October 1965

DETAILED PROJECT REPORT
OWLS HEAD HARBOR, MAINE

PERTINENT DATA

1. Purpose: Determine the need and economic justification in providing sufficient sheltered anchorage space in the Cove for small boat traffic and exploring the feasibility of reconstructing the old Federal breakwater.

2. Location: Owls Head Harbor in the Town of Owls Head, Knox County, Maine, is 65 miles northeast of Portland and 4 miles southeast of Rockland, Maine.

3. Existing Federal Project: Adopted in 1852, provides for the construction of a short breakwater near Dodge Point, Owls Head. The breakwater was completed in 1858 but was not maintained and no longer exists.

4. Improvement Desired: Local interests desire a Federal navigation project to provide an anchorage basin 6 feet deep over an area of about 12 acres or reconstruction of the old Federal breakwater at Dodge Point, Owls Head.

5. Recommended Improvement:

The improvement meeting the needs of navigation and desires of local interests is an anchorage basin 6 feet deep over an area of 8 acres.

6. Estimated Costs:

Dredging: 8 acres - 6 feet deep 51,000 c.y. (ord. mat'l) @$2.20/c.y.	$	112,000
Contingencies @ 15%		17,000
Engineering and Design		11,000
Supervision and Administration		10,000
TOTAL PROJECT CONSTRUCTION COST	$	150,000

7. Apportionment of Costs Among Interests:

a. Federal

Corps of Engineers:		
General Navigation Facilities		
96% ($150,000)	$	144,000
Coast Guard:		
Additional Navigation Aids		0
TOTAL FEDERAL	$	144,000

b. Non-Federal

Cash Contribution:		
4% of $150,000	$	6,000
Public Landing (Self liquidating)		5,000
TOTAL NON-FEDERAL	$	11,000

8. Annual Charges:

a. Federal

Interest & Amortization		
3-1/8% (50-yr. project life)		
0.3979 ($144,000)	$	5,730
Annual Maintenance		5,000
TOTAL FEDERAL CHARGES	$	10,730

b. Non-Federal

Interest & Amortization		
0.3979 ($6,000)	$	240
TOTAL NON-FEDERAL CHARGES	$	240
TOTAL ANNUAL CHARGES	$	10,970

9. Annual Benefits:

TABLE VI - Summary of Benefits Resulting from 8-acre Anchorage

Source of Benefit		General	Local	Total
Fishing Fleet				
Increased Lobster Catch		$ 24,100	0	$ 24,100
Increased Groundfish Catch		400	0	400
Reduced Fishing Boat Damage		1,000	0	1,000
Recreational Fleet				
Existing	(12)	440	440	880
Present Transient	(1)	70	70	140
Prospective Transient	(1)	80	80	160
Prospective Transfers	(2)	45	45	90
Prospective New	(4)	555	555	1,110
		$ 26,690	$ 1,190	$ 27,880
		96%	4%	100%

10. Benefit-Cost Ratio:

$27,880 ÷ 10,970 = 2.5

11. Requirements of Local Cooperation:

a. Contribute in cash 4 percent of the cost of the work, presently estimated at $6,000, to be paid in a lump sum prior to commencement of construction, the final allocation of cost to be made after the actual costs have been determined.

b. Provide, without cost to the United States, all lands, easements and rights-of-way required for construction and subsequent maintenance of the improvement and for aids to navigation upon request of the Chief of Engineers, including suitable areas determined by the Chief of Engineers to be required in the general public interest for subsequent disposal of spoil, and also necessary retaining dikes, bulkheads, and embankments therefor or the costs of such retaining works.

c. Hold and save the United States free from damages which may result from construction and maintenance of the project.

d. Provide and maintain, without cost to the United States, an adequate public landing and insure that the general public will always have access from shore to the Federal project over a dock or float with berths and any necessary channels 6 feet deep throughout project life.

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- Report Map - File No. 1722 D-8-4
- Survey Map - File No. 1635 D-8-4

Appendix A - Fish and Wildlife Report
Appendix B - Comments of State & Local Interests
Appendix C - Estimate of First Cost

U. S. ARMY ENGINEER DIVISION, NEW ENGLAND
CORPS OF ENGINEERS
424 TRAPELO ROAD
WALTHAM 54, MASS.

ADDRESS REPLY TO:
DIVISION ENGINEER

REFER TO FILE NO. NEDED-R

21 October 1965

DETAILED PROJECT REPORT
OWLS HEAD HARBOR, MAINE

AUTHORITY

1. This Detailed Project Report is submitted pursuant to authority contained in Section 107 of the River and Harbor Act of 1960. An investigation of Owls Head Harbor with a view to determining whether the existing project should be modified at this time was initiated under authority of a resolution of the Committee on Public Works of the House of Representatives adopted 19 May 1960. Preliminary results of the study indicated that purpose, scope and cost of improvement of the harbor best suited to meet the needs of navigation would meet the criteria established under the above general authority. Accordingly, by letter dated 8 March 1965, approval was requested of the Chief of Engineers to continue and complete the study under Section 107 authority. Specific authority to prepare and submit this Detailed Project Report was provided by 1st indorsement, dated 2 April 1965 from the Chief of Engineers.

PURPOSE AND EXTENT OF STUDY

2. The study was made to determine the economic justification of improving Owls Head Harbor for navigation by modifying the existing Federal project in accordance with the desires of local interests. In preparation of this report, a detailed hydrographic survey was made in September 1963 to obtain soundings and probings in the areas desired for improvement. Data on the use of this harbor, and other nearby harbors, was studied to determine the adequacy of present facilities and the need for harbor improvements in the area. A public hearing was held at Owls Head Central High School, Owls Head, Maine, on 24 July 1963. Information obtained at the hearing is described below under "Improvements Desired." Local officials and other interested agencies were consulted to obtain further information relative to navigation improvements. Available maps, charts and aerial photographs were studied and field trips were made to observe existing conditions.

DESCRIPTION

3. Owls Head Harbor in the Town of Owls Head, Knox County, Maine, is 65 miles northeast of Portland and four miles southeast of Rockland, Maine.

4. The harbor itself is about 1,000 feet long and 900 feet wide. Depths vary from 0 to 10 feet at mean low water, at the harbor entrance. Most of the harbor is a mud flat at low tide. There is a herring weir located on the southerly side of the harbor. Immediately south of the harbor entrance lies Owls Head Bay and Monroe Island. The bay forms a natural access channel over 700 feet wide with depths ranging from 33 to 73 feet between the harbor and the Island.

5. The harbor is well sheltered from winds from all quadrants except the northeast. The mean range of tide is 9.4 feet. The locality is shown on U.S. Coast and Geodetic Charts numbered 209 and 310 and on the map accompanying this report.

TRIBUTARY AREA

6. The area immediately tributary to Owls Head Harbor consists of the City of Rockland and the Town of Owls Head in Knox County. Rockland is the county seat and is also a deep water port and the major center of commercial fishing activities. Owls Head is a small village on the west side of Owls Head Harbor. In 1950, the population was 784 and by 1960 it had increased to 994. The Town has a tax valuation of $792,145. The fishing industry provides the main source of income for the inhabitants of the town. The area is served by a network of good roads. A municipal airport is available in the town.

BRIDGES

7. There are no bridges crossing any portion of the waterway under consideration in the report.

PRIOR REPORTS

8. A survey report published in Executive Document No. 67, 52nd Congress, 2nd Session, was favorable to the improvement of Owls Head Harbor, and is the basis of the existing Federal project completed in 1858, at Dodge Point, Owls Head, Maine.

