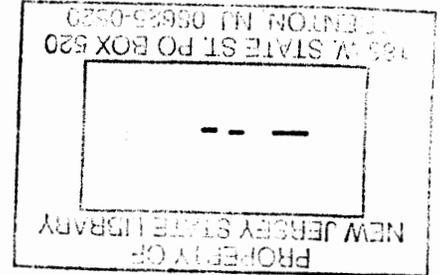


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R E P O R T
TO
GOVERNOR ROBERT B. MEYNER

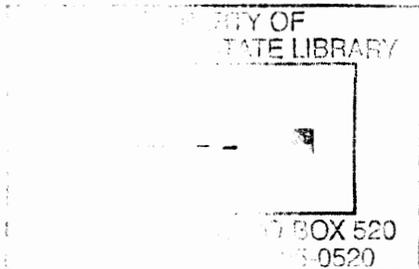
and the
LEGISLATURE
of the
STATE OF NEW JERSEY
on the



PROTECTION AND PRESERVATION OF THE NEW JERSEY
BEACHES AND SHOREFRONT

By the

STATE BEACH EROSION COMMISSION



FRANK S. FARLEY, Chairman
Senator from Atlantic County

W. STEELMAN MATHIS, Vice-Chairman
Senator from Ocean County

A. PAUL KING, Secretary
Public Member from Ocean County

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Assemblyman from Atlantic County

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NATHANIEL C. SMITH
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WALTER A. KEPPLER
Public Member from Cape May County

J. STANLEY HERBERT
Administrative Director

APRIL 1954

June 2, 1954

Frank S. Farley
Chairman

STATE OF NEW JERSEY
STATE BEACH EROSION COMMISSION

(SEAL)

June 2
April 1954

To Governor Robert B. Meyner, and the Legislature of the State of New Jersey:

This report is submitted in conformity with Chapter 14, Laws of 1949, which created the State Beach Erosion Commission and authorized it to investigate and study the subject of the protection and preservation of the beaches and shorefronts of the State from erosion and other damage from the elements and to report its findings and recommendations to the Governor and the Legislature of New Jersey.

Previous annual reports have discussed the several elements which enter into the problem of restoring and preserving the beaches of New Jersey for the use of its people. The physical changes and hazards to the beaches and shorefronts due to waves, currents, and storms have been described. The experience with and design of proper and adequate remedial shore protection structures have been reviewed. The social trends and economic growth leading to the development of the shorefront have been considered. The financing of cooperative state - municipal construction programs for beach restoration and preservation has received attention.

The social and economic motivations that created the demand for restored and improved beaches continue to pyramid in strength. Shore visitors abound in ever greater numbers. Summer home building

in unprecedented volume shows no sign of abatement. Business expansion and receipts set new records. Improvements and additions to the State Highway System designed to aid shore access are evidence of broader interest and growth.

Planning and design of needed beach protection work remain well in advance, but in contrast, the actual construction and financing of beach preservation projects lag far behind. These two elements, construction and financing, are collateral. Construction can only follow its pacemaker - financing. It is the purpose of this report to view primarily this one of the basic factors of the whole problem - the financing of beach preservation work.

Originally, private ownership of the beaches and rearward lands carried with it the responsibility for defending against land losses through erosion and property damage by ocean storms. Sparse use of the beachfront areas made it possible to retreat before the advancing ocean with the sacrifice of land area. As municipalities formed and developed, greater occupation and growing land values brought the realization that defense against the ocean was a collective problem to be solved through community effort in the common need. More recently, the state entered the field as its broader interests became defined and commonly understood. Today, the construction of beach restoration and preservation works is executed generally under state-municipal programs jointly financed.

The financing of such programs is guided by the State's philosophy as expressed in annual state appropriations acts. This is that the State will match such sums as each shorefront municipality

can raise to finance beach preservation projects. This means that the quantity of work undertaken in a municipality in any year is limited by that municipality's ability to appropriate funds in its budget or to borrow by issuance of bonds. It will be realized immediately that serious limitations are imposed thereby as the tax and credit resources of any municipality are held strictly within bounds by state law and public opinion.