9. Preliminary examination reports in 1884 and 1892 were unfavorable to the construction of further breakwater protection. No requests for Federal improvement of the harbor have been initiated between 1892 and 1960. No known improvements to navigation have been made by any local agency.

EXISTING CORPS OF ENGINEERS' PROJECT

10. The existing Federal project, adopted in 1852, provides for the construction near Dodge Point of a short breakwater of wooden cribs filled with stone to protect vessel traffic within the harbor. The breakwater was completed in 1858 at a total cost to the United States of $17,900. The breakwater has not been maintained and no longer exists.

LOCAL COOPERATION ON EXISTING AND PRIOR PROJECTS

11. There were no requirements of local cooperation on the existing project.

OTHER IMPROVEMENTS

12. Except for the provision of two privately-owned fish wharves, one of which is open to the public, no known improvements for the benefit of general navigation have been made by local interests in Owls Head Harbor.

TERMINAL AND TRANSFER FACILITIES

13. Two fish wharves and boat service facilities are located in Owls Head Harbor. The berths are both dry at low water. One is 250 feet long and 10 feet wide and has both oak and stone piles with spruce top timber construction. The second, owned by the Thomas Watkinson Company, is of pile and timber construction. The company also operates a lobster pound having a capacity of 45,000 pounds. The combined value of these piers is $66,000. There is a private landing float in the harbor valued at $5,000.

14. The present harbor facilities are adequate to handle existing and prospective commerce. Gasoline and water are available at the project site. There are no local boat yards. There is a marine railway capable of handling vessels up to 200 feet in length with 12 to 14-foot drafts in Rockland Harbor about 4 miles away. At the present time, Owls Head Harbor has no public landing, although there is a public landing at Crescent Beach, Owls Head, about 2 miles southwest of the project site. This landing has one foot of water at low tide.

IMPROVEMENTS DESIRED

15. To determine the nature and extent of improvement desired by local interests, a public hearing was held at Owls Head Central High School on 24 July 1963. Local interests at the hearing expressed the desire for a substantially increased anchorage area adjacent to the shore and of adequate depth and size to provide for the needs of the existing and prospective fishing fleets expected to use the harbor. In addition, to a lesser degree some interest was expressed in exploring the feasibility of reconstructing the Federal breakwater at Dodge Point. A representative of the Town of Owls Head presented for consideration a plan for dredging the Harbor to a depth of 6 feet over an area of about 12 acres. It was stated that almost the entire harbor is bare at low tide, and reported that shoal conditions have hampered operations of the existing fleets and have acted as a deterrent to normal expansion of boating in the locality.

16. The Town feels the increased anchorage area at Owls Head Harbor would relieve present boat congestion, reduce groundings, and permit direct access to existing terminal facilities at all stages of the tide for all of the expected fishing and recreational craft. The resulting benefits would include, increased use by the existing and transient fleets and additions to these fleets, a decrease in storm damages to boats, increased tax resources and increased income from the sale of supplies and expenditures for maintenance of boats.

17. The State of Maine Department of Sea and Shore fisheries summarized in general the present harbor conditions and difficulties and also furnished statistics concerning the fishing industry in the harbor and the present harbor use by vessels. The major problem to the fishing industry which hampers the efficient operation of the present fleet and hinders its growth is the lack of sufficient anchorage area of adequate depth in the harbor. The need for expansion of harbor facilities was affirmed in a report furnished by the U.S. Fish and Wildlife Service. Emphasis was placed by officials at both State and local levels on the importance of adequate harbor facilities to maintain and promote the development of the Town's economy.

EXISTING AND PROSPECTIVE COMMERCE

18. The principal commercial activities at Owls Head Harbor are concerned with fish, shellfish and fish products. Gasoline, bait and general fishermen's supplies are available at dockside. Published commercial statistics for the harbor are limited and show no information on local lobster catch.

19. The following data is based upon U. S. Fish and Wildlife Service report; local company records submitted at the public hearing; a report by the Maine Department of Sea and Shore Fisheries; the Maine Port Authority and local information. Owls Head Lobster Co. owned and operated by P. K. Reed & Son and Thomas Watkinson Company, owner and operator of the harbor's only lobster pound, handle all of the harbor's waterborne commerce. Their combined records currently indicate a total average annual lobster catch of about 143 tons, valued at $0.60 per pound, or about $171,600. The lobsters are brought into port by 25 full-time lobster boats, and 27 small outboard type boats used for lobstering, all of which are based in the harbor. The U. S. Fish and Wildlife Service reports the proposed improvements are expected to attract expansion of the inshore lobster fleet by three new lobster boats and three transfer lobster boats, with corresponding annual landings of 22.5 tons and 3 tons. In addition, the present fleet of 25 full-time vessels would increase their annual lobster landings by 24.8 tons.

20. Groundfish operations in 1961 and 1962 averaged 67 tons per year. Valued at 0.05 cent per pound, this amounts to $6,650. There is one trawler presently based in the harbor together with 8 carriers and 2 draggers that use the harbor facilities on a part-time basis. With improvement, groundfish landings are expected to increase about 15 percent because of the elimination of tidal delays. This would amount to 20,000 pounds valued at $1,000. Because no new or transfer groundfish vessels are expected, the added catch would be attributed solely to the present fleet.

21. In addition to this groundfish commerce, in 1962 a total of 2,400 bushels of herring were caught in a weir located on the southerly side of the harbor. This herring catch is not handled at Owls Head Harbor due to the lack of necessary cannery, but is shipped by truck to nearby Rockland Harbor. Therefore, no direct benefits to navigation would be realized, although the herring weir could be operated more efficiently as a result of the proposed improvement.

22. Local interests state that at the present time there are several fishermen living at Owls Head Harbor who moor their boats and operate from Ash Point, Crescent Beach and Rockland Harbor due to the crowded and inadequate anchorage conditions at Owls Head Harbor. If adequate anchorage space is provided, these fishermen will return their boats to Owls Head Harbor to eliminate the inconvenience and the expense of extra travel. It is anticipated that 8 additional fishing boats will be added to the home based fishing fleet as a result of the proposed improvement.

VESSEL TRAFFIC

23. There is no complete record of vessel traffic at Owls Head Harbor. The permanent commercial fleet consists of 25 full-time lobster boats and one trawler. There are also 27 small part-time boats that engage in lobstering during the summer season. The full-time lobster boats, about 32 feet in length and drawing from 2 to 3 feet of water, average 150 round trips per boat during each lobster season, representing a total of approximately 3,700 round trips annually. These vessels are currently valued at $126,000. In addition, part of this lobster fleet is utilized for trawl fishing when the lobster season is over. It is estimated that these boats average about 40 round trips during this type of fishing. The total average number of round trips made annually by a locally-based trawler, and the 2 draggers and 8 carriers that make up the transient fishing fleet, which vary in length from 40 to 80 feet and in draft from 5 to 8 feet, is difficult to estimate, since the trips vary in time from 1 to 5 days depending upon the location of the fish and the availability of a market. The locally-based tralwer has been valued by local inter ests at $15,000 while the transient fishing fleets value is unknown.

24. There are 12 permanently based recreational craft in the harbor. They consist of 4 cruisers varying in length from 15 to 30 feet, and in draft from 1 to 2 feet, and two auxiliary sail boats whose length and draft are about the same as the cruisers described above. Local interests claim these boats are worth $16,000; $2,000 each for the four cruisers and $4,000 each for the auxiliary sail. The balance of the permanently-based craft consist of six sport fishing vessels, averaging 25 feet in length and drawing about three feet of water. These boats are valued at $14,400. No record is kept of the vessel trips for these craft, but it is estimated they make about 600 trips annually. An additional 58 rowboats and skiffs make up the remaining vessel traffic in the harbor.

25. It is expected that 10 new and five transferred recreational boats would be added to the existing fleet in the event of harbor improvement. Local interests stated that presently about 40 transient auxiliary sail boats visit the harbor for about two days each and that this number will double if the harbor is improved. A few vessel trips are made by small tankers which unload gasoline at the harbor.

DIFFICULTIES ATTENDING NAVIGATION

26. The principal navigation difficulties in Owls Head Harbor are insufficient mooring space of adequate depth and insufficient depth for

ready access by boats to the wharves in the harbor. Natural terrain coupled with a long period of shoaling is considered the cause of the inadequate depths. These conditions have eliminated use of the harbor area as periods of low tide. Local or transient fishermen are forced to land their catch at the wharves and purchase supplies at times of at least four feet of flood tide in the harbor. This situation causes costly tidal delays to the fishermen using this harbor. Despite this handicap, some 25 permanently-based commercial and 12 recreational craft are now moored in the harbor.

27. In addition, crowding is a constant problem. Boats attempt to hover along the harbor entrance in an effort to seek protection from northeast winds but due to the lack of adequate space often collide with one another resulting in damage. Local interests report their lobster boats are constantly handicapped by groundings during periods of low water. During low tide, trucks are frequently used to drag these boats to deep water.

WATER POWER AND OTHER SPECIAL SUBJECTS

28. The waterway is tidal. Flood control, water power, and other related subjects are not pertinent to this report. U. S. Fish and Wildlife have been consulted on the effect of an improvement and their report is given in Appendix A . They have indicated that the fish and wildlife interest would not be significantly effected by the proposed navigation improvement, but recommended that areas for spoiling be selected carefully, particularly at sea, in order to avoid damage to the natural coastal lobster resource.

PLAN OF IMPROVEMENT

29. Present navigation in Owls Head Harbor is limited by inadequate depths of water, even at half tide, not only at the docking area but over much of the protected harbor area. Based on the results of recent hydrographic and probing surveys, substantial amounts of mud, sand and gravel are present over the entire harbor area.

30. There are existing less than two acres of reasonably protected anchorage space with adequate depth at Owls Head Harbor to accommodate the existing fishing fleet of 25 lobster vessels and recreational fleet of 12 boats that need safe mooring space on a full-time basis. In addition, there are 10 large transient fishing vessels that use the harbor facilities from time to time throughout the year, clearly indicating the need for additional safe anchorage space.

31. The requested anchorage of 12 acres was found to be in excess of the area needed for the present fishing and recreational fleets plus any reasonable anticipated increase in boating. Reconstruction of the non-existent Federal breakwater would not provide any sheltered anchorage in Owls Head Harbor. An effective breakwater would have to extend several hundred feet into deep water to provide sufficient protected area and would be far more expensive and less desirable than the dredging in the lee of the headland.

32. The improvement meeting the needs of navigation and the desires of local interests in the most efficient manner would provide a safe anchorage basin with a total of 8.0 acres, (6 new and 2 existing) 6 feet deep. This anchorage has been aligned to permit direct water access to both the Fish Company and the Lobster Pound at all stages of the tide, and permit construction of a public landing. This plan will eliminate excessive congestion, eliminate tidal delays, increase fish landings, reduce boat damages, add to the natural protection of the harbor from severe storms and provide the opportunity for immediate expansion of boating interests.

SHORELINE CHANGES

33. The proposed improvement for navigation will make no changes to the configuration of the adjacent shoreline.

REQUIRED AIDS TO NAVIGATION

34. The U. S. Coast Guard has stated that no additional aids to navigation will be required as a result of the proposed improvement.

ESTIMATES FOR FIRST COSTS

35. The estimated first cost is based on providing 8 acres of open anchorage, 6 feet deep, in Owls Head Harbor. A summary of the estimated first cost for each item of this proposed plan of improvement, using March 1965 price index, is as follows:

a. Dredging 8 acres of anchorage, 6 feet deep, 51,000 c.y. (ordinary material) @$2.20/c.y.	$ 112,000
Contingencies @ 15%	17,000
Engineering and Design	11,000
Supervision & Administration	10,000
TOTAL COST (Corps of Engineers' funds and Non-Federal contributions)	$ 150,000

Total Non-Federal Costs

Cash Contribution	$ 6,000
* Public Landing	5,000
TOTAL NON-FEDERAL COSTS	$ 11,000

* Self-liquidating

b. Summary of Estimated Costs

Federal

Corps of Engineers	$ 144,000
U.S. Coast Guard	0
TOTAL ESTIMATED FEDERAL COST	$ 144,000

Non-Federal

Cash contribution	$ 6,000
Public Landing	5,000
TOTAL ESTIMATED NON-FEDERAL COST	$ 11,000

ESTIMATES OF BENEFITS

36. Benefits to be derived from the improvement to Owls Head Harbor by providing 8 acres, 6 new and 2 existing, of anchorage 6 feet deep will be primarily general and to a lesser degree local in nature. General benefits will accrue from a substantial increase in fish landings and reduction of storm damage to fishing vessels due to the overcrowding within the limited anchorage area. The present lobster fleet of 25 boats lands its catch in Owls Head Harbor. These boats are forced to anchor in unprotected water just outside of the harbor entrance and wait on favorable tidal conditions before proceeding to the wharves to un load their catch. A 6-foot anchorage would provide water sufficiently deep to eliminate delays to boats caused by low tides. Benefits due to the elimination of these tidal delays are reflected in the increased fish landings.

37. Local interests have stated that the locally based trawler requires 6 feet of water to reach the wharves safely and without delay. The transient fishing fleet consisting of two draggers and 8 seiners are faced with the same problem. The proposed anchorage area will improve the handling of these vessels and largely eliminate tidal delays. It is further estimated that to increase the proposed anchorage depth from 6 feet to 8 feet to eliminate all tidal delays would cost about $80,000, or $400 per year throughout the project life (includes annual maintenance). Annual benefits due to this added depth would be less than $300, and would not, therefore, justify the additional dredging cost.

38. The U.S. Fish and Wildlife Service reports that the lobster fleet will increase by 3 new boats and 3 transfer boats. The three new boats would increase the landings by about 15,000 pounds each, or 45,000 pounds. The three transfer boats already fishing in the general area would increase the landings about 2,000 pounds each, or 6,000 pounds. In addition, the improvement would eliminate tidal delays and make it possible for the present fleet of 25 full-time vessels to increase their lobster landings by 49,700 pounds. At the current average price of $0.60 per pound, the total value of the increased lobster landings would be $60,400. Net benefits due to the increased lobster landings, which would be the gross value less the cost of this increased catch are estimated as shown in the following table.