The State appropriations are in the form of lump sums established annually for executive allotment to municipalities. The administration of such funds has revealed that usually the amounts appropriated annually have been less than the total amount of municipal funds available in any year. This situation has led generally to apportionment of state funds to the municipalities requesting aid on an arbitrary basis which satisfies in some cases, but more often imposes serious curtailment on the proper planning and execution of beach preservation work.

The most recognized result of such restricted financing is the often cited "piecemeal" construction programs carried on for long periods of years in many municipalities. While it is realized that each item of construction is an integral part of a whole plan, the progress rate is rarely in keeping with the need for defensive beaches and structures and forces decisions to take larger risks than normal in selecting parts of the whole plan for immediate execution. It is evident in a number of municipalities not only that progress in completing planned protective structure has not advanced sufficiently,

but also that the degree of completion is inadequate to take full advantage of the favorable periods of natural beach accumulation. As pointed out in previous reports, the ultimate aim of beach preservation is the building of broad protective beaches sufficient in width to sustain severe losses during extreme storm periods yet retaining sufficient protective qualities and the ability to recover during favorable weather periods.

That the "stretch out" construction periods of several years lead to difficult decisions as to the order of work execution of a whole planned program and impose greater than normal construction risks thereby is illustrated by experiences at Atlantic City and Ocean City. Both municipalities were beset by serious beach losses and danger to very valuable upland structures and improvements. These cities embarked on necessarily large programs of remedial work estimated to cost several millions of dollars. These programs consisted of extensive jetty construction to be followed by pumping in of sand to build up beaches in the event that natural accumulation of sand proved too slow in overcoming the advanced beach losses.

In both cities, the basic jetty construction was carried on for several years at as rapid a rate as available funds permitted. In 1948 Atlantic City and in 1952 Ocean City found that the demand and absolute need of protective beaches required undertaking beachfilling before the completion of the basic jetty system. The risks of premature beachfilling were realized, but the social and economic considerations gave ample justification for action. In both cases,

heavy losses of beach material soon after beachfilling served to underline the need for immediate continuation of the temporarily deferred jetty construction program.

The social and economic pressures, which forced this risk taking, are present and are becoming more common at other shore municipalities. These cited instances of need for restored beaches surpassing the rate of protective structure construction, should be recognized as significant warnings of problems to be faced and decisions to be made. The multi-million dollar investments being made by the State in new access highways to the shore municipalities and the enlargement and improvement of existing highways is recognition of the ever growing popularity of the shore resorts. The serious, discussed investment by the State in seashore parks is in the same pattern. These expansive actions reflect not only the knowledge of present demands but also the evident future implications. The situation is ripe for difficult decisions to be made with laggard beach building and restoration programs.

Inquiry by the Commission among the shore municipalities indicates that the financing of state-municipal projects in 1954 will not differ from previous years. The same hindering elements will be present. Municipal matching funds will exceed the state appropriation, unless the latter is increased. Further, there remains the problem of those municipalities in need of protective work which are unable to raise funds so as to set up a project for execution.

In previous reports, the Commission has recommended two means of providing the necessary construction funds to promote greater

progress in the completion of planned protective work. Both would require greater participation by the state in keeping with its ever growing interests. The increased concern of the State is illustrated by the popular support of shore highways including the Garden State Parkway. Interest in the restoration of beaches logically can be no less and of the same kind. The demand for access highways to the shore and for safe, usable, protective beaches must be one and the same.

The two proposals recommended are:

1. The State of New Jersey should pay 70% of the cost of all coast protection work.
2. The State of New Jersey should undertake to expedite the construction of essential coast protection work along the shore-front of the State by providing all of the initial construction funds and arranging for reimbursement to the State of 30% of the construction cost by each municipality on terms suited to the financial situation of such municipality. The work to be done and the terms and conditions of municipal reimbursement to the State shall be satisfactory to the municipality, the State Beach Erosion Commission, the State Department of Conservation and Economic Development, and the State Department of the Treasury. The appropriation to effectuate this policy should not be less than \$5,000,000.00.

These two proposals are in a sense companion measures as increase in the State's share of costs must be accompanied by larger

state annual appropriation. Otherwise the total annual volume of construction would be decreased. A further consideration is that a smaller local contribution will increase the number of municipalities able to participate in cooperate projects with the state. In keeping with its declared policies and the common interests that it holds with all shorefront municipalities, the State should be prepared to meet the opportunity to extend aid to those municipalities previously restrained from needed work by shortage of local funds. All parts of the shorefront are being intensively occupied and used more and more so that the State cannot overlook any opportunity to join with the shorefront municipalities in beach preservation work.