TABLE I - Benefits from Increased Lobster Landings

No. Lobster Boats	Increased Lobster Landings	Unit Price Per #	Gross Value $	Est % of gross value realized by fishermen	Benefit $
25 existing	49,700	0.60	29,800	40	11,900
3 transfer	6,000	0.60	3,600	40	1,400
3 new	45,000	0.60	27,000	40	10,800
		TOTAL BENEFIT			$ 24,100

39. In addition, groundfish landings are expected to increase about 15 percent because of the elimination of tidal delays. This would amount to 21,000 pounds valued at $1,000. Because no new or transfer groundfish vessels are expected, the added catch would be attributed solely to the present fleet. The cost of these increased landings is estimated at 60% of the gross value, yielding a net benefit of $400.

40. Local interests report that moored fishing boats are frequently damaged during severe storms from the northeast quadrant. Although there are no specific records of damage or loss of boats, it is estimated that the fishing boats each experience $40 worth of damage in the harbor each year which would be prevented by the improvement. For the 25 full-time local boats, the total preventable damage would be $1,000. Because the existing recreational fleet of 12 boats is in the harbor only during the summer, they incur no appreciable damages.

41. Benefits from increased recreational boating have been evaluated as the gain in annual return which the owner of the craft would enjoy, if the harbor is improved. The annual net return to the owners has been taken as the amount the owners would receive if they chartered to others. This amount is expressed as a percentage of the current market value of the boat. The increase in value to the owner is the difference between the value received by the owner under present conditions and with the increased use made possible by the improvement. Increased use of the harbor would be a primary benefit occurring from the additional anchorage area.

42. The existing locally-based recreational fleet consists of 12 boats, made up of 4 cruisers, 2 auxiliary sails and 6 sport fishing boats. Benefits of increased use by these 12 boats have been computed on the basis of providing full unrestricted use of the harbor. The benefits to the existing fleet will amount to $880 annually of which $440 is considered general, and $440 local. A detailed evaluation of these benefits is shown in Table II. An additional 58 row boats and skiffs make up the balance of the existing recreational fleet that requires space within the harbor. It is considered that no benefits would be realized by these shallow draft boats as a result of the improvement. These 58 boats are either pulled out of the water after each day's activity or occupy the shallow areas along the outer fringes of the harbor and do not require deepening of the harbor to satisfy their needs.

43. It was reported that there are about 80 recreational boats presently visiting the harbor annually with an average stay in the harbor of about one day. For the 80-day transient boat season, which extends from about the 20th of June to the 10th of September, this will amount to 80 boat days or the equivalent of 1 permanently based boat. It is considered as a result of the proposed improvement this transient fleet would double allowing 160 boats to utilize the new anchorage area. The annual benefits will amount to $140 to the present transient fleet

OWLS HEAD
HARBOR: ME.

EXISTING FLEET
TABLE. BENEFITS TO RECREATIONAL BOATING
TABLE II

TYPE OF CRAFT	LENGTH (feet)	No. of Boats	DEPRECIATED VALUE AVERAGE $	DEPRECIATED VALUE TOTAL $	PERCENT RETURN IDEAL	% OF IDEAL Pres.	% OF IDEAL Future	GAIN %	VALUE $	ON CRUISE 80 DAY SEASON AVG. DAYS	% OF SEASON	VALU %
Cruisers	15-30	4	2,000	8,000	8	65	95	2.4	192	4	5	10
Aux. Sail	15-30	2	4,000	8,000	8	65	95	2.4	192	5	6	12
CHARTER BOATS												
Cruisers	21-35	6	2,400	14,400	14	65	95	4.2	605	12	15	91
TOTALS		12		30,400					989			113

NET BENEFITS $989 - $113 = $876 say $880

OWLS HEAD
HARBOR: ME.

TABLE. BENEFITS TO RECREATIONAL BOATING
TABLE III

TYPE OF CRAFT	LENGTH (feet)	No. of Boats	DEPRECIATED VALUE AVERAGE $	DEPRECIATED VALUE TOTAL $	PERCENT RETURN IDEAL	PERCENT RETURN % OF IDEAL Pres.	PERCENT RETURN % OF IDEAL Future	PERCENT RETURN GAIN %	VALUE $	
					EXISTING TRANSIENT FLEET					
Cruisers	31-50	1	6,000	6,000	8	65	95	2.4	144	Say $140
					PROSPECTIVE ATTRACTED TRANSIENT FLEET					
Aux. Sail	31-40	1	6,000	6,000	9	65	95	2.7	162	Say $160

OWLS HEAD
HARBOR: ME.

TRANSFER
TABLE. BENEFITS TO RECREATIONAL BOATING
TABLE IV

TYPE OF CRAFT	LENGTH (feet)	NO. OF BOATS	DEPRECIATED VALUE		PERCENT RETURN				VALUE $	ON CRUISE 80 DAY SEASON		
			AVERAGE $	TOTAL $	IDEAL	% OF IDEAL Pres.	% OF IDEAL Future	GAIN %		AVG. DAYS	% OF SEASON	VALUE %
Cruisers	15-30	1	2,000	2,000	8	75	95	1.6	32	4	5	2
Aux. Sail	15-30	1	4,000	4,000	8	75	95	1.6	64	5	6	4
TOTALS		2		6,000					96			6

NET BENEFIT = $90

OWLS HEAD
HARBOR: ME.

NEW
TABLE. BENEFITS TO RECREATIONAL BOATING
TABLE V

TYPE OF CRAFT	LENGTH (feet)	No. of Boats	DEPRECIATED VALUE AVERAGE $	DEPRECIATED VALUE TOTAL $	PERCENT RETURN IDEAL	PERCENT RETURN % OF IDEAL Pres.	PERCENT RETURN % OF IDEAL Future	PERCENT RETURN GAIN %	VALUE	ON CRUISE 80 DAY SEASON AVG. DAYS	ON CRUISE 80 DAY SEASON % OF SEASON	ON CRUISE 80 DAY SEASON VALU %
Cruisers	15-30	1	2,000	2,000	8	0	95	7.6	152	4	5	8
Aux. Sail	15-30	1	4,000	4,000	8	0	95	7.6	304	5	6	18
CHARTER BOATS												
Cruisers	21-35	2	3,000	6,000	14	0	95	13.3	798	12	15	120
TOTALS		4		12,000					1,254			146

NET BENEFIT = Say $1,110

and $160 to the prospective transient fleet, of which both would be divided equally under general and local benefits. A detailed evaluation of these benefits is shown in Table III.

44. It is estimated that due to the marked increase in anchorage area made available to vessel traffic as a result of the proposed improvement, 2 transfer boats would relocate from nearby inlets and 4 new boats would be immediately added to the recreational fleet. The composition of these vessels would in all likelihood be similar to the existing recreational fleet. The estimated benefits from the 2 transfer boats total $90 annually and from the 4 new boats $1,110 annually. These benefits have been detailed on Tables IV and V and the total annual benefits have been summarized on Table VI.

ANNUAL BENEFITS

TABLE VI - Summary of Benefits Resulting from 8-Acre Anchorage

Source of Benefit		General	Local	Total
Fishing Fleet				
Increased Lobster Catch		$ 24,100	0	$ 24,100
Increased Groundfish Catch		400	0	400
Reduced Fishing Boat Damage		1,000	0	1,000
Recreational Fleet				
Existing	(12)	440	440	880
Present Transient	(1)	70	70	140
Prospective Transient	(1)	80	80	160
Prospective Transfers	(2)	45	45	90
Prospective New	(4)	555	555	1,110
		$ 20,690	$ 1,190	$ 27,880
		96%	4%	100%

APPORTIONMENT OF COSTS AMONG INTERESTS

45. The first costs of construction for the proposed plan of improvement have been apportioned between the Federal Government and local interests in proportion to the general and local benefits. The apportionment of costs is as follows:

Federal:

Corps of Engineers: 96% of $150,000	$ 144,000
Coast Guard: Additional Navigation Aids	0
TOTAL FEDERAL COST	$ 144,000

Non-Federal:

Cash Contribution: 4% of $150,000	$ 6,000
Public Landing	5,000
TOTAL NON-FEDERAL COST	$ 11,000

ESTIMATE OF ANNUAL CHARGES

46. Annual charges for the proposed improvement have been estimated on the basis of 50-year project life with Federal and Non-Federal interest rates of 3-1/8 percent. The proposed improvement contemplates dredging about 8 acres of ordinary material to a depth of 6 feet.

47. The harbor's entrance is exposed to NE wind waves of up to 3 feet at least once a year. Otherwise, the harbor is reasonably well protected from wind-generated waves. Sand movement into the harbor under any conditions except during severe storms is expected to be minor. Most of the movement of material is trapped in the natural deep canyon of Owls Head Bay, off the face of the harbor. However, it is estimated that the initial shoaling rate may be high but will reduce as the new anchorage slopes stabilize. In view of the above, the average annual rate of shoaling is estimated to amount to 2,500 cubic yards resulting in an annual cost of about $5,000. The berth improvements and public landing costs are considered self-liquidating through user fees and are not included in this estimate of annual charges.

48. The annual charges for the proposed plan of improvement are computed as follows:

Federal Investment:

Corps of Engineers	$ 144,000
Coast Guard	0
TOTAL FEDERAL	$ 144,000

Non-Federal Investment:

Cash Contribution	$ 6,000
TOTAL NON-FEDERAL	$ 6,000

Federal Annual Charges:

(I & A) (Fed. Invest.) .03979 ($144,000)	$	5,730
Maintenance		5,000
TOTAL FEDERAL CHARGES	$	10,730

Non-Federal Charges:

(I & A)(Non-Fed. Invest.) .03979 ($6,000)		240
TOTAL NON-FEDERAL CHARGES	$	240
TOTAL ANNUAL CHARGES	$	10,970

COMPARISON OF BENEFITS AND COSTS

49. A comparison of evaluated benefits and costs for the proposed plan of improvement are tabulated as follows:

Total Project Cost	$	150,000
Total Annual Charges		10,970
Total Annual Benefits		27,880
Benefit-Cost Ratio		2.5

PROPOSED LOCAL COOPERATION

50. Construction of the improvement considered in this report will require shore access for contractor's equipment and range markers. In view of the material to be removed, which will require use of a bucket or dipper dredge, and the lack of suitable spoil disposal areas on lands within economic distances from the work areas, it is considered that spoil disposal areas would not be required initially. However, local interests will be required to provide without cost to the United States all lands, easements and rights-of-way required for construction and subsequent maintenance of the project and for aids to navigation upon the request of the Chief of Engineers, including suitable areas determined by the Chief of Engineers, to be required in the general public interest for subsequent disposal of spoil, and also necessary retaining dikes, bulkheads and embankments therefor or the costs of such retaining works. Local

interests should further be required to hold and save the United States free from damages that may result from construction and maintenance of the project.

51. For small boat navigation improvement projects, it is usual policy to require that a public landing be provided, maintained and operated, without cost to the United States, open and available to the use of all on equal terms. The Town of Owls Head presently owns a suitable site for a landing but does not want to develop this site at this time. Town officials plan to obtain legal access via Mr. P.K. Reed's wharf to a town-owned float. This arrangement would meet the requirements for a public landing, providing the Town assures that the general public will always have access from shore to the Federal project over a dock or float with berths 6 feet deep. It is estimated that work required to make the landing suitable for use will involve some dredging and float construction estimated to cost $5,000.

52. The benefits to be derived from improvement of Owls Head Harbor are partly general and partly local in nature. For the "Proposed Plan" of improvement, the local benefits are estimated as 4% of the total benefits. It is considered that local interests should share in the project costs commensurate with local benefits. It appears equitable to require local interests to make a cash contribution of 4% of the construction cost of the 8.0 acres of additional anchorage provided by the "Proposed Plan" of Improvement. The local cash contribution is presently estimated at $6,000. Local interests have been consulted and have provided reasonable assurances that the above described requirements of local cooperation would be met.

COORDINATION WITH OTHER AGENCIES

53. All Federal, State and local agencies having interest in the development and use of waterways were notified of the public hearing held at Owls Head, Maine, on 24 July 1963. All agencies that expressed an interest in the harbor favored improvement of the harbor. Officials of the State of Maine, the Town of Owls Head, fishing interests, were consulted during the study concerning the effects of the proposed improvements on their activities. They concurred with the plan of improvement. Comments of local and State interests are contained in Appendix B.

54. The United States Coast Guard was advised of the improvement under consideration and was requested to comment on aspects pertaining to their interest. By letter of 29 March 1965, the Commander of the First Coast Guard District advised that no additional navigation aid

would be required for the improvement being considered. The Regional Office of the United States Fish and Wildlife Service was also requested to comment on the results of this improvement. Their report is contained in Appendix A.

SCHEDULE FOR DESIGN AND CONSTRUCTION

55. It is estimated that preparation of contract plans and specifications will require 5 months. The estimated cost of Engineering and Design is $11,000, of which $1,000 has been allocated and expended for the Detailed Project study. Construction of the project can be accomplished under a single contract in 2 months. Expenditures for the proposed project are as follows:

a. Allocated to date		
Detailed Project Report	$	1,000
b. Required to Complete		
Plans & Specifications		10,000
Construction, Engineering during construction, Supervision and Administration		139,000*
	$	150,000

*Including local cash contribution of $6,000

c. Total Project Cost		
Federal	$	144,000
Non -Federal (cash contribution)		6,000
	$	150,000

OPERATION AND MAINTENANCE

56. Maintenance of the project will be the responsibility of the United States. It is estimated that the average shoaling rate would be about 0.2 of a foot per year resulting in an average volume of 2,500 c.y. It is estimated that periodic dredging will be required every 15 years. The average annual cost of maintenance for this plan of improvement is estimated at $5,000.

CONCLUSION

57. Present navigation in Owls Head Harbor is limited by insufficient anchorage space and depth. Under present conditions, the lack of adequate depth of water for small boat traffic exists over the entire harbor at periods of low tide. This is a major problem to the fishing industry which hampers the efficient operation of the present fleet and hinders its normal growth. Engineering and economic studies determined that the needs of commercial and recreational navigation at Owls Head Harbor would be satisfied by provision of an anchorage basin of 8 acres, 6 feet deep in the harbor as shown on the attached map. This proposed plan of improvement would result in substantial benefits to the present and prospective fleets. These benefits are sufficient to warrant Federal improvement. The investigation also determined incremental benefits due to 4 additional acres of anchorage would be insufficient to justify the accompanying increase in project cost.

58. State and Town officials were consulted on the results of the study and concur in the above conclusions.

RECOMMENDATIONS

59. The Division Engineer recommends that further Federal improvement of Owls Head Harbor, Maine, be authorized by the Chief of Engineers, under provisions of Section 107 of the River and Harbor Act of 1960, to provide 8 acres of anchorage 6 feet deep as shown on Plate number 2.