It is believed that the adoption of these recommendations will promote vigorous construction activity and avoid the dangers lurking in the present laggard beach restoration programs now hamstrung by lack of fund resources. Mindful that even such forward looking action may not be the whole solution since some municipalities may not be able to initiate project under the proposed fund, the Commission proposes to investigate and report on such cases for special review and decision.

The interests of the State at large has led to the recognition of beach preservation and restoration as a major state problem and annual appropriations have been made consistently for several years past. Establishment of the proposed fund represents judgment based on recent experience and merits consideration on that basis. There are many calls on the State's resources for important public needs. In judging among them and deciding the best use of state funds,

it is often the case that improving of existing facilities presents the best solution. The restoration of existing beaches falls within that area of reasoning.

The re-established shore municipalities logically must be expected to plan for and take care of the shore visitor. The local investment is not alone self-interest, but also a result of pressure from without. The State has recognized the equity which requires the State at large to assume a part of the cost of restoring the beaches - the key attraction. But behind each beachfront, there must be a going, well-organized municipality ready to serve the public. It is patent that it is cheaper for the State to aid a municipality in restoring its beach rather than to create not only a new beach area plus the necessary background services.

The State Department of Conservation and Economic Development, which administers state coast protection funds, has prepared the following statement summarizing the activities under the State-Municipal Coast Protection Programs during the fiscal year 1952-1953.

STATE-MUNICIPAL COAST PROTECTION PROGRAM
1952-1953

The 1952 Appropriating Act, Chapter 43, P.L. 1952, made available \$750,000.00 in State funds to match equally municipal funds for new coast protection construction. During the fiscal year, 1952-1953, 19 shore front municipalities requested state aid on an equal matching basis.

Of this number, 12 requests were approved and funds allotted.

The municipalities involved and the individual requests and allotments are listed as follows:

<u>MUNICIPALITIES</u>	<u>AID REQUESTED</u>	<u>STATE ALLOTMENT</u>
1. Madison Township	\$ 52,500.00	\$ 30,000.00
2. Deal Borough	95,000.00	50,000.00
3. Allenhurst Borough	30,000.00	30,000.00
4. Neptune Township	57,500.00	25,000.00
5. Bradley Beach Borough	95,000.00	37,500.00
6. Manasquan Borough	40,000.00	40,000.00
7. Beach Haven Borough	50,000.00	45,000.00
8. Atlantic City	300,000.00	150,000.00
9. Longport Borough	14,000.00	14,000.00
10. Ocean City	155,000.00	90,000.00 *
11. Sea Isle City	11,500.00	11,500.00
12. Cape May City	<u>51,690.00</u>	<u>51,690.00</u>
TOTALS.	\$952,190.00	\$ 574,690.00

* Additional \$60,000.00 allotted but not accepted by City.

In addition to the above allocations for coast protection construction, \$90,000.00 was transferred for construction of the proposed Atlantic City Marina and \$48,000.00 for inland waterway dredging and navigation aids.

Since the above allotments equal one half of the construction funds, the above allotment of \$574,690.00 represents \$1,149,380.00 of construction undertaken jointly by the state and the 12 municipalities.

The State also approved two additional requests, but deferred allocation of funds until the fiscal year 1953-54. These requests are listed as follows:

<u>MUNICIPALITY</u>	<u>AID REQUESTED</u>	<u>STATE ALLOTMENT</u>
1. Long Branch City	\$ 200,000.00	\$ 70,000.00
2. Long Beach Township	50,000.00	35,000.00

Three requests were not completed as the municipalities were unable to finance the local matching funds. These municipalities

and the aid requested are listed as follows:

<u>MUNICIPALITY</u>	<u>AID REQUESTED</u>
1. Keansburg Borough	\$ 25,000.00
2. Cape May Borough	25,000.00
3. Downe Township	<u>5,000.00</u>
TOTAL.. . . .	\$ 55,000.00

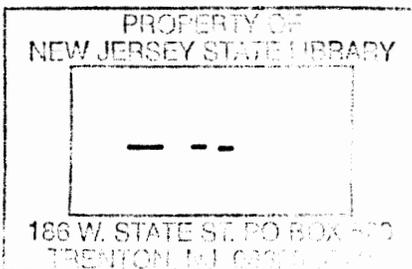
Projects for which aid was requested by two municipalities were ruled as not eligible for state aid under the law because the work was located inland on Deal Lake. This waterway was formerly an arm of the sea but is now land-locked. The municipalities and the amount of aid requested are listed as follows:

<u>MUNICIPALITY</u>	<u>AID REQUESTED</u>
1. Ocean Township	\$ 18,750.00
2. Asbury Park	35,000.00

The 1952 Appropriation Act also made available \$250,000.00 for maintenance of coast protection structures previously built with state aid. The municipalities were not required to match such funds.

The State received and acted favorably on requests from 7 municipalities for aid in maintaining existing coast protection structures. The municipalities are listed as follows:

<u>MUNICIPALITY</u>	<u>AID REQUESTED</u>	<u>STATE ALLOTMENT</u>
1. Sea Bright Borough	\$ 43,000.00	\$ 43,000.00
2. Asbury Park City	45,000.00	45,000.00
3. Neptune Township	20,000.00	20,000.00
4. Avon-by-the-Sea Borough	37,000.00	37,000.00
5. Sea Girt Borough	50,000.00	50,000.00
6. Manasquan Borough	11,500.00	11,500.00
7. Cape May City	<u>11,000.00</u>	<u>11,000.00</u>
TOTAL	\$217,500.00	\$217,500.00



In addition, the State made two allotments of maintenance funds for general purposes. Funds in amount of \$37,500.00 were allotted to defray the State's one half of the costs of a Federal Coast protection study covering the oceanfront from Sandy Hook to Barnegat Inlet.

The second allotment was \$9,500.00 to pay for soil borings in the Shrewsbury River in connection with the proposal to borrow sand from the River for beach filling along the northerly oceanfront of Monmouth County.

1953-1954

The State appropriation act for the fiscal year 1953-54, Chapter 102, P. L. 1953, provides the sum of \$1,000,000.00 for coast protection work on an equal matching basis. No appropriation was provided for maintenance of existing structures by the State without local contribution. Previous annual appropriation acts provided \$750,000.00 matching funds and \$250,000.00 for maintenance or a total of \$1,000,000.00. The current appropriation, therefore, establishes a single fund without increase in the total state appropriation for coast protection.

In addition to consolidating coast protection funds into one account, this action also requires each municipality to defray one half the cost of maintenance work as well as new construction. The pertinent section of Chapter 102 is quoted as follows:

"For beach protection and maintenance of beach protection projects along the Atlantic coast, Delaware Bay, Sandy Hook and the Raritan Bay, including new construction of

maintenance of beach protection measures, bulkheads, backfills, groins, jetties, pumping of sand, advertising and inspection costs. Fifty per centum of the cost of each project shall be borne by each municipality participating. Any municipality participating in beach protection projects or the maintenance of projects already constructed shall deposit its fifty-per centum (50%) share of the participation with the State Treasurer through the Department of Conservation and Economic Development, and all projects are to be constructed under contract with and under the supervision of the Department of Conservation and Economic Development. Out of this appropriation, a sum not exceeding \$10,000.00 shall be available for replacement of motor vehicles and equipment and purchase of transportation supplies; and a sum not exceeding \$25,000.00 shall be available to defray the State's share of a co-operative study in conjunction with the Federal Government. \$1,000,000.00

With reference to the Department's statement, the ineligible status of the proposed projects on Deal Lake in Monmouth County has been modified by a further section of Chapter 102 in connection with the annual appropriation for navigation improvements. It is provided that the sum of \$50,000.00 may be provided on a matching basis as on other shore protection projects. The pertinent section of Chapter 102 is quoted as follows:

"Inland Waterways - construction, reconstruction, maintenance, improvement and dredging of inland waterways, including bulkheading of Manasquan Canal,

dredging at State-operated Marinas; PROVIDED, HOWEVER, that \$50,000.00 of the funds herein appropriated may be used for the reconstruction and repair of the walls and bulkheads surrounding Deal Lake, Ocean Township, Monmouth County, New Jersey, if and when a local contribution is made in an equal amount; and PROVIDED FURTHER, that the funds herein appropriated shall be available for replacements of motor vehicles and equipment and purchases of transportation supplies used in the Inland Waterway Program \$200,000.00.