60. The total estimated construction cost of the recommended anchorage is $150,000, and annual maintenance cost is estimated at $5,000.

61. This navigation project is recommended subject to the condition that local interests:

a. Contribute in cash 4 percent of the cost of the work, presently estimated at $6,000, to be paid in a lump sum prior to commencement of construction, the final allocation of cost to be made after the actual costs have been determined.

b. Provide, without cost to the United States, all lands, easements and rights-of-way required for construction and subsequent maintenance of the improvement and for aids to navigation upon request of the Chief of Engineers, including suitable areas determined by the Chief of Engineers, to be required in the general public interest for

subsequent disposal of spoil, and also necessary retaining dikes, bulkheads and embankments therefor or the costs of such retaining works.

c. Hold and save the United States free from damages that may result from construction and maintenance of the project.

d. Provide and maintain, without cost to the United States, a public landing with adequate access channels and berths 6 feet deep, open to all on equal terms, in Owls Head Harbor.

4 Incls
1. Maps (2 Plates)
2. Appendix A - Fish & Wildlife Report
3. Appendix B - Comments of State and Local Interests
4. Appendix C - Estimate of First Cost

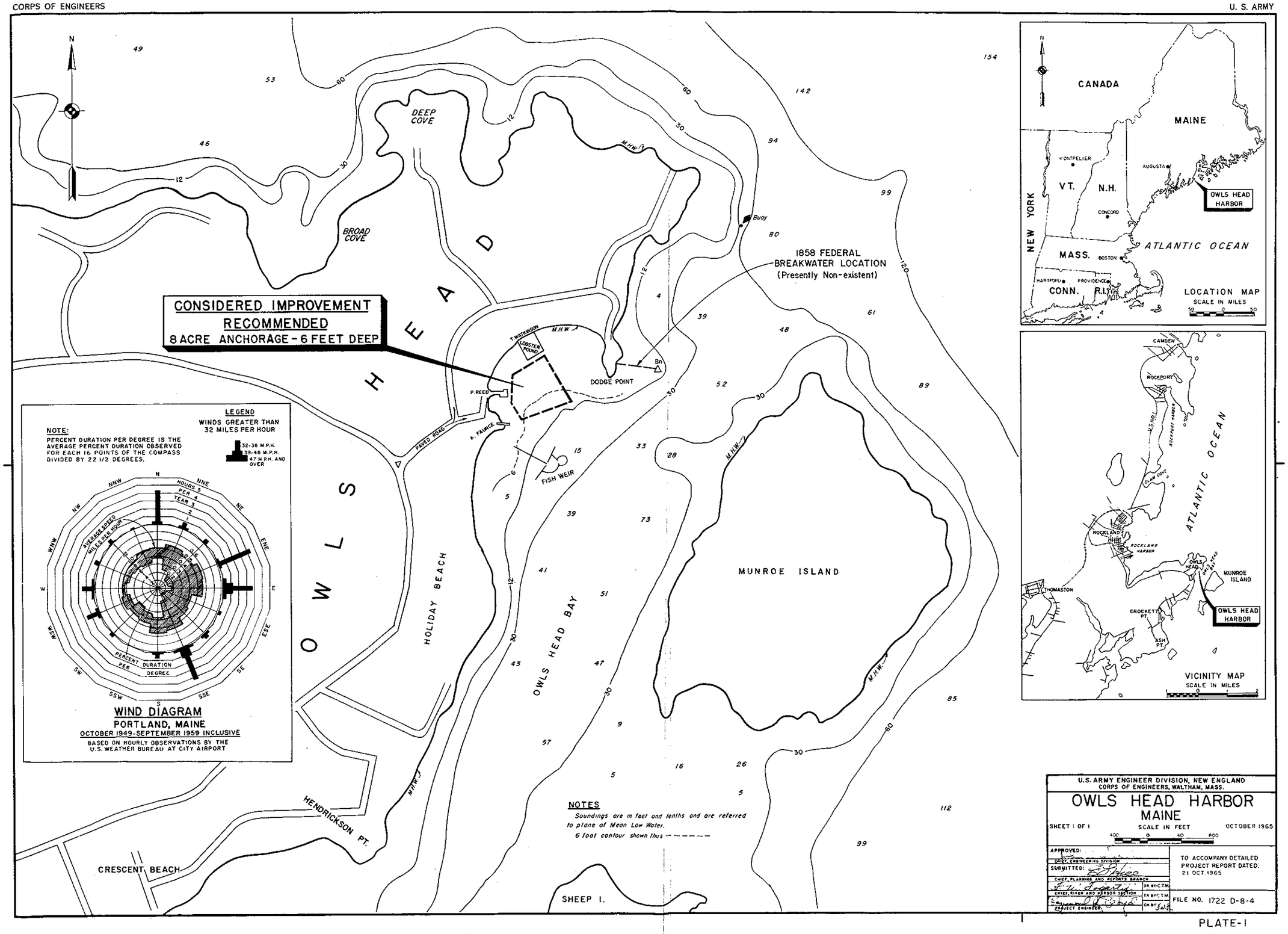
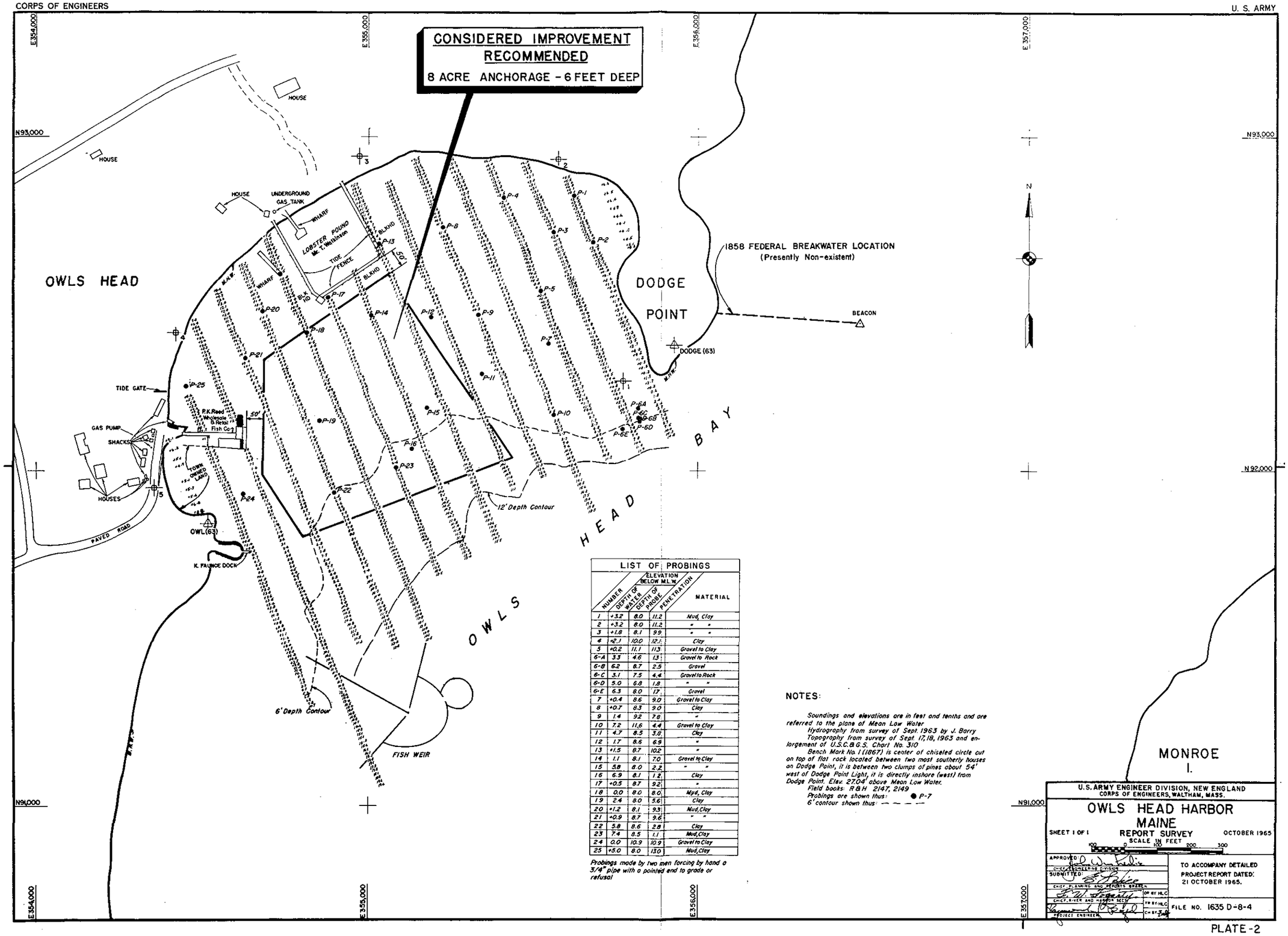

CONSIDERED IMPROVEMENT
RECOMMENDED
8 ACRE ANCHORAGE - 6 FEET DEEP
1858 FEDERAL
BREAKWATER LOCATION
(Presently Non-existent)
OWLS HEAD
DEEP COVE
BROAD COVE
DODGE POINT
T. WATERSON
LOBSTER POUND
P. REED
K. FAUNCE
PAVED ROAD
FISH WEIR
HOLIDAY BEACH
OWLS HEAD BAY
MUNROE ISLAND
HENDRICKSON PT.
CRESCENT BEACH
SHEEP I.
Buoy
Bn
M.H.W.
NOTES
Soundings are in feet and tenths and are referred to plane of Mean Low Water.
6 foot contour shown thus
LEGEND
WINDS GREATER THAN 32 MILES PER HOUR
32-38 M.P.H.
39-46 M.P.H.
47 M.P.H. AND OVER
NOTE:
PERCENT DURATION PER DEGREE IS THE AVERAGE PERCENT DURATION OBSERVED FOR EACH 16 POINTS OF THE COMPASS DIVIDED BY 22 1/2 DEGREES.
HOURS PER YEAR
AVERAGE SPEED MILES PER HOUR
PERCENT DURATION PER DEGREE
WIND DIAGRAM
PORTLAND, MAINE
OCTOBER 1949-SEPTEMBER 1959 INCLUSIVE
BASED ON HOURLY OBSERVATIONS BY THE U.S. WEATHER BUREAU AT CITY AIRPORT
CANADA
MAINE
NEW YORK
VT.
N.H.
MASS.
CONN.
R.I.
MONTPELIER
AUGUSTA
CONCORD
BOSTON
HARTFORD
PROVIDENCE
OWLS HEAD HARBOR
ATLANTIC OCEAN
LOCATION MAP
SCALE IN MILES
CAMDEN
ROCKPORT
ROCKLAND
ROCKLAND HARBOR
OWLS HEAD
MUNROE ISLAND
THOMASTON
CROCKETT PT.
ASH PT.
OWLS HEAD HARBOR
VICINITY MAP
SCALE IN MILES
U.S. ARMY ENGINEER DIVISION, NEW ENGLAND
CORPS OF ENGINEERS, WALTHAM, MASS.
OWLS HEAD HARBOR
MAINE
SHEET 1 OF 1
SCALE IN FEET
OCTOBER 1965
APPROVED:
CHIEF, ENGINEERING DIVISION
SUBMITTED:
CHIEF, PLANNING AND REPORTS BRANCH
CHIEF, RIVER AND HARBOR SECTION
PROJECT ENGINEER
TO ACCOMPANY DETAILED PROJECT REPORT DATED: 21 OCT. 1965
FILE NO. 1722 D-8-4

PLATE-1

CORPS OF ENGINEERS

U. S. ARMY



LIST OF PROBINGS

NUMBER	ELEVATION BELOW MLW: DEPTH OF WATER	DEPTH OF PROBE	PENETRATION	MATERIAL
1	+3.2	8.0	11.2	Mud, Clay
2	+3.2	8.0	11.2	" "
3	+1.8	8.1	9.9	" "
4	+2.1	10.0	12.1	Clay
5	+0.2	11.1	11.3	Gravel to Clay
6-A	3.3	4.6	1.3	Gravel to Rock
6-B	6.2	8.7	2.5	Gravel
6-C	3.1	7.5	4.4	Gravel to Rock
6-D	5.0	6.8	1.8	" "
6-E	6.3	8.0	1.7	Gravel
7	+0.4	8.6	9.0	Gravel to Clay
8	+0.7	8.3	9.0	Clay
9	1.4	9.2	7.8	"
10	7.2	11.6	4.4	Gravel to Clay
11	4.7	8.5	3.8	Clay
12	1.7	8.6	6.9	"
13	+1.5	8.7	10.2	"
14	1.1	8.1	7.0	Gravel to Clay
15	5.8	8.0	2.2	" "
16	6.9	8.1	1.2	Clay
17	+0.5	8.7	9.2	"
18	0.0	8.0	8.0	Mud, Clay
19	2.4	8.0	5.6	Clay
20	+1.2	8.1	9.3	Mud, Clay
21	+0.9	8.7	9.6	" "
22	5.8	8.6	2.8	Clay
23	7.4	8.5	1.1	Mud, Clay
24	0.0	10.9	10.9	Gravel to Clay
25	+5.0	8.0	13.0	Mud, Clay

Probings made by two men forcing by hand a 3/4" pipe with a pointed end to grade or refusal

NOTES:

Soundings and elevations are in feet and tenths and are referred to the plane of Mean Low Water

Hydrography from survey of Sept. 1963 by J. Barry

Topography from survey of Sept. 17, 18, 1963 and enlargement of U.S.C.&G.S. Chart No. 310

Bench Mark No. 1 (1867) is center of chiseled circle cut on top of flat rock located between two most southerly houses on Dodge Point, it is between two clumps of pines about 54' west of Dodge Point Light, it is directly inshore (west) from Dodge Point. Elev. 27.04' above Mean Low Water.

Field books: R&H 2147, 2149

Probings are shown thus: ● P-7

6' contour shown thus: — — — —

U.S. ARMY ENGINEER DIVISION, NEW ENGLAND
CORPS OF ENGINEERS, WALTHAM, MASS.

OWLS HEAD HARBOR
MAINE
REPORT SURVEY

SHEET 1 OF 1

OCTOBER 1965

SCALE IN FEET 100 0 100 200 300

APPROVED: CHIEF, ENGINEERING DIVISION

SUBMITTED: CHIEF, PLANNING AND REPORTS BRANCH

CHIEF, RIVER AND HARBOR SECT.

PROJECT ENGINEER

DR BY HLC

TP BY HLC

CK BY

TO ACCOMPANY DETAILED PROJECT REPORT DATED: 21 OCTOBER 1965.