During October 1953, in response to notices from the Department of Conservation and Economic Development, 22 shorefront municipalities indicated the need for state aid in amount of \$1,383,250.00 to match a like sum contributed by the municipalities. These requests were under consideration when the severe storm of November 7, 1953 caused extensive damage along the entire shorefront.

The Department immediately asked that all municipalities review their requirements as a result of the storm and submit further revised applications for state aid to be acted upon December 7, 1953. Requests were received from 31 municipalities and the County of Monmouth totalling \$2,440,500.00 in State aid.

The Department reviewed these applications for the purpose of giving state aid to the most serious situations. On December 7, 1953, the Department allotted \$994,000.00 to 23 municipalities. This

action practically depleted the 1953-54 appropriation. Applications totalling \$1,396,500.00 were deferred pending further appropriation of funds by the Legislature.

The municipalities receiving state aid and the individual amounts are listed as follows:

Middlesex County

Madison Township \$ 16,000.00

Monmouth County

Union Beach Borough. 25,000.00
 Keansburg Borough. 50,000.00
 Middletown Township. 50,000.00
 Highlands Borough. 40,000.00
 Monmouth Beach Borough 75,000.00
 Long Branch City 100,000.00
 Allenhurst Borough 15,000.00
 Ocean Township 62,500.00
 Asbury Park City 21,000.00
 Neptune Township 150,000.00
 Spring Lake Borough. 100,000.00

Ocean County

Bayhead Borough. 15,600.00
 Lavallette Borough 29,900.00
 Seaside Park Borough 20,000.00
 Barnegat Light Borough 1,000.00
 Harvey Cedars Borough. 15,000.00
 Surf City Borough. 10,000.00
 Long Branch Township 27,500.00

Atlantic County

Brigantine City 5,500.00
 Atlantic City. 100,000.00

Cape May County

Sea Isle City. 15,000.00
 Cape May City. 50,000.00

The work omitted due to lack of state aid funds deserves immediate attention but no action can be taken in these cases until the 1954-55 appropriation becomes available on July 1, 1954.

During the 13 year period, 1940-53, the total investment in coast protection structures and work under the state-municipal cooperative programs has been \$13,664,739.00. Of this amount, the State contributed \$8,093,232.00 or 59%. The individual participating municipalities provided the remainder of \$5,571,507.00 or 41%. The 25 municipalities involved and the individual expenditures are listed in the following table:

SUMMARY STATEMENT OF FUNDS SPENT ON STATE-MUNICIPAL
COOPERATIVE COAST PROTECTION PROJECTS, 1940-1953

<u>MUNICIPALITY</u>	<u>STATE FUNDS</u>	<u>LOCAL FUNDS</u>
Madison Township	\$ 70,000.00	\$ 70,000.00
Keyport Borough	25,000.00	25,000.00
Keansburg Borough	8,400.00	8,400.00
Middletown Township	82,992.00	51,930.00
Sea Bright Borough and Monmouth County	439,788.00	96,788.00
Long Branch City	2,600,326.00	1,370,576.00
Deal Borough	399,758.00	380,299.00
Allenhurst Borough	61,477.00	43,477.00
Asbury Park City	162,440.00	111,440.00
Neptune Township	90,175.00	70,175.00
Bradley Beach Borough	125,873.00	105,212.00
Avon-by-the-Sea Borough	326,883.00	73,349.00
Belmar Borough	429,627.00	78,020.00
Sea Girt Borough	488,018.00	173,172.00
Manasquan Borough	145,371.00	72,247.00
Long Beach Township	89,967.00	89,967.00
Beach Haven Borough	79,815.00	79,815.00
Brigantine City	14,400.00	14,400.00
Atlantic City	1,089,551.00	1,089,551.00
Longport Borough	44,000.00	44,000.00
Ocean City	679,485.00	637,104.00
Sea Isle City	44,593.00	44,593.00
Stone Harbor Borough	101,211.00	85,558.00
Cape May City	447,427.00	436,427.00
Cape May Point Borough	46,685.00	20,007.00
Sub Totals.	\$8,093,232.00	\$5,571,507.00

GRAND TOTAL \$13,664,739.00