FILE NO. 1635 D-8-4

PLATE-2

APPENDIX A

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
59 Temple Place
Boston, Massachusetts 02111

October 28, 1964

Division Engineer
New England Division
U. S. Army Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

Dear Sir:

This is our conservation and development report on the study of navigation improvements for Owls Head Harbor, Owls Head, Knox County, Maine. The study is being made under authority of a Resolution adopted May 19, 1960 by the House Committee on Public Works. This report was prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-666 inc.), in cooperation with the Maine Departments of Sea and Shore Fisheries and Inland Fisheries and Game. Those agencies concur in the report as indicated in their letters of October 13, 1964 and October 9, 1964, respectively.

The plan of improvement under consideration includes dredging an irregularly shaped area of about 10 acres in Owls Head Harbor to six feet at MLW and deposition of spoil landward of the dredge area.

A herring weir is located in the southern part of the harbor, but the anchorage expansion would have no significant effect upon the fishery. There are no other fish or wildlife resources in the project area which would be affected by the anchorage dredging.

The anchorage improvement is expected to result in increased annual fisheries landings. The lobster fleet is expected to increase by three new boats and three transfer boats. The three new boats would be expected to increase the annual landings about 15,000 lbs. each, or 45,000 lbs. The three transfer boats, already fishing in the general area, would increase the annual landings about 2,000 lbs. each, or 6,000 lbs. The present fleet of about 25 vessels now fishing full time

would increase the annual landings about 49,700 lbs. At the current average price of $.60 per pound the annual benefits from increased landings would be about $60,400. Additional intangible benefits would result from improved quality of fishery products landed and in a reduction in losses to lobsters stored in the harbor in crates or cars. Some damage could result to lobsters held in crates in the harbor during dredging operations; the lobster pound operator should be notified about two weeks in advance of dredging to allow planning for alternate storage. In addition, anchorage expansion would provide incentive for extension of existing commercial piers which could be used at all tides. It would also provide anchorage space for a modest number of sportfishing boats.

Annual groundfish landings are expected to increase about 15%; this would be about 21,000 lbs. annually valued at about $1,000. Because no new or transfer vessels are expected, the landings increase would be attributed solely to the present fleet.

Disposal of spoil on the upland between mean high water and the road paralleling the north and west sides of the harbor would cause no significant damages to fish and wildlife resources provided measures are employed to prevent return of materials to the waterway. Should spoil be disposed of at sea the Federal Dumping Ground outside Rockland Harbor should be utilized. This area is about 1.3 miles east of Jameson Point.

In consideration of the foregoing, we recommend--

1. That the lobster pound operator be notified about two weeks in advance of dredging to allow planning for alternate lobster storage.

2. That if spoiling at sea is considered most practical, the spoil be disposed of at the Federal Dumping Ground 1.3 miles east off Jameson Point.

Sincerely yours,

Travis S. Roberts

Travis S. Roberts
Acting Regional Director
Bureau of Sport Fisheries
and Wildlife

John T. Gharrett

John T. Gharrett
Regional Director
Bureau of Commercial Fisheries

APPENDIX B

TOWN OF OWL'S HEAD, Maine.

P. O. Box 96,
Owl's Head, Maine.
July 14, 1965.

Division Engineer,
U. S. Army Engineer Division, New England
Corps of Engineers
424 Trapelo Road,
Waltham, Mass. 02154

RE: NEDED-R

Dear Sir:

I am enclosing a certified copy of special town meeting held by the voters of the town of Owls Head authorizing the appropriation of $4,500 to match the funds granted by the 102nd Legislature of the State of Maine, and to be combined with federal funds to dredge the Owl's Head Harbor according to your plans.

If there is further information or assistance that you need at this time please write to me.

Very truly yours,

W. Paul Seavey

W. Paul Seavey, Chairman
Board of Selectmen.

WPS/S

Encl. 1

RESULTS OF SPECIAL TOWN MEETING JULY 12, 1965

TOWN OF OWL'S HEAD

Owl's Head Special Town Meeting was called to order by the Town Clerk on July 12, 1965 at 7:00 o'clock P.M. It was voted unanimously by hand to dispense with reading the Town Warrant by the Town Clerk.

Art. 1. Moderator----------Albert E. MacPhail
Whole number of written ballots cast----------3
Albert E. MacPhail----------3

Oath of office given by Town Clerk.

Art. 2. Voted by unanimous hand vote to appropriate $4500.00 to match State and Federal funds for the purpose of dredging Owl's Head Harbor, to be taken from town surplus, at the rate of $1,500.00 a year.

Voted by unanimous hand vote to adjourn at 7:06 P.M.

Attest:
a true copy

Carolyn L. E. Cott
Town Clerk, Owl's Head, Maine

STATE OF MAINE
OFFICE OF THE GOVERNOR
AUGUSTA

JOHN H. REED
GOVERNOR

January 20, 1966

E. J. Ribbs
Colonel, Corps of Engineers
Acting Division Engineer
New England Division
424 Trapelo Road
Waltham, Massachusetts 02154

Dear Colonel Ribbs:

This is to acknowledge your letter of January 4, 1966, regarding the proposed navigation improvement project at Owls Head, Maine.

We are indeed pleased to learn that the final report will be submitted to the Chief of Engineers for formal approval, and it is hoped that construction funds will be made available in the near future.

It will be appreciated if you will keep this office informed of any subsequent actions relative to this project.

Sincerely yours,

John H. Reed

John H. Reed
Governor

JHR:lu

OWLS HEAD HARBOR, MAINE

APPENDIX C

Estimate of First Cost

1. The first costs are given below for the proposed plan of improvement. Federal construction consists of the excavation of ordinary material within the 8-acre anchorage. The U. S. Coast Guard reports no additional navigation aids will be required to mark the proposed anchorage area.

2. Dredged quantities are computed in terms of in-place measurements and provide for a project depth of 6 feet below MLW, plus an allowance of one foot of overdepth. Side slopes are computed on the basis of 1 vertical on 3 horizontal. Unit prices are based on prices prevailing on the removal of material by bucket dredge and scow disposal at sea. Suitable spoil disposal sites on land within economical pumping distance are not available.

PROPOSED IMPROVEMENT (8-ACRE ANCHORAGE)

Cost Account Number	Item		Estimated Cost March 1965
09	Channels: Dredge 6-ft. anchorage scow removal of 51,000 c.y. @ $2.20/c.y.	$ 112,000	
	Contingencies 15%	17,000	
	Total Contract Cost		$ 129,000
30	Engineering and Design		11,000
31	Supervision & Administration		10,000
	Total Estimated Cost (Corps of Engrs)		$ 150,000
	U. S. Coast Guard (Aids to Navigation)		0
	Total Estimated Project Costs: Federal and Non-Federal		$ 150,000
	Non-Federal Costs:		
	Cash Contribution (4% of $150,000)		$ 6,000
	Public Landing		5,000
	Total Non-Federal Costs		$ 11,000

SUMMARY OF ESTIMATED COSTS

Federal	
Corps of Engineers (96% of $150,000)	$ 144,000
U.S. Coast Guard	0
TOTAL FEDERAL COSTS	$ 144,000
Non-Federal	
Cash Contribution (4% of $150,000)	6,000
Public Landing *	5,000
TOTAL NON-FEDERAL COSTS	$ 11,000
TOTAL FEDERAL AND REQUIRED NON-FEDERAL COSTS	$ 155,000

*Self-liquidating